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An essay on the Muslim Gap
Religiosity and the political system

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Religiosity and the political system

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Abstract:

The paper analyzes 3 main trends: (t1) The economic development in the Muslim world is slower than in the rest of the world. (t2) The world grows increasingly democratic due to rising incomes, but this trend does not affect the Muslim world. (t3) The world grows increasingly secular due to rising incomes, but this trend is much weaker in the Muslim world. The difference in (t1) is smaller than necessary to explain (t2) and (t3). It is demonstrated that the data contains two economic convergence clubs: The Western club and the Arab one. The non Arab Muslim countries follow the path of other non-Western countries, though at a lower level. Further, it is demonstrated that Muslims deviate as to religiosity, family life values and as to the preference for religion in politics.

Keywords: Muslim gap to West, income, democracy, religiosity

Jel: B25, O1

1. I wish to thank my co-authors of the papers which prompted the present one: Peter Sandholt Jensen and Vani Borooah, as well as Meliha Mestrebasic, who has reestimated the relations on the Vanhanen democracy index, and many others with whom I have discussed these intriguing matters. The paper has benefited from the discussions when earlier versions were presented at the Danish Public Choice Meeting (January 2007) and at a seminar at Humboldt University, Berlin (February 2007).

The following deals with the complex of changes – known as the *Grand Transition* – in society, which is a key part of development, and with the problems caused when a culture strongly resists these changes. The Grand Transition consists of a large set of interacting transitions of which some are well-known: The demographic transition, the urban transition, the human capital transition, the sectoral transition, etc. The Grand Transition changes society profoundly, but the changes are also necessary for development.

This essay concentrates on two transitions: The *democratic transition* and the *religious transition*.[2] As countries go through the Grand Transition, they turn into secular democracies. Both transitions have a rather glaring exception: They do not apply to the Muslim world. I shall argue that this is due to choice, and that it constitutes a brake on development.

The essay thus discusses the three large trends listed in Table 1. In the last 50 years, the world has seen an unprecedented increase in income and in democracy, and a considerable secularization as well. The most powerful explanation of the increase in democracy and the fall in religiosity is the growth of income.

Table 1. The main stylized facts discussed

Trend	Transition	World	Muslim countries	Section	Data used
(t1)	Income	Increasing	Smaller increase	1	Maddison's gdp data
(t2)	Democracy	Increasing	No change, low level	2	Polity and Gastil indices
(t3)	Religiosity	Decreasing	No change, high in some fields	3	World Value Surveys

The nature of the Muslim Gap is thus that the level of democracy and religiosity does not react to income in the Muslim countries. While rising income in the world turns other countries democratic, the Muslim world has a stationary low level of democracy. Consequently, the *Muslim Gap* to the rest of the world is gradually widening. Muslim society seems to be *stuck in the past*, causing the Muslim economies to grow slower than the rest of the world.

Any attempt to explain the Muslim Gap quickly hits the gulf separating two levels of analysis:[3] (L1) The "hard" *social sciences* measure the Gap and study its dynamics at the *operational* level of statistics and data. This provides a solid, but shallow, analysis. (L2) The level of the "soft" sciences of the *Arts* provides a web of speculation about perceptions of

2. The *democratic transition* is often termed Lipset's Law after Lipset (1959, 1994). The *religious transition* is often termed *secularization.* The terms preferred have the advantage of suggesting a general frame of reference.
3. A famous discussion of the dichotomy between the hard and soft sciences is found in Snow (1959, 1963).

facts. It is *deeper*, but also *cheaper,* as little is testable and cumulative – even the perceived facts are dubious.[4] It is difficult to bridge the gulf and attach the hard operational explanations to some parts of the web, but this is what we try to do.

Sections 1, 2 and 3 establish the stylized facts on the trends in income, democracy and religiosity respectively. Section 4 considers the explanations at the level of *the Arts*. Section 5 looks at additional items from the World Value Surveys. Finally, Section 6 concludes. Appendix A classifies the countries in the different groups, while Appendix B considers the convergence of the Arab countries.

4. One may consider the wry comment of Niels Bohr, who argued that theory often started from "deep theory", where "deep theory" is ideas with the property that their negation is also "deep theory".

1 The path of income: A slow Muslim divergence

This section looks at the trends in income and uses the Millennium dataset from the OECD (Maddison, 2001, 2003, net), which we have linked to the PPP data in the World Development Indicators (see WDI, net):

gdp is GDP per capita, measured in 1990 International Geary-Khamis dollars.

Income is $\ln gdp_{it}$, where i is country and t time.

The Maddison data start year 1500, but with few countries only. From 1950, the data cover all, except very small, countries. As we go backwards in time from 1950 to 1500, the data are based on gradually less evidence. When the whole data set is considered, the gdp has a minimum level of 300-350. Most of the analysis considers the ***four country groups*** – West, ONM, Arab and OM – listed in Table 2. If not explicitly stated, the 5th group – CT – is excluded. This group provides a unique historical experiment, which will be discussed separately.

1.1 The very long run: The relation between the West and three large Asian cultures

Figures 1a and b give the main dimension in the economic gap between Western Europe and the three large old Asian cultures: China, India and Arabia from the year 1500. Japan is added to show a successful convergence. The figures show the *Grand Transition* where gdp rises 30-40 times through an increase in production for the West and Japan. The non-European countries are *Traditional* societies with essentially zero economic growth till late. The large old cultures did generate gdp's well above the minimum necessary to sustain the population, but most of the population was poor.

Table 2. Four groups for the 141 countries and the C/T group

	Name	Includes	Income	Polity
(1)	***West***	Western Europe, Australia, Canada, Israel, New Zealand and USA	21	21
(2)	***ONM***	**O**ther **N**on **M**uslim, residual group	81	68
(3)	***Arab***	The 17 Arab countries are often referred to as ***Arabia***	17	16
(4)	***OM***	**O**ther **M**uslim, see Appendix	22	22
(5)	***CT***	16 were ***C***ommunist before 1990. Now 29 are in ***T***ransition and 5 are Communist		

Note: The Appendix documents the main country groups. The two right hand columns show the number of countries in the data used. Polity is the democracy index used in most of the analysis.

Figure 1a. The development in gdp of four cultures, 1500 - 2000

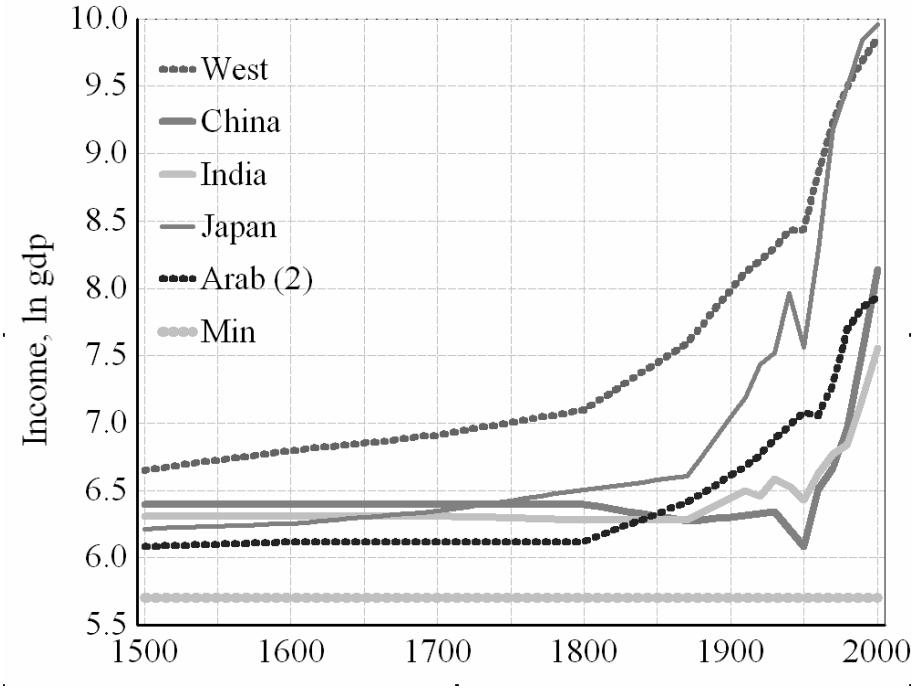
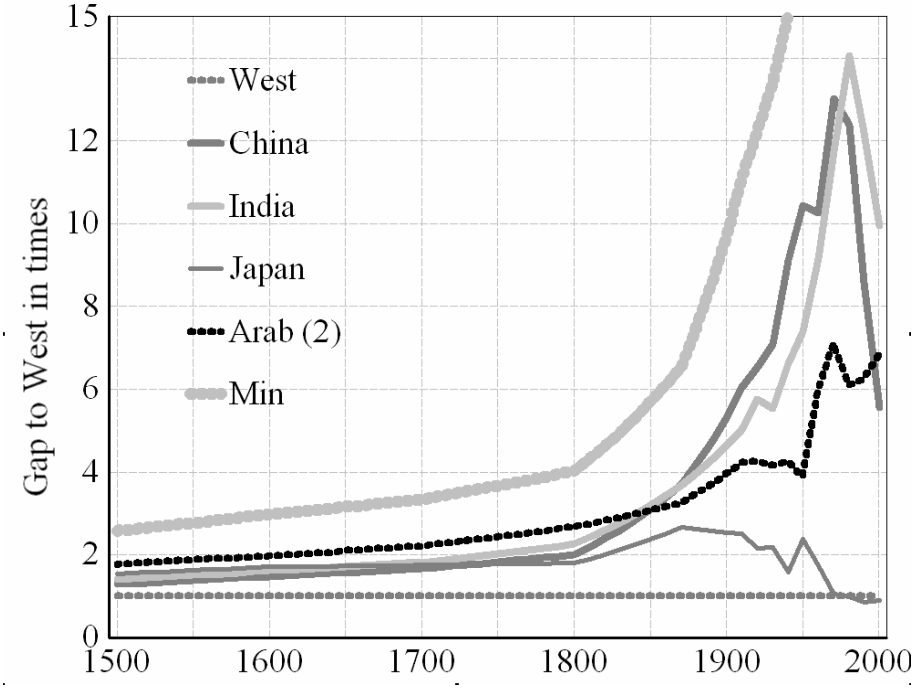


Figure 1b. The development of the gap to the West on Figure 1a



Note: Straight lines interpolate between available observations. Arab (2) is the average of Morocco and Egypt.

The Grand Transition can also be described as a *modernization* process. The data claim that the gdp of Western Europe was growing by 0.15% p.a. for the 3½ centuries from 1500 to 1850, so it must be a steady state where all growth represents *technical progress*. If these

trends are projected backwards, they hit the minimum level around year 1000, so the *low growth steady state* of Western Europe lasted at most only 1-2 centuries more than shown. The data thus contend that the West was ahead by 2-2½ times in 1800. After 1850, the *Industrial Revolution* increased the difference.

The data shown include 2 Muslim countries only – both Arabian. However, for some of the time, India was ruled by the Muslim Mogul Dynasty, so the picture shown may be fairly representative. The important point is that the gap was due to changes in the West, while the rest of the world stayed constant. Even though the change in the West was slow in the beginning, the process of divergence started before year 1500. Figure 2 shows the consequences in the form of a relative gap: Japan catches up fully with Western Europe. India and China both turn the last 30 years, but have a long way to go. Arabia does not catch up.

1.2 The last 50 years: Data for 135 countries divided into four groups

Figures 2a and b correspond to Figures 1a and b. It only starts in 1950, but the lines now represent the four country groups we want to compare. The economic gap between the West and the Muslim world was considerable in 1950, and it has kept growing. The data for the Arab countries contain a set of oil countries that quickly covered some of the gap by a one-time jump in income. These countries got rich from resource rent, not from production.

Figure 2a. The development in gdp of four groups, 1950 - 2005

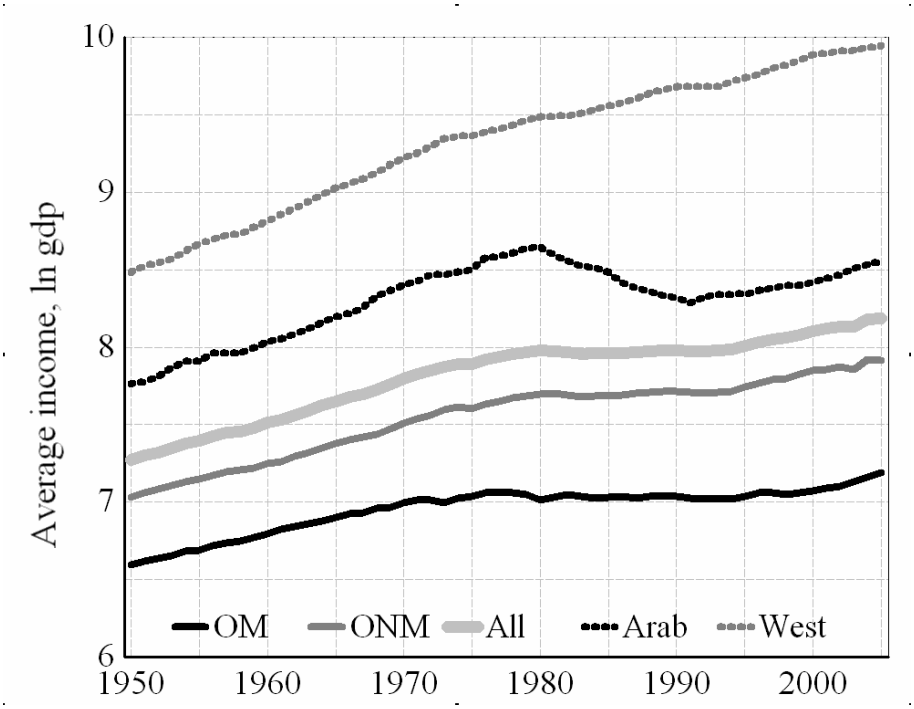
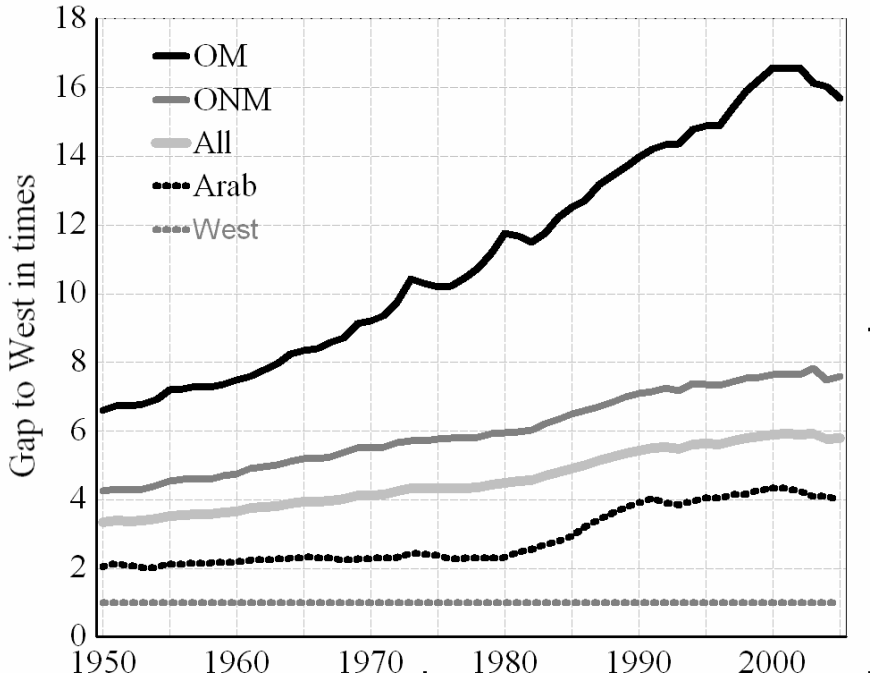


Figure 2b. The development of the gap to the West, 1950 - 2005



For the past 15 years, the full data set covers 160 countries. The ratio between the richest and poorest decile comes to almost 40 times (see Table 3 below). The poorest decile has an average that is the same as the average for Asia in 1500-1800.[5]

Figure 2 shows that the growth of the gaps to the West is due to the continued growth of the West, while growth largely ceases in the other country groups after the Oil Shock in 73-75. The oil shock caused a reduction in the growth of all 4 groups, especially the Muslim groups. Until the oil shock, all four groups grew almost the same, but after that, the two Muslim groups have had essentially zero growth.

1.3 The transition of gender roles

The Grand Transition reduces the number of pregnancies and births for three reasons:

(1) Rising incomes allow people/societies to be able to afford more medical care, clean water, etc. Thus, child mortality drops, and the number of births necessary to produce an adequate amount of offspring falls. (2) Income growth causes financial deepening, and the tax base rises. With the advent of financial institutions, and with rising tax revenues, both private and public social security become a realistic possibility for most of the population, and the number of children necessary for the social security of parents falls. (3) Rising production

5. The latest group of rich countries – the Asian Tigers – grew 30-40 times to join the rich countries, but they did so in a period of little less than half a century.

demands much human capital, and the informal education provided within families becomes less and less adequate. Thus, the costs of children rise relatively, and the range of feasible consumer goods increases. With fewer pregnancies and births, household production decreases. In addition: (4) Rising income reduces the relative costs of household mechanic-zation. The mechanisms (1) to (4) are independent of culture, and they reduce the traditional workload of women considerably. Hence, a new division of labor between the genders becomes possible and *indeed desirable*. This has large effects on *gender relations*.

Traditional stable societies were/are different: Some are close to modern society and more able to adjust, while others are further away and protected by a set of taboos making adjustment difficult. This may cause institutions that are stuck in the past to develop into barriers to development. The Muslim culture has a strong tradition and calls for a strict separation of the genders and the protection of traditional gender roles. With economic growth, modernization spreads in the Muslim world, and e.g. a rapid urbanization is taking place. Modern westernized elites have emerged in the large cities of most Muslim cities. This has created tensions and an Islamist movement in many Muslim countries, trying to preserve, and indeed return, to traditions.

1.4 Convergence (σ): Two convergence clubs, the West and Arabia

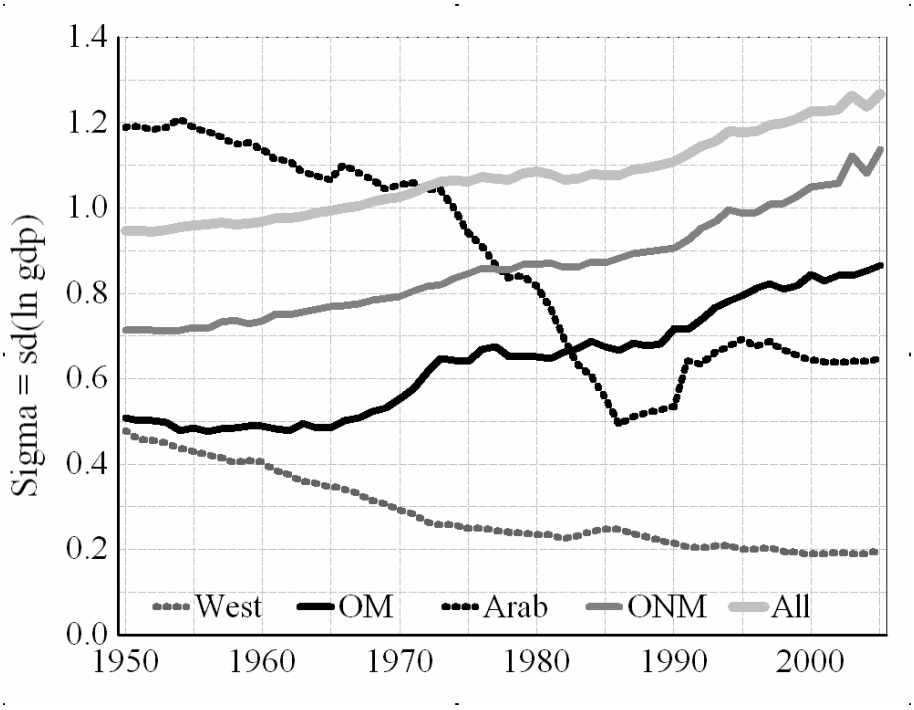
As shown, the West and the two Muslim groups diverge. We now turn to the convergence within the groups by calculating the *σ-measure for convergence from 1950 to 2005.*

(1) $\sigma(t,G) = SD(y_i),$ where $y = \ln gdp$, G is a country group, and $i \in G$

The paths of the σs are given on Figure 3. The pattern of convergence shows the two well-known facts of a convergence within the West and a divergence for the world. Unsurprisingly, the 81 countries in the *ONM-group* group follow the curve for all countries closely. Also, the *OM*-curve essentially follows the same pattern of slow divergence. Hence, it is interesting to note the strong – though somewhat erratic – path of convergence for the Arab countries. See Appendix 2 for more details about the Arab convergence.

The data thus have two convergence clubs: The West and Arabia, which diverge from each other. Convergence has to be to an *attractor*. Economic theory suggests that *attractors* are levels generated by common technologies and institutions. The attractor for the West is international best practice technology, and this appears to be confirmed by many studies. However, the attractor to which the Arab countries converge is much less clear.

Figure 3. The σ-measure of convergence within the four groups drawn on Figure 2



We know that the Arab countries do have a great deal of interchange of ideas, and that tradition is strong in this group. This leads to the following two hypotheses:

(H1) The attractor, to which the Arab countries converge, is modern technology and the changes it necessitates in society to the extent it is possible given tradition.

(H2) Tradition is conservative, so (H1) causes a slow divergence from the West.

These two hypotheses are broad and thus hard to prove. If they are true, they demonstrate why Western convergence stops at the shores of the Mediterranean and only crosses the sea by jumping to islands such as Malta, Cyprus (G) and to Israel. From (H1) and (H2), it follows that Islamic tradition constitutes a brake on development, and thus, modernization generates a steadily increasing pressure on tradition. We discuss tradition in Section 4.

1.5 The forward and backward reaction to modernization and divergence

In 1853-54, the Japanese discovered that by a typical process of stagnation and deliberate isolation, they had been overtaken by the West. This was a main reason for the Meiji Restoration in 1868. It led to a determined process of learning Western technologies in all fields, and as a consequence, Japan did catch up, as shown on Figure 1. This process has been replicated by the four Asian Tigers, and is now taking place in China as well. One reaction to discove-

ring that you are behind is thus to make a large effort to learn and catch up – this is referred to as the "*forward reaction*".

However, there is an alternative "*backward reaction*": To blame the one ahead, and turn inward to your own roots. In the Muslim case, this results in a return to the ways of life and worship of the 7th century. This will not, of course, solve a development problem in the 21st century, but rather increase the size of the problem. This leads to a third hypothesis:

(H3) The Muslim, and notably the Arab, reaction to the large and growing economic gap is to a considerable extent backward as defined above.[6]

It is easy to give examples of forward reactions in the Muslim world as well. Many rulers have been determined modernizers. However, the Islamist movement that is so prominent today is a radical backward reaction.

1.6 The oil complex and Dutch Disease

The final point deals with the Oil countries, which become rich without going through the Grand Transition. The literature on the effects of resource wealth discusses the longer run effects on society of such wealth. The popular name for the effects is the *Dutch Disease*. Countries with great non-produced wealth inevitably get a wage level that allows people to purchase the import the country can afford. This wage level is (much) higher than productivity, so all other exports, except the resource, become uncompetitive.

To preserve social tranquility, governments have to pass on a fair amount of the resource rent to the native population, who then become *rentiers* living on resource rent. Consequently, the natives can pay foreigners to come and do the work necessary, giving natives a life of leisure. This allows them to live a traditional life devoted to religion, and at the same time enjoy the goods of the rich countries. We formulate this as a fourth hypothesis:

(H4) Oil allows some countries to combine *tradition* with a modern pattern of consumption.

Thus, oil has the reverse effect on social change than has the Grand Transition.

6. This point is expressed in many ways by different observers: One way is to speak about a "wounded civilization", or to use the concept of "pride". The logic goes like this: If you have the right beliefs and the unbelievers are doing much better, then perhaps you are not as faithful as you should be. So the solution is to try harder to be a good Muslim.

2 The Democratic Transition: A Muslim divergence

The strongest factor explaining democracy is income/production. One part of the Grand Transition is the *Democratic Transition*. We thus turn to measures of democracy as we consider the following two data sets (see net):

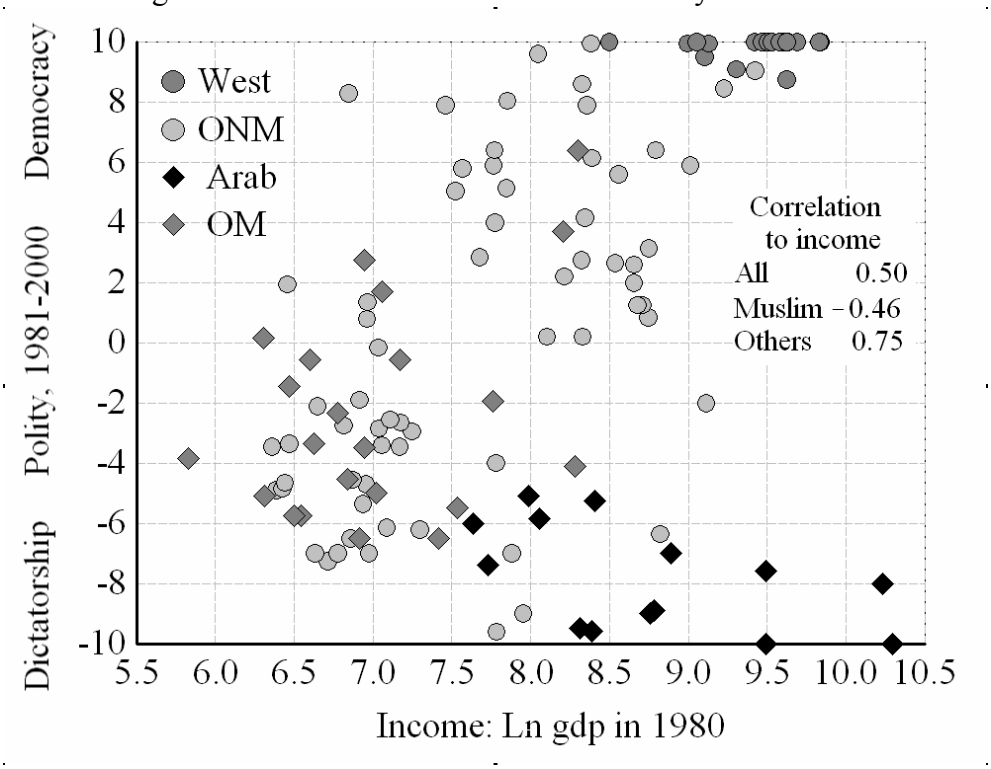
> ***Polity***, from CIDCM at the University of Maryland. It has the range from –10 for full dictatorship to +10 for full democracy.
>
> ***Gastil,*** from Freedom House. It has the range from +7 for full dictatorship to +1 for full democracy. I use the average of *democratic rights* and *civil liberties.*

These indices compete, they use different scales, etc., but for the 33 years where they overlap they have a correlation of -0.90 ± 0.02, and the pattern discussed appears in both indices.

2.1 The Grand Transition view and its alternative

Grand Transition theory sees economic development as a process that, even if it is simultaneous, nevertheless has production/income growth in its center. It thus gives a causal relation from the catch-all variable gdp to democracy, even when there, as always, is a little causality the other way too.

Figure 4. The connection between democracy and income



The *Grand Transition* view is contradicted by the *Primacy of Institutions* view which is forcefully argued by the School of Acemoglu, Johnson and Robinson (see their survey (2005)). The two views and the empirical evidence in their support are discussed, using the relation between democracy and income as a main example, in Paldam and Gundlach (2007).

Figure 4 shows the connection between the average values of the Polity Index for 124 countries for 1981-2000 and income in 1980. The figure shows a strong connection. It is drawn to suggest the causality of the GT view, which in PPP-data of Table 3 means a rise in income from the poorest to the richest decile of 40 times. Also, the democracy score increases, as seen in the table below.

A large literature uses the degree of democracy to explain growth, and hence eventually income levels. It has found modest, quantitative effects which are borderline robust. However, Borooah and Paldam (2007) demonstrate that the orders of the finding make them unable to explain more than a small fraction of the correlation observed.

Table 3. The data for the Grand Transition 2001, based on income deciles

For 160 countries	Scale		Avr. for decile 1	Avr. for decile 10	Difference
gdp, GDP per capita [a)]	Continuous		557.7	22002	39.5 times
Income: Ln gdp	Continuous		6.32	10.00	3.68 points
Democracy	From [b)]	To [c)]			
Polity index	−10	+10	1.25	9.19	7.94
Gastil index	7	1	4.88	1.38	−3.50

Notes: a. Source for gdp is from Maddison (2003).
b. full dictatorship, c. Full democracy.

2.2 Modeling the Democratic Transition

The connection from income and democracy can be estimated by pure cross-country models (2), or it can be estimated by dynamic panel models (3).

(2) $D_i^T = \alpha + \beta^{T*} y_{i-1} + \gamma_j x'_{ji-1} + v_i$ where $\beta^* \approx \beta^{T*}$ for a range of T's

(3) $D_{it}^T = \alpha_{(it)} + \delta^T D_{it-1} + \beta^T y_{it-1} + \gamma_j^T x'_{jit-1} + u_{it}$ dynamic estimate that gives:

(4) Steady state $\beta^{T\infty} = \beta^T / (1 - \delta^T)$ where $\beta^\infty \approx \beta^{T\infty}$ for a range of T's

(5) Adjustment path $P(t - t_0) = \delta^{t-t_0}$ where $\delta \approx (\delta^T)^{1/T}$ for a range of Ts

T is a time period going from t to $t+T$. The variables are D_{it}^T, a democracy index for country i averaged over the T year, while D_{it-1} is the initial index for year t-1. Initial income, y_{it-1} =

$\ln gdp_{it-1}$, where gdp is GDP per capita,. The Greek letters are coefficients, and *u*, *v* are residuals. These relations are estimated for a range of *T*s.

By the GT view, the cross-country estimates (2) of β^* represent the steady state effect of income, on the condition that country heterogeneity is white noise. We find that $\beta^{T*} \approx \beta^*$ is rather stable from $T > 8$ to at least $T = 20$. The panel model (3) provides estimates of dynamics of adjustment of democracy to income in the average country. From the estimates of (3), equation (4) gives the steady state effects. We find that $\beta^{\infty *} \approx \beta^{\infty}$ is rather stable from $T > 1$ to at least $T = 20$. Finally, it turns out that $\beta^* \approx \beta^{\infty}$ for both the Gastil Index and the Polity Index, so the income effect is robust.

Equation (5) gives the average path of adjustment $P(t-t_0)$ to a permanent income rise at t_0, which depends little on *T,* as $\delta = 0.97 \pm 0.01$. We thus find that adjustment is slow: 50% of the adjustment to an income jump takes between 15 to 30 years, while 90% takes 50 to 90 years. The slow adjustment also has an important effect on the story we are telling. Figure 2 depicts the main pattern in the growth history of the world for the last 50 years. Growth was much higher in the first half of the period, but as we shall see on Figure 5, the movement towards more democracy was strongest in the second half of the period.

We interpret these findings as strong signs that the GT view is basically correct. It is also demonstrated that the orders of magnitudes found explain the large pattern in the data. We term the slow adjustments to mean that an income rise demands a long *democratic consolidation* period.

2.3 Summary of regression results

The many regressions done in the papers referred to in Section A of the references are summarized in Tables 4a and b. The estimates of the effect on income are stable, as already mentioned.

The estimates of the effects of Islam and Oil suffer from two problems: (a) There are few observations before 1950, so the estimates in Table 4b are inferior to the ones in Table 4a. (b) There is some multicollinearity between the effects of Islam and Oil since a rather large fraction of the oil-countries is Muslim. When there are more than three of either Muslim or Oil countries in the regression, the coefficients to either variable are always significant. So even when the sizes of the two effects are unstable, they are significant. The next section concentrates on the effects of Muslim culture on the averages for the two democracy indices.

Table 4a. Gastil index regressions, 1972-2005: Comparison of results

Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Equation	Eq (1)	Eq (1)	Eq (1)	Eq (2)	Eq (3)	Assessment:	Assessment
Type	Static	Static	Static	Dynamic	Calculated		
Time period *T*	1	16	32	16	∞	Best long-	converted into
Average of	32 annual	2 periods	-	-	-	run estimate	Polity scale [B]
Time frame		GT long run		Medium	Long run		
Income: Ln gdp	−1.1	−1.1	−1.6	−0.5	−1.2	−1.1	3.6
Muslim	1.1	1.1	1.7	0.9	1.7	1.7 [A]	−5.7
Oil	1.4	1.4	1.4	0.7	1.4	1.4 [A]	−3.3
Communist	2.7	2.7	3.0	1.6	3.1	3.0	−10

Notes: A. Some multicollinearity and upward trend in Muslim. B. Formula used is P = 20/6 G.
Source: Borooah and Paldam (2007) and Paldam (2007).

Table 4b. Polity index regressions, 1900-2004: Comparison of results

Column	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Equation	Eq (1)	Eq (2)	Eq (3)	Eq (2)	Eq (3)	Assessment	Assessment
Type	Static	Stacked	Calculated	Dynamic	Calculated		
T	20	20	∞	20	∞	Best long-	converted into
Average of	5 periods	5 periods	-	5 periods	-	run estimate	Gastil scale [B]
Time frame	GT long	Medium	Long run	Medium	Long run		
Income: Ln gdp	3.6	1.9	4.6	1.7	4.2	4.0	−1.2
Muslim	-3.9	−0.7	−1.8	−1.7	−2.5	−3.0 [A]	0.9
Oil	-3.7	−2.6	−6.4	−4.0	−8.3	−6.2 [A]	1.9

Notes: A. Multicollinearity and upward trend in Muslim. B. Formula used G = 6/20 P.
Source: Jensen and Paldam (2007).

2.4 The Muslim gap

The Grand Transition is thus a fine explanation of the steady democratization of the world. However, to estimate the relation, it has to be assumed that country heterogeneity is random. Consequently, it is important to look for "clubs" of countries which are so similar that they provide non-random deviations from the pattern. Tests for about 10 such clubs representing different cultures, economic systems etc. are given in Paldam (2007). Most turned out to be insignificant once the relation was controlled for income. We have found three exceptions:

(1) *Socialist* countries where public ownership to the means of production dominates. It is a small group today. Communist countries in particular and socialist countries in general have less democracy than other countries at the same level of development.

(2) Countries which are so *resource rich* that they have become rich without going through the Grand Transition. The most evident example is *Oil* Countries, which form an interesting case, as they are less democratic than other rich countries.

(3) By far the biggest exception is the Muslim groups of countries, which are less democratic than other countries at the same level of income. The Arab group is the original Muslim group, where we expect Muslim traditions and political ideas to be most entrenched. As seen on Figure 4, they do deviate in a striking way from the general picture.

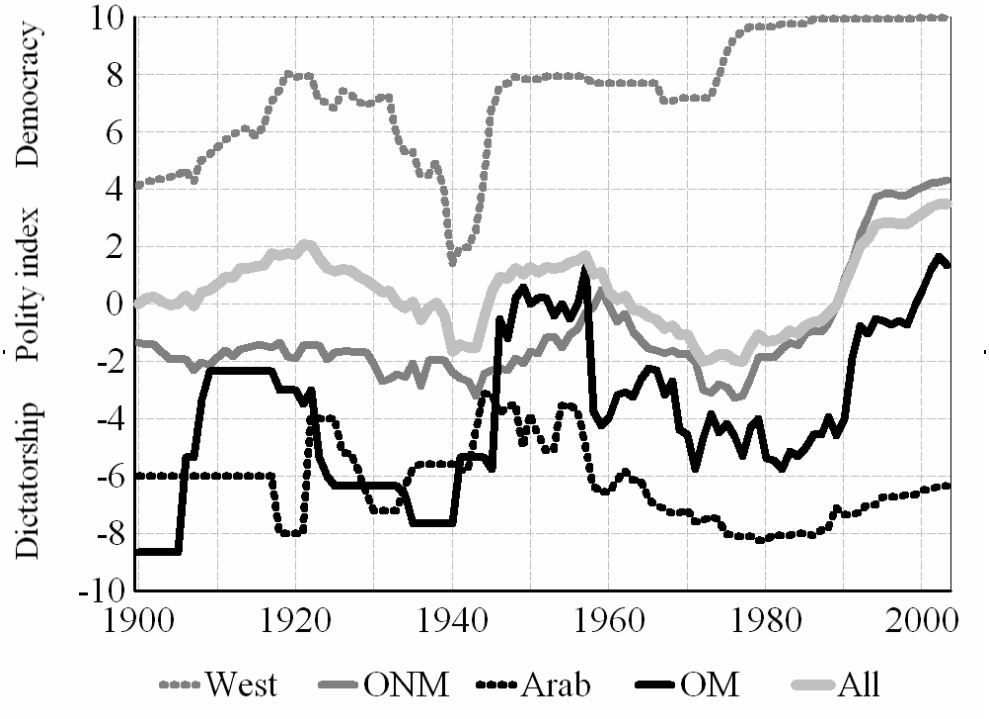
2.5 The Polity index, 1900-2004

Figure 5a shows the development in the Polity index through the whole of the 20th century, using the same four groups as on Figures 2 and 3. From 1950, the coverage is almost complete, but for the first half of the century, many observations are missing. Only the West has an almost full coverage, though Finland, Ireland and Israel became independent in 1917, 1920 and 1948 respectively. The path of the West has a clear upward trend. However, it is upward censored as one country after the other reaches the maximum of +10.

Both the ONM and the OM curves have the same problem influencing the trend shown: They start with few countries in the higher end, and then new – typically poorer – countries with lower values join as they become independent. This gives a downward bias in the trend. On closer inspection, we see that the bias influences the ONM curve more than the OM curve.

Finally, the Arab curve starts with two countries, but they are in the middle range, and when more countries are added, there are no signs of a bias. This curve is trendless over the full century at a high level of dictatorship.

Figure 5a. The development of democracy since 1900



The data shown on Figure 5a are exclusive the C/T-countries, so the democratic advance in the world from the late 1980s to the mid 1990s is not due to the Small Transition. It may reflect that the West won the Cold War, but only indirectly, as some countries had to give up steering a middle course between the two blocks when one of the blocks disappeared.

Note also that the large increase in incomes took place in the 1960s in many countries, while the large increase in democracy came with a lag. This is precisely the point about the slow adjustments mentioned at the end of Section 2.

Figure 5b. The Muslim gap, 1900-2004

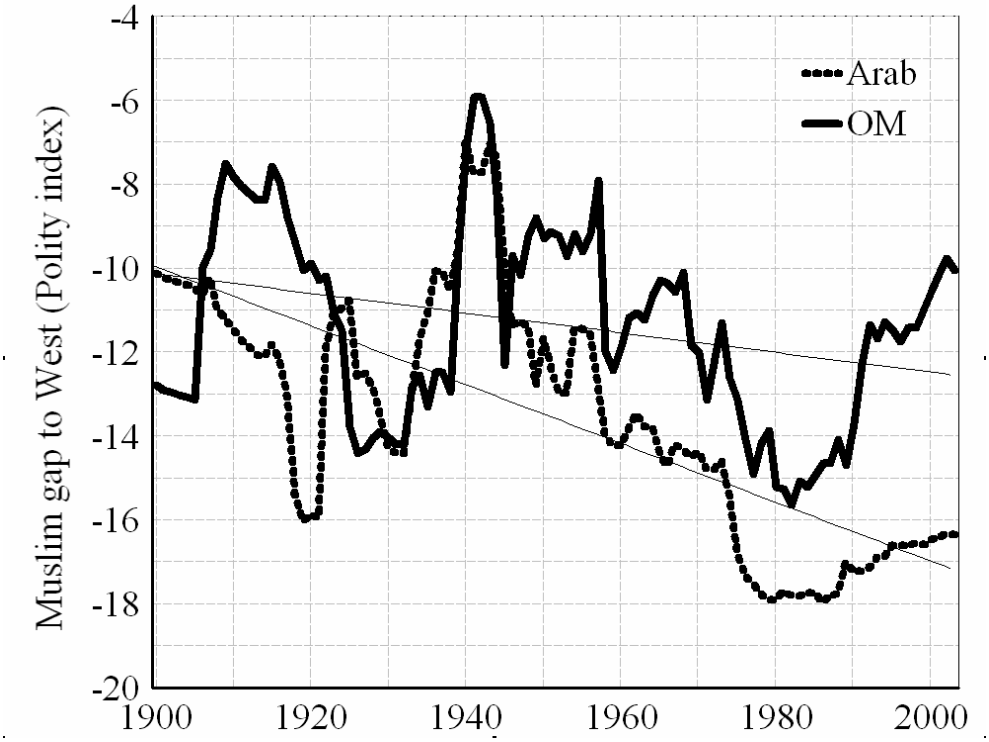


Figure 5b shows the gaps between the Muslim countries and the West. Two linear trends are included on the figure, showing that both gaps are growing. Once again, the country sample may have a problem. As mentioned, nearly all countries of the West are included throughout, and the Arab sample is probably representative as well, but the OM-sample is problematic.

The two trend lines on Figure 5b start at –10, so there is a large gap from the start. This increases throughout the century, at least till 1980. The gap between the West and Arabia has almost the full size possible (of 20 points) as it reaches 17 points. After 1980, the West is fully democratic, so the two curves reflect movements in the Muslim countries only.

Figure 6a. The paths of the Gastil democracy index for the four groups, 1972-2005

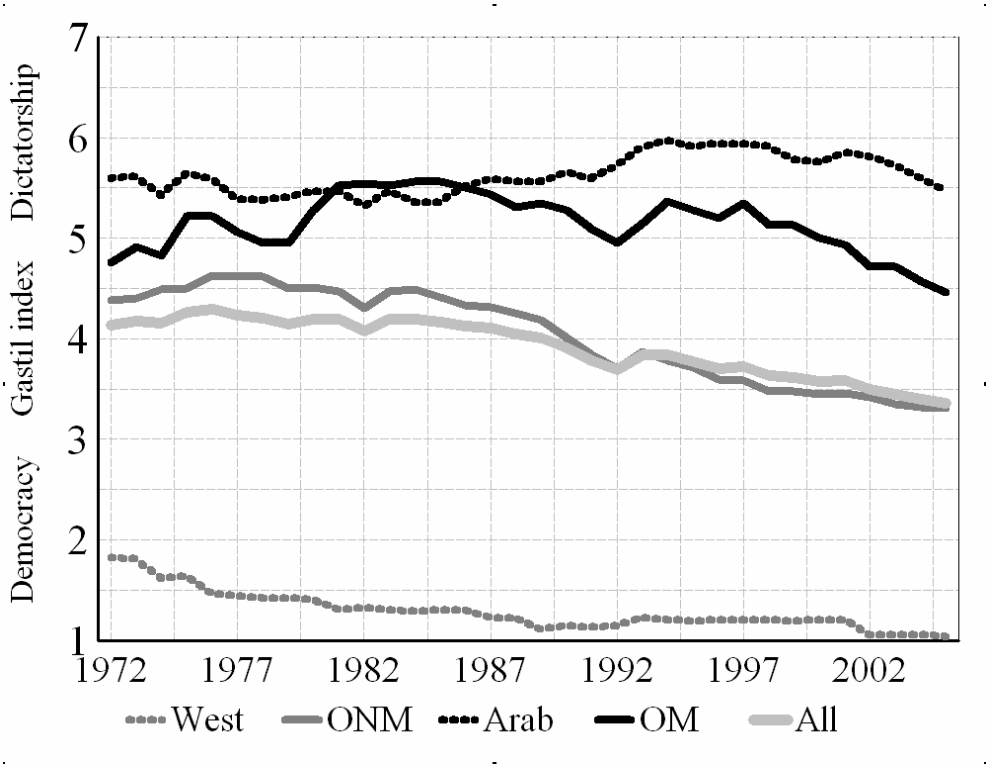
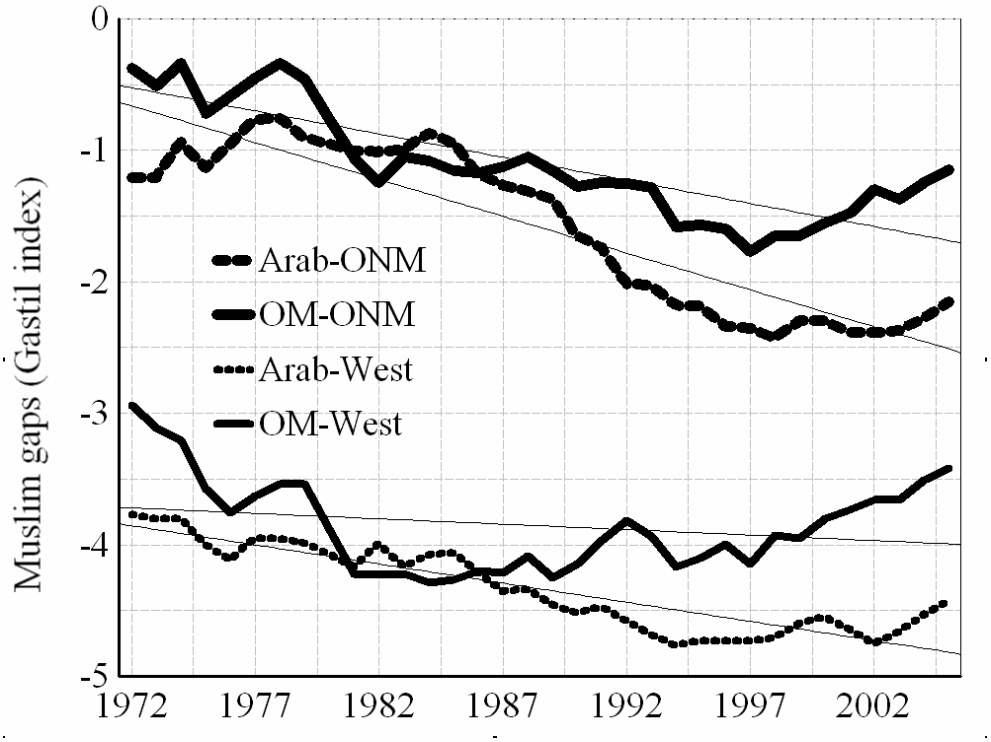


Figure 6b. The gap between the two Muslim and the two non-Muslim countries



2.6 The Gastil index, 1972-2005

Figures 6a and b give the same data for the Gastil index. This index has the reverse scale and goes from 1 for full democracy to 7 for full dictatorship. When the CT-countries are excluded, the data are complete for 138 countries. They show the same picture as before. However, now there are many observations in each group, and all differences can be tested.

All four lines on Figure 6b are downward sloping, indicating a growing gap. The smallest gaps, but the largest development, are between the two Muslim groups and the ONM-group – that is, the non Western group. This is due to the fact that the West is already democratic and hence has a flat curve, except in the beginning.

However, the two curves for the gap between the ONM-group and the two Muslim groups increase with 1¼ to 1½ Gastil points. On a scale with a range of 6 points, this is substantial. It is clear that this is due to the trend towards democracy in the rest of the world, which does not exist in the Muslim world.

Table. 5. The significance of the gaps and trends on Figures 5b and 6b

From		Between	Period	Average	t-ratio	Slope (year)	t-ratio
(5b)	Polity	Arab-West	1900-2004	−13.59	−47.7	−0.070	−10.8
(5b)	Polity	OM-West	1900-2004	−11.35	−48.9	−0.024	−3.2
(6b)	Gastil	Arab-ONM	1972-2004	−1.59	−15.0	−0.056	−11.9
(6b)	Gastil	OM-ONM	1972-2004	−1.11	−15.4	−0.035	−8.7
(6b)	Gastil	Arab-West	1972-2004	−4.34	−78.3	−0.029	−11.5
(6b)	Gastil	OM-West	1972-2004	−3.85	−63.3	−0.008	−1.4

Table 5 shows that all gaps are significant and increasing. The increases of the gaps are significant except in one case, i.e. between the two flattest curves.

3. The religious transition: A Muslim divergence

A total of 11 items in the *World Value Surveys* (net) measure aspects of religiosity. They are listed in Table 6. All items are scaled so that when they rise, it is natural to say that religiosity increases. The surveys cover 83 countries (see Table A2 in Appendix 1), including 21 Western and 13 Muslim countries of which 6 are Arab.

The data analyzed are in % of all respondents, and the average scores – given in the right hand column of the table – are measured in %. That is, when item A006 gives a score of 36.8, it means that 36.8% of all respondents say that religion is very important in their life. We use the average of the column, i.e., 55.8%, as an order of magnitude to compare with when we calculate the effects of income and culture below.

Section 3.1 is a factor analysis of the 11 items. It uses a balanced sample of $N = 11 \times 94 = 1034$ observations. The regressions in Section 3.2 are stacked to use all observations. It ties the coefficients, so it does not fully explore the data, but regressions as Tables 10 and 11 have been made for each item. They look as expected.

Table 6. The 11 measures of religiosity: Number of observations and average score

Name			Number of countries where the item was used										Avr
	Content (brief, the full wording is	Wave	81/82		89/90		94/95		99/00		Sum		Score
	given in Inglehart *et al*, 2004)		All	Mu	All	Mu	All	Mu	All	Mu	All	Mu	%
A006	Religion is very important in life		na	na	42	1	53	4	69	13	164	18	36.8
A040	Religious faith is important to teach children		21	0	43	1	53	4	68	13	185	18	31.6
F024	Belongs to religious denomination		21	0	41	0	52	5	69	12	183	17	79.9
F028	Attend services at least once a month		21	0	40	1	51	4	69	13	181	18	39.9
F034	You is a religious person		21	0	42	1	50	4	68	13	181	18	68.6
F035	Churches answer moral problems		16	0	35	0	na	na	67	13	118	13	55.2
F036	Churches answer problems of family life		16	0	35	0	na	na	67	13	118	13	50.8
F037	Churches give answer to spiritual needs		16	0	35	0	na	na	67	13	118	13	69.3
F038	Churches give answer to social problems		na	0	35	0	na	na	67	13	102	13	40.0
F050	Believe in God		19	0	35	0	50	5	67	13	171	18	82.1
F063	God is very important in life		20	0	37	1	51	5	69	13	177	19	60.1
		Sum	171	0	420	5	360	31	747	142	1698	178	55.8

Note: *All* and *Mu* count countries where the item is used. *Mu* indicates that the country is Muslim. If the item was not used in the Wave, this is indicated by *na*. The average religiosity score in % of all respondents giving a substantial answer in each country. The precise wording and the way the scores are calculated are given in (Inglehart *et al*, 2004).

3.1 The factor of religiosity

Panel (1) of Table 7 gives a standard factor analysis of the 11 items of Table 1. It is obvious that one factor dominates, and all items load positively to that factor. Consequently, this factor is termed *religiosity*. When income is added in the analysis, eigenvalues and factor loadings remain virtually unchanged, and income has a negative loading: Religiosity falls with income. Also, Table 7 allows us to run a set stacked regressions explaining religiosity.

Table 7. Two factor analyses of the religiosity variables

	(1) The 11 religiosity variables			(2) The effect of including income		
Factors	Eigenvalue	Difference	Cum. prop	Eigenvalue	Difference	Cum. prop
Factor1	**7.712**	6.341	0.819	**8.062**	6.663	0.800
Factor2	**1.371**	1.008	0.965	**1.399**	0.990	0.939
Factor3	0.363	0.247	1.004	0.409	0.114	0.980
Loadings	Factor1	Factor2	Factor3	Factor1	Factor2	Factor3
f063	0.940	0.220	-0.072	0.940	0.228	-0.082
a040	0.927	0.144	-0.242	0.926	0.153	-0.191
a006	0.907	0.149	-0.301	0.912	0.149	-0.299
f038	0.883	-0.256	-0.143	0.880	-0.235	0.003
f036	0.865	-0.458	0.040	0.866	-0.437	0.125
f050	0.832	0.365	0.207	0.822	0.391	0.232
f034	0.826	0.210	0.251	0.823	0.222	0.200
f035	0.804	-0.553	0.063	0.815	-0.549	0.046
f028	0.777	0.233	-0.055	0.772	0.246	-0.008
f037	0.750	-0.500	0.189	0.756	-0.488	0.175
f024	0.658	0.467	0.194	0.651	0.478	0.148
Lny	Ni	Ni	Ni	-0.597	0.162	0.335

Note: $N = 94$ to give the largest balanced sample. *Ni* means *not included.*

3.2 Regressions (1) and (2) in Table 8 – all observations

The effects due to income and culture of the estimated coefficients are calculated in Table 9 for some relevant cases. The full religious transition is 35 pp. This is substantial relative to the average religiosity score of 56%. It implies that the Grand Transition decreases religiosity from well above 70% to well below 40% in the average country.

The author is aware that it is controversial in the sociology of religion if secularization is a fact.[7] Using the WVS, it is not dubious at all: Secularization is a strong fact.

7. It appears that a common hypothesis in the field is that man has constant spiritual needs that must be satisfied one way or another. Thus, it is only a question of measurement to find out how. This hypothesis appears to be suspiciously close to a tautology. Having lived in poor and rich countries, I find it unreasonable as well.

Table 8. Explaining religiosity by stacked OLS regressions

	(1) All		(2) All		(3) Muslims	
	Coeff	(t-ratio)	Coeff	(t-ratio)	Coeff	(t-ratio)
Ln y	**-8.90**	(-13.2)	**-10.38**	(-15.7)	**-3.27**	(-2.0)
West	**-10.66**	(-7.1)	**-6.97**	(-4.7)		
Muslim	1.39	(0.8)	**4.11**	(2.4)		
Controls for other countries and groups						
Arab	**6.01**	(2.3)	**6.52**	(2.6)	**5.65**	(2.5)
Trans	**-22.19**	(-20.0)	**-21.50**	(-20.5)	**-22.90**	(-8.5)
Orient	**-21.98**	(-12.7)	**-18.67**	(-11.1)		
USA			**26.84**	(9.9)		
Catholic			**6.85**	(7.5)		
Scandinavian			**-8.17**	(-5.3)		
Fixed effects for items F034 and F037 omitted						
A006	**-32.23**	(-19.8)	**-32.18**	(-21.1)	-5.86	(-1.6)
A040	**-37.01**	(-23.8)	**-36.89**	(-25.2)	**-16.18**	(-4.3)
F024	**11.45**	(7.3)	**11.50**	(7.8)	**15.97**	(4.1)
F028	**-28.61**	(-18.3)	**-28.57**	(-19.4)	**-31.45**	(-8.2)
F035	**-13.97**	(-7.7)	**-14.03**	(-8.2)	-6.53	(-1.5)
F036	**-18.31**	(-10.1)	**-18.37**	(-10.8)	**-12.55**	(-2.9)
F038	**-29.96**	(-15.6)	**-30.01**	(-16.6)	**-20.83**	(-4.9)
F050	**13.18**	(8.3)	**13.25**	(8.8)	**17.19**	(4.4)
F063	**-8.92**	(-5.7)	**-8.76**	(-5.9)	**12.19**	(3.2)
Fixed effects for waves, Wave4 omitted						
Wave1	***-2.79***	(-1.8)	**-3.21**	(-2.2)		
Wave2	**-2.98**	(-2.8)	**-3.21**	(-3.2)	**-12.25** [a)]	(-2.0)
Wave3	**-3.30**	(-2.9)	**-3.24**	(-3.0)	-1.36	(-0.5)
Constant	**161.84**	(27.8)	**170.46**	(30.5)	**109.55**	(8.4)
R^2 adjusted	0.640		0.682		0.666	
N	1698		1698		178	

Note: The dummies for F034 and F037 are very close in all three regressions. Coefficients with t-ratios above 2 are bolded, and if they are above 1.65, they are bold and in italics.

a. Covers only Turkey. If a Turkey-dummy is included, they split the coefficient and both become insignificant

In addition to income, there is also the effect of culture. Here, the West has a negative coefficient of about 10 pp, while Muslim and especially Arab countries differ to the other side. When the effect of culture is added to the one of income, in Table 8 a large gap exists between the West and the Muslim (notably the Arab) countries.

The two other country groups included are the oriental and the transition groups, which have small values of religiosity. Clearly, the anti-religious propaganda in the Communist

countries did work. We also notice that Catholic countries are a little more religious than others, while the Scandinavian countries are less religious.

The USA is outstandingly religious. There is only a small difference in religiosity between the Arab countries and the USA, in spite of the large difference in income. Hence, controlled for income, the USA is significantly more religious than the Arab world.

All 3 fixed effects for waves in regressions (1) and (2) are similar and negative. Thus that religiosity has increased from the early 1990s till 2000 by about 3 pp.

Table 9. Calculations in percentage points (pp) based on Table 8

Between	And	Gap in income times	Effect of income	Effect of culture	Total effect
			Excess religiosity in poorest group in pp		
Richest 10%	Poorest 10%	40	35	-	35
West	Arab	3	11	18	29
West	ONM	20	29	12	41
USA	Arab	3,25	11	-18	-7
USA	Scandinavia	1.2	2	-35	-37

Note: Everything is calculated from estimates (1) and (2), using average values of the estimated coefficients. Note from Table 6 that the average religiosity score is 56%.

3.3 Regressions (3) in Table 8 – Muslim countries only

No Muslim country is represented in wave 1, and only Turkey was included in wave 2, so we have rather limited possibilities for analyzing the dynamics of religiosity in theses countries.

The last regression presented in Table 8 is for the 178 observations for the Muslim countries alone. For the Arab and transition variable, the results are the same as before. However, the secularization effect of income drops to 1/3.

In view of the growth of the Islamist movement, one should expect a large jump in the coefficients to the waves. This effect fails to show up, but this may be due to lack of data.

It is tempting to conclude that the reason for the lack of democracy and the relatively weak economic development in the Muslim world is religiosity, but then the case of the USA becomes a problem.[8] We are hence forced to conclude that the difference is due to some property of the actual religions – not to the difference in religiosity.

8. Note in particular that the Scandinavian countries and the USA have the same score on the democracy indices and virtually the same economic development, while they differ dramatically in religiosity The low religiosity in Scandinavia goes together with unusually high values of honesty (Transparency International corruption index) and with unusually high scores on life satisfaction and mutual trust (WVS).

4. Some theories: Why are these gaps emerging?

The world's two largest monotheistic religions, Christianity and Islam, as well as Judaism, originated 1200 kilometers apart in the Middle East, among peoples speaking related Semitic languages. They have common roots.[9] While Christianity is easy to combine with democracy, Islam is not. It is not obvious why, though it is easy to speculate, and many ideas have been presented.[10] As usual, we need to distinguish between two types of explanations:

Fundamental explanations ascribe the difference to factors that are so central to the religion that they are not likely to change.
Transitory explanations ascribe the differences to dynamic processes set into motion by *historical accidents*, which may be replaced by other accidents causing them to go away.

4.1 Some characteristics of Muslim tradition

In the range of traditional societies, the traditional Muslim society is one version. It has a version of the way of life in the 7th century Mecca as an ideal, in the form of the *Hadith.* It is a set of *generally accepted stories* centered on the life of Muhammad (570-632). Together with the *Koran* (610-32), the *Hadith* defines the traditional way of life, *Sunnah*, of the Muslim. The *Sunnah* is based on a set of religious and social rules and duties, which involves a complete separation between the genders outside the family. Also, there is the traditional legal system of *Sharia Law* with strict punishment for deviation from the family structure, i.e. pre-marriage sex, adultery and homosexuality.

The *Sunnah* is both well-defined and protected by taboos. Also, the non-adherence to *Sunnah* is easy to observe for others in society. Consequently, it is eminently suited for generating social cohesion and stability in low income societies. Due to the codification, the *Sunnah* gave/gives considerable unification so that village life in Morocco, Afghanistan and North Nigeria is similar. In the most distant parts of the world of Islam, such as Indonesia and the Muslim enclaves in China, the *Sunnah* used to be less well-known. However, with the rise of modern means of communication, e.g. the enormous rise in the participation in the annual *Hajj* to Mecca, the knowledge of *proper traditions* has spread.

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9. Christianity is claimed to be a version of Judaism, which has been put right by God's son Jesus, who is not recognized by the Jews. Islam is claimed to be the final revelation, in the form of the Koran, of the same religion by the Messenger of God, Muhammad, who is not recognized by the Jews and the Christians.
10. This section is based on many, but less systematic, sources including about 2½ years of travel and residency in 17 Muslim countries. Some of the more general information is based on standard textbooks on Islam in Danish (Østrup, 1914, and Asmussen, 1981), and narratives such as Naipaul (1981).

4.2 Divergence in another language

Section 1 showed that the data describe an economic divergence of the West from the Muslim world for 5-700 years that has created a wide economic gap.

One of the leading scholars of Middle East history, Bernard Lewis, forcefully argues (see Lewis, 2002)[11] that a process of intellectual divergence started with the Renaissance in the West. Lewis claims that before the Renaissance, the Middle East was as intellectually dynamic as the West. But at that time, the Middle East entered a long period of stagnation, while the West became more dynamic. The approach of Lewis is qualitative and based on examples from his vast readings, but it appears that Lewis describes a process of divergence very much as in Section 1.

It is easy to document that in relation to science and culture, a wide gulf exists between the Muslim world and the West: One would be hard pressed to mention any major scientific or technological progress that has emerged from the Muslim world in the last 400 years. The Nobel prices in the sciences have been given annually since 1901, and nobody from a university in a Muslim country has got one till now. The various lists of the 200 or 500 best universities in the world have never included one in the Muslim world, etc.

However, as always, it is difficult to find out precisely when the emergence of this gap started and why. The data in Section 1 suggest that it started in the 15th century as is also the impression of Lewis. Consequently, it seems reasonably clear that the period from the 15th to late in the 19th century was a period of stagnation in the Muslim world.[12] Even now, it is not catching up.

4.3 Fundamentals: The words of God vs scientific thinking

One argument that has been presented in many versions is that the difference is due to fundamentals: It looks at the spirit of science: It is in its nature critical and thrives in pulling arguments apart and subjecting everything to as much logical and empirical testing as possible.

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11. It is an interpretative essay based on a dozen books of scholarly research in the history of the Middle East. The analysis of Lewis has been subjected to a great deal of controversy, though it is difficult to make sense of the subject discussed The most well-known critique is the one of the late Edward Said, who argued that Lewis underestimates the sinister role of Western imperialism, and that he does not really understand all the nuances of Middle Eastern culture, which can only be understood by an insider. This does not explain the gap, and it is difficult to use the short episode of Western imperialism to explain a gap that was already big and growing long before any Middle Eastern country was included in a Western empire.

12. An independent source confirming that the gap was large in the 18th century is the dairies of a Danish expedition 1761-67 to Egypt and along the cost of the Arabian Peninsula to Yemen, which have been the source of Hansen (1962) and recently republished.

(A) It is an article of faith in Islam that the Koran is the words of God, spoken by His Messenger, and faithfully written down by his followers. So to the extent that a subject could be said to be mentioned in the Koran, it is the final word for the believer.

(B) The Koran clearly states that Muhammad was a human being, but it appears logical that God did not make an arbitrary choice of messenger. And (as mentioned) a set of stories of the life in Mecca in his time, and with him as the key person, known as the *Hadith,* counts as an important secondary source for *Sunnah*, the right way of life.

Thus, Muslim culture is firmly anchored in the early Middle Age in a small town far away in the desert. Contrast this with the Bible. The Old Testament is a motley collection of very old texts that allow many interpretations. The New Testament is four stories about the life of Christ by his disciples, though it is unclear how much the texts have been edited later. While Christians believe that the Bible is the key source to moral and religion, few take it as a guide to everyday life. The hypothesis emerging from these observations is thus:

(H5) The Muslim sees the Koran as God's words, and the original tradition is well documented. This makes science relatively constrained in Muslim countries.

4.4 Political traditions from the start

In addition, there is a great difference between Jesus and his disciples on the one side and Muhammad and his followers on the other side:

Jesus was an itinerant preacher and, like his disciples, poor and powerless. They lived in a distant province, and they had bad relations with both the local elite and the colonial regime. In the end, Jesus was executed. Surely, the political system in the Jewish Colony of the Roman Empire in the 1st century is no Christian ideal. Christianity soon started to spread, but for the first 300 years, it was a religion for the powerless and poor.

Muhammad was a wealthy and successful man before he started to preach (in 610). He later became both a military leader and a political reformer.[13] Within one century after his death, his followers conquered a great deal of the world they knew. Thus, we know a great deal about the institutions preferred by the Messenger of God and his disciples.

13. His new religion was at first badly received by the rulers of Mecca, and he had to flee (622) to Medina; but after several battles he returned as the ruler of the town (730). At that time, the Muslim army was already the strongest military force in Arabia.

During its first three centuries, Christianity was thus the religion of poor outsiders. Islam, on the other hand, was the religion of a political elite that created a system of institutions which were unusually successful for 700 years. It seems obvious that these institutions need large revisions to be used by rich and complex societies 1400 years later. However, the main point made by Islamists is precisely that all Muslim countries should return to these institutions.

(H6) While Christianity was not associated with political and military power, Islam was from the start fully integrated into political and military power.

Both believers and opponents of Islam have pointed to rather ferocious quotes from the Koran that belongs in the mouth of a warrior, and to descriptions in the Hadith where Muhammad the warrior put nonbelievers to the sword after a victory. It is clear that Islam has a side that can be made out as a defense for violence and war. However, there are other more peaceful and mild parts, and Muhammad's main role was as a religious innovator and reformer.

4.5 Clarity of rules

Many observers have noted that Islam is a religion with a remarkably clear set of rules. Adherence to the rules is easily observable and thus highly suited for social control. Consequently, Muslims easily bond and come to stand out from others.

Since the rules are so clear, it is not as easy as in many other religions to reinterpret and renew the rules. Thus, it is perhaps not surprising that Islam is a conservative religion. Also, a great effort is currently taking place within Islam, defending the religion and all its traditions against critique and even discussion.

All these arguments may or may not catch something important. In order to see how important they are, we have turned to the World Value Survey and looked for 3 types of items:

(A) Items regarding religiosity, notably items describing the importance of religion for the individual in his/her daily life. This was discussed in Section 3.
(B) Items regarding the political values, and in particular regarding the desired importance of religion in politics. This will be discussed in Section 5.
(C) Items regarding gender relations. Some such items will also be discussed in Section 5.

Finally, we are adding an analysis of welfare, using the happiness and life satisfaction items.

5. Political system preferences, gender relations and life satisfaction

The analysis of the additional items from the WVS is done using the same regression framework as in Table 8, though for the individual items.

5.1 Preferences for political systems, Table 10 and the two left hand items of Table 11

Table 10 covers 4 items about the political system preferred by the respondents. A full 90% of all respondents around the world prefer democracy. However, the answers to the questions become a bit more complex once the questions are contrasted with items about the satisfaction with the status quo. People often express high approval rates for the system they have, even if it is quite far from democracy, and they also profess great sympathy with democracy.

Table 10. Preferences for different types of regimes (only asked 2000)

	E114		E116		E117		E123	
Variable	Strong man		Army rule		Democracy		Do after faults	
Ln y	***-4.62***	***-4.39***	**-5.39**	**-6.39**	-0.88		***2.03***	***1.88***
(t-ratio)	(-1.9)	(-1.9)	(-2.3)	(-3.8)	(-0.9)		(1.8)	(1.7)
West	-8.45	**-10.99**	-6.56		**5.10**	**4.42**	3.77	**4.62**
(t-ratio)	(-1.5)	(-2.3)	(-1.2)		(2.3)	(3.1)	(1.4)	(2.0)
Muslim	***-8.66***	**-12.33**	**15.37**	**14.49**	2.20	**4.02**	3.58	***4.06***
(t-ratio)	(-1.6)	(-2.6)	(2.8)	(3.1)	(1.0)	(2.3)	(1.3)	(1.8)
	Controls for other countries and groups							
Arab	-6.89		-10.33		2.65		0.22	
(t-ratio)	(-0.8)		(-1.1)		(0.8)		(0.1)	
Transition	3.39		-5.74		-1.24		-1.38	
(t-ratio)	(0.9)		(-1.6)		(-0.8)		(-0.8)	
Orient	3.48		**21.82**	**25.02**	1.16		-2.04	
(t-ratio)	(0.6)		(3.7)	(4.7)	(0.5)		(-0.7)	
USA	4.81		4.50		-2.34		-3.65	
(t-ratio)	(0.4)		(0.4)		(-0.5)		(-0.6)	
	Fixed effects for waves (only asked twice)							
Wave 3	1.45		0.61		-1.17		0.79	
(t-ratio)	(0.5)		(0.2)		(-0.9)		(0.5)	
Constant	**76.77**	**77.85**	**64.37**	**69.21**	**96.67**	**88.10**	**68.44**	**69.13**
(t-ratio)	(3.7)	(3.94)	(3.2)	(4.6)	(12.2)	(117)	(6.9)	(7.3)
N	120	120	119	119	119	119	117	117
R2 adj	0.15	0.17	0.30	0.30	0.07	0.08	0.10	0.13
Average	35.1		17.5		89.8		87.2	
Sd	18.1		19.3		6.7		8.4	

Note: Full questions are given in Inglehart *et al* (2004).

If we look at the preferences for *strong men* and *military rule*, the same thing appears. There are mixed signs that Muslims/Arabs prefer either (overlapping) kinds of government. Both Muslims and Orientals have some preferences for army rule, while few Westerners show any sympathy for this type of rule. Note also that the USA is a typical country as regards the 4 items in Table 10.

The two leftmost items in Table 11 look at the demand for a religious factor in politics. This is done by considering items F102 and F104. These questions are symmetrical, as they are both formulated to see if the respondents want a religious factor in politics. It shows the same secularization effect as in Tables 8 and 9. But note the extra effect of Islam. Clearly, Muslims want a religious factor in politics, while Westerners prefer politics not to have a religious factor.

In the opinion of many observers, this is the key factor explaining the large difference between the level of democracy in the Muslim and Western countries. Under Islam, all governments are at least partly theocracies. This causes the opposition to be the enemies of God, and thus democracy is difficult.

There is one main problem with this view: Americans deviates from other Westerners, in precisely the same way as Muslims. This pattern is consistent with the much higher religiosity of the Americans than of other Westerners. However, all democracy indices have the USA as a full democracy, and the indices that reach back two centuries show that the USA actually was the first country to reach this status.

5.2 Gender and homosexuality, Table 11 three right hand items

Three items are used to analyze the cultural factor in the gender values: One considers the attitude to women's labor market participation, and one the perceived need of women to have children. Here, the gap between the West and the Muslim world is large; and the USA does not deviate from other western countries.

In addition, we consider the item F118 about intolerance to homosexuality. This item supplements E036 in Table 9 about *family life problems*. It appears that the Koran speaks rather clearly in the matter, and in most Muslim countries, homosexual practices are severely punished. For this item, we find the largest gap between the West and the Muslim world: No less than 75 pp. Once more, the USA deviates to the same side as the Muslims, but here the effect of income easily outweighs the effect of religion.

Table 11. The role of religion in politics and two more items

	F102		F104		C001		D019		F118	
	Role of religion in politics						Gender/family items			
	Nonbelievers		Strong believers		Jobs are scarce		Women need		Homosexuality	
Variable	fit for office		unfit for office		reserve to men		children		is never justified	
Ln y	**8.97**	**8.99**	**9.49**	**11.38**	**-7.36**	**-8.46**	**-8.57**	**-8.57**	**-13.64**	**-13.29**
(t-ratio)	(4.0)	(4.1)	(3.5)	(6.4)	(-5.5)	(-8.6)	(-4.2)	(-4.2)	(-7.9)	(-7.8)
West	**21.07**	**21.01**	8.59		-1.66		**-15.55**	**-14.21**	**-13.72**	**-16.51**
(t-ratio)	(3.7)	(3.9)	(1.3)		(-0.6)		(-3.5)	(-3.4)	(-3.8)	(-5.3)
Muslim	**-12.66**	**-15.05**	***11.70***		**21.01**	**20.27**	**11.12**	**13.38**	**17.20**	**17.32**
(t-ratio)	(-2.3)	(-3.3)	(1.6)		(6.3)	(6.2)	(2.1)	(2.9)	(3.6)	(3.7)
Controls for other countries and groups										
Arab	-5.11		***-17.88***		**23.20**	**22.73**	5.56		***14.51***	***13.63***
(t-ratio)	(-0.7)		(-1.9)		(4.4)	(4.3)	(0.7)		(1.8)	(1.7)
Transition	**19.44**	**19.71**	3.619		2.38		**11.98**	**11.55**	***4.40***	
(t-ratio)	(4.8)	(5.1)	(0.7)		(1.1)		(3.7)	(3.6)	(1.7)	
Orient	1.531		2.204		**11.12**	**11.45**	7.354	7.852	3.25	
(t-ratio)	(0.2)		(0.3)		(3.5)	(3.9)	(1.6)	(1.7)	(0.8)	
USA	**-37.88**	**-37.88**	**-34.85**	**-33.49**	-2.82		**-17.91**	**-18.25**	**18.20**	**17.70**
(t-ratio)	(-3.1)	(-3.1)	(-2.4)	(-2.3)	(-0.5)		(-2.1)	(-2.1)	(2.6)	(2.5)
Fixed effects for waves (most items are not asked in some waves)										
Wave 1							3.48		**14.32**	**15.97**
(t-ratio)							(0.8)		(3.9)	(4.5)
Wave 2					**9.21**	**9.10**	***5.54***	**6.02**	**13.73**	**15.54**
(t-ratio)					(4.3)	(4.3)	(1.7)	(2.1)	(5.1)	(6.2)
Wave 3					***3.71***	***3.84***	-3.21		***-4.17***	
(t-ratio)					(1.9)	(2.0)	(-1.0)		(-1.6)	
Constant	**-40.21**	**-40.35**	**-46.77**	**-58.89**	**92.97**	**103.1**	**136.0**	**134.9**	**175.6**	**173.5**
(t-ratio)	(-2.1)	(-2.2)	(-2.1)	(-3.8)	(8.2)	(11.5)	(7.8)	(7.9)	(11.8)	(11.8)
N	64	64	63	63	165	165	185	185	182	182
R2 adj	0.73	0.74	0.41	0.40	0.63	0.63	0.55	0.55	0.66	0.66
Average	48.4		40.7		36.2		60.4		56.2	
Sd	22.9		18.5		17.2		24.5		23.3	

Note: Full questions are given in Inglehart *et al* (2004).

For all items considered, nearly all have significant income effects. The largest of these is for the intolerance to homosexuality, where also a large negative trend occurs. The reader may wonder – as do the author – why these effects are so strong.

It is well-known that both Muslims and Westerners find the prevailing view at the other side of the cultural divide deeply immoral. Also, the Muslim view is based on rather clear passages in the Koran, so adjustment will not be easy; but due to the large income effect, this is a field where the traditional views of the Muslim are coming under increasing pressures.

5.4 Happiness and life satisfaction, Table 12

Finally, Table 12 considers two closely related welfare questions. A large literature deals with the family of "happiness questions" of which the "life satisfaction" item at the right hand side in the table is normally preferred (Frey and Stutzer, 2002).

Table 11. Two subjective welfare measures

	A008				A170			
Variable	Very happy				Satisfied with life			
Ln y	-1.34		0.67		**7.50**	**7.19**	**10.82**	**10.16**
(t-ratio)	(-1.0)		(0.5)		(5.14)	(5.1)	(6.6)	(6.4)
West	1.06		3.16		**9.30**	**10.89**	**9.98**	**10.53**
(t-ratio)	(0.4)		(1.0)		(2.96)	(4.0)	(2.9)	(3.6)
Muslim	**-6.68**	**-7.74**	**-6.70**	**-9.60**	***-7.43***	**-7.88**	**-7.57**	**-8.76**
(t-ratio)	(-2.0)	(-3.0)	(-2.0)	(-3.3)	(-2.0)	(-2.5)	(-2.0)	(-2.7)
Controls for other countries and groups and for religiosity (F063)								
Arab	-7.50		-7.37		-3.40		-3.78	
(t-ratio)	(-1.4)		(-1.4)		(-0.6)		(-0.6)	
Transition	**-22.70**	**-22.49**	**-18.00**	**-20.09**	**-17.92**	**-17.31**	**-12.78**	**-13.77**
(t-ratio)	(-11.1)	(-13.3)	(-6.3)	(-11.0)	(-7.7)	(-7.9)	(-4.0)	(-5.0)
Orient	-1.09		4.82		-3.23		0.29	
(t-ratio)	(-0.4)		(1.2)		(-1.0)		(0.1)	
USA	8.35		3.45		-0.91		-7.30	
(t-ratio)	(1.6)		(0.6)		(-0.2)		(-1.2)	
Rel F063			**0.124**	**0.095**			**0.167**	**0.134**
(t-ratio)			(2.3)	(2.7)			(2.8)	(2.7)
Fixed effects for waves								
Wave 1	**-7.44**	**-6.34**	***-5.01***		1.05		4.63	
(t-ratio)	(-2.6)	(-2.4)	(-1.7)		(0.3)		(1.4)	
Wave 2	**-4.63**	**-3.83**	-2.87		3.21	***3.47***	**5.32**	**4.50**
(t-ratio)	(-2.2)	(-2.0)	(-1.3)		(1.4)	(1.7)	(2.1)	(2.1)
Wave 3	-1.82		-1.37		-0.95		-0.37	
(t-ratio)	(-0.9)		(-0.7)		(-0.4)		(-0.2)	
Constant	**46.71**	**34.26**	18.18	**26.58**	-6.39	-4.98	**-49.04**	**-40.68**
(t-ratio)	(4.2)	(28.3)	(1.2)	(11.1)	(-0.5)	(-0.4)	(-2.9)	(-2.6)
N	186	186	174	174	187	187	174	174
R2 adj	0.49	0.49	0.48	0.48	0.67	0.67	0.69	0.69
Avr	24.8		25.3		57.5		57.7	
Sd	14.5		14.5		20.4		20.7	

Note: Full questions are given in Inglehart *et al* (2004). Some observations are missing when the religiosity measure F063 is added as a regressor. Note that some of the effect of F063 is due to multicollinearity.

We note that the two items give a rather different picture, even when they have a correlation of 0.65. At closer inspection, it turns out that the deviations are due to a few extreme deviations in poor (mainly African) countries that report high happiness, but little life satisfaction. Also, it gives credibility to the life satisfaction item that here the fixed effects for waves matter little. So we confirm the findings in the literature that life satisfaction is the better welfare measure.

It is often alleged that religion makes people happy and more satisfied with their lot. Our findings basically reject this idea – religious Americans are not happier than other Westerners. And irreligious Westerners are happier than the religious Muslims, when the relation is controlled for income. In fact, one of the few findings that generalize to both items is that Muslims are less happy.

However, when we include the variable F063 which has the highest loading to the religiosity factor in Table, it does generate a significantly positive coefficient, though it is fairly small compared to the contrary evidence given.

6. Conclusions: Will the Muslim gap close?

Above, we have looked at two parts of the Grand Transition from poor to wealthy: The democratic transition and the religious transition, also known as the secularization. In both processes, the Muslim world forms an exception. It has no democratic transition, and secularization is weak. In the two fields, the gap between the Muslim countries and the rest of the world is large and widening.

The main reason for its widening is the adjustment of values and opinions in the rest of the world due to rising income. However, while the rest of the world gradually adjusts, the values and opinions of the Muslim world are more rigorous and conservative as they are tied to the Koran and traditions going back to the 7th century.

We know that there has been considerable attempt of adjustment in the Muslim world as well. It is easy to point to important political leaders such as Mustafa Kemal Atatürk, Gamal Abdel Nasser, the two Shahs of Iran, etc., who strived hard to modernize their countries (though not towards democracy). However, their efforts are hard to document in the data. Also, during the last 20-30 years, there has been a large Islamist backlash in many Muslim countries. It demands a return to original Islam and its rigorous moral standards, especially as regards family life. At present, it appears that the backlash has generated a movement in the direction desired. Waves as the present Islamist one are typically transitory, but we have found no clear indications that the backswing has peaked yet.

So in addition to the long-run tendency, there is a medium-run tendency as well for the gap to grow.

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Appendix A. The countries covered

We have used two criteria for inclusion in the Muslim group: (1) A Muslim majority (in practice) and (2) a Muslim government. The membership in two organizations has been used to check the lists:

The Arab League was founded 22/3-1945 by: Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Syria and Yemen. Later, the following have joined: Algeria, Bahrain, Kuwait, Libya, Morocco, Oman, Palestine, Qatar, Tunisia, UAE. The following members are not included on our list: Comoros, Djibouti, Mauritania, Somalia, and Sudan. Observer state: Eritrea

Table A1. The list of Muslim countries

Characteristics			Name	Characteristics			Name	Characteristics			Name
Nr	%	Clas:	short form	Nr	%	Clas:	short form	Nr	%	Clas:	short form
1	H	OM	Afghanistan	18	H	Arab	Iraq (Oil)	35	H	Arab	Saudi Arabia (Oil)
2	70%	Tra	Albania	19	H	Arab	Jordan	36	H	OM	Senegal
3	H	Arab	Algeria (Oil)	20	47%	Tra	Kazakhstan (Oil)	37	60%	OM	Sierra Leone
4	H	Tra	Azerbaijan (Oil)	21	H	Arab	Kuwait (Oil)	38	H	OM	Somalia
5	H	Arab	Bahrain (Oil)	22	75%	Tra	Kyrgyzstan	39	70%	OM	Sudan
6	H	OM	Bangladesh	23	60%	Arab	Lebanon	40	H	Arab	Syria
7	67%	OM	Brunei (Oil)	24	H	Arab	Libya (Oil)	41	H	Tra	Tajikistan
8	50%	OM	Burkina Faso	25	55%	OM	Malaysia (Oil)	42	H	Arab	Tunisia
9	51%	OM	Chad (Oil, late)	26	H	OM	Maldives	43	H	OM	Turkey
10	H	OM	Comoros	27	H	OM	Mali	44	H	Tra	Turkmenistan
11	H	OM	Djibouti	28	H	OM	Mauritania	45	H	Arab	UAE (Oil)
12	H	Arab	Egypt	29	H	Arab	Morocco	46	H	Tra	Uzbekistan
13	H	OM	Gambia	30	H	OM	Niger	47	H	Arab	Yemen
14	H	OM	Guinea	31	H	Arab	Oman (Oil)	Not included			
15	45%	OM	Guinea-Bissau	32	H	OM	Pakistan	48	50%		Nigeria
16	H	OM	Indonesia (Oil)	33	H	Arab	Palestine	49	47%		Ethiopia
17	H	OM	Iran (Oil)	34	H	Arab	Qatar (Oil)				

Note: *%* is Muslim population (in %), where H means above 80%. The source is the CIA Sourcebook (net). *Clas* is the classification of Table 3.

The Organization of the Islamic Conference was founded 25/9-1969 by: Afghanistan, Algeria, Chad, Egypt, Guinea, Indonesia, Iran, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Mauritania, Morocco, Niger, Pakistan, Palestine, Yemen, Saudi Arabia, Senegal, Sudan, Somalia, Tunisia and Turkey. Later, the following countries have joined: Albania, Azerbaijan, Bahrain, Bangladesh, Brunei, Burkina Faso, Comoros, Djibouti, Gambia, Guinea-Bissau, Iraq, Kazakhstan, Kyrgyzstan, Maldives, Oman, Qatar, Sierra Leone, Syria, Tajikistan, Turkmenistan, UAE and Uzbekistan. The following members are not included on our list as they do not appear

to have a Muslim majority:[14] Benin (20%), Cameroon (20%), Côte d'Ivoire (37%), Gabon (1%), Guyana (10%), Mozambique (18%), Nigeria (50%), Suriname (20%), Togo (20%) and Uganda (16%). Observer states: Bosnia and Herzegovina (40%), CAR (15%), Northern Cyprus, Russia (12%) and Thailand (5%).

Burkina Faso, Guinea-Bissau and Kazakhstan have 50% or less Muslims, but in all three cases, the Muslim group is the largest and the dominating one politically. Two of the members have a dubious status as states: Palestine has been fully and later partly occupied. It has still uncertain borders, but gdp data exists. Northern Cyprus is not recognized by most countries. Both are covered by little statistics.

OPEC was founded in September 1960 by: Iran, Iraq, Kuwait, Saudi Arabia, and Venezuela. Later, the following present members have joined: Algeria, Indonesia, Libya, Nigeria, Qatar and UAE. Gabon and Ecuador have left the organization, and so may Indonesia. Other oil/gas exporters are Azerbaijan, Bahrain, Brunei, Chad (new), Equatorial Guinea (new), Kazakhstan, Malaysia, Mexico, Norway, Oman, Russia and Trinidad and Tobago, where the export of Indonesia, Malaysia, Mexico and Norway has oil products below half of export.

The Communist/ex-Communist countries are: Before 1990, we counted 16 Communist countries. From 1990 till now, we use series for 5 Communist and 29 Transition economies; however, they are soon 31 countries. The lists are:

Before 1990: 1 Albania, 2 Bulgaria, 3 Cambodia, 4 China, 5 Cuba, 6 Czechoslovakia, 7 DDR, 8 Hungary, 9 Korea North, 10 Laos, 11 Mongolia, 12 Poland, 13 Romania, 14 Vietnam, 15 Yugoslavia, 16 USSR.

Now there are 5 Communist countries: 1 China, 2 Cuba, 3 Korea North, 4 Laos, 5 Vietnam.

And 28-31 Transition countries: 1 Albania, 2 Armenia, 3 Azerbaijan, 4 Belarus, 5 Bosnia, 6 Bulgaria, 7 Cambodia, 8 Croatia, 9 Czechoslovakia ➔ 9 Czech Republic and 10 Slovakia, 11 Estonia, 12 Georgia, 13 Hungary, 14 Kazakhstan, 15 Kyrgyzstan, 16 Laos, 17 Lithuania, 18 Macedonia, 19 Moldova, 20 Mongolia, 21 Poland, 22 Romania, 23 Russia, 24 Slovenia, 25 Tajikistan, 26 Turkmenistan, 27 Ukraine, 28 Uzbekistan, 29 Rest Yugoslavia ➔ 29 Serbia, 30 Montenegro, and soon 31 Kosova/Kosovo.

The West is: 1 Australia, 2 Austria, 3 Belgium, 4 Canada, 5 Cyprus (G), 6 Denmark, 7 Finland, 8 France, 9 Germany, 10 Greece, 11 Iceland, 12 Ireland, 13 Israel, 14 Italy, 15 Luxembourg, 16 Malta, 17 Netherlands, 18 New Zealand, 19 Norway, 20 Portugal, 21 Spain, 22 Sweden, 23 Switzerland, 24 UK, 25 USA. We have the usual problem with the UK, where WVS divides into Great Britain and Northern Ireland.

Finally, Table A2 lists the countries covered in the 4 waves of the World Value surveys, and the way the countries have been coded., where W, M, A, O and T means that the countries are coded as Western, Muslim, Arab, Oriental and Communist/Ex-Communist respectively. Some items are not used in all countries, so we do not have (21 + 43 + 54 + 70) = 188 observations for each item, but on average only 144 observation for the average of the 24 items considered.

14. The numbers in bracket are shares of Muslims according to the CIA Factbook (net).

Table A2. The World Value Survey: Countries covered and the classification used

		W1	W2	W3	W4	W	M	A	O	T
1	Albania			1	1		1			
2	Algeria				1		1	1		
3	Argentina	1	1	1	1					
4	Armenia			1						1
5	Australia	1		1		1				
6	Austria		1		1	1				
7	Azerbaijan			1			1			
8	Bangladesh			1	1		1			
9	Belarus		1	1	1					1
10	Belgium	1	1		1	1				
11	Bosnia			1	1					1
12	Brazil		1	1						
13	Bulgaria		1	1	1					1
14	Canada	1	1		1	1				
15	Chile		1	1	1					
16	China		1	1	1				1	
17	Colombia			1						
18	Croatia			1	1					1
19	Czech Re		1	1	1					1
20	Denmark	1	1		1	1				
21	Dom Re			1						
22	Egypt				1		1	1		
23	El Salvador			1						
24	Estonia		1	1	1					1
25	Finland		1	1	1					
26	France	1	1		1					
27	Georgia			1						1
28	Germany	1	1	1	1					
29	Greece				1					
30	Hungary	1	1	1	1					1
31	Iceland	1	1		1	1				
32	India		1	1	1					
33	Indonesia				1		1			
34	Iran				1		1			
35	Iraq				1		1	1		
36	Ireland	1	1		1	1				
37	Israel				1	1				
38	Italy	1	1		1	1				
39	Japan	1	1	1	1				1	
40	Jordan				1		1	1		
41	KoreaS	1	1	1	1				1	
42	Kyrgistan				1					
43	Latvia			1	1	1				1
44	Lithuanea			1	1	1				1
45	Luxemburg					1	1			
46	Macedonia				1	1				1
47	Malta	1	1			1	1			
48	Mexico			1	1	1				
49	Moldova				1	1				
50	Morocco					1		1	1	
51	Netherlands	1	1			1	1			
52	New Zealand				1		1			
53	Nigeria			1	1	1				
54	Norway	1	1	1			1			
55	Pakistan				1	1		1		
56	Peru				1	1				
57	Philippines				1	1			1	
58	Poland			1	1	1				1
59	Portugal			1		1	1			
60	Puerto Rico				1	1				
61	Romania			1	1	1				1
62	Russia			1	1	1				1
63	Saudi Arabia					1		1	1	
64	Serbia				1	1				1
65	Singapore					1			1	
66	Slovakia			1	1	1				1
67	Slovenia			1	1	1				1
68	South Africa			1	1	1				
69	Spain	1	1	1	1	1				
70	Sweden	1	1	1	1	1				
71	Switzerland			1	1		1			
72	Taiwan				1				1	
73	Tanzania					1				
74	Turkey			1	1		1			
75	Uganda					1				
76	UK	1	1	1	1	1				
77	Ukraine				1	1				1
78	Ulster	1	1			1	1			
79	Uruguay				1					
80	USA	1	1	1	1	1				
81	Venezuela				1	1				
82	Vietnam					1			1	
83	Zimbabwe					1				
		21	43	54	70	21	13	6	7	19

Appendix B. The Arab convergence

Appendix A shows that the 17 Arab countries divide into two groups:

9 oil countries: Algeria, Bahrain, Iraq, Kuwait, Libya, Oman, Qatar, Saudi Arabia, UAE
8 non-oil countries: Egypt, Jordan, Lebanon, Morocco, Syria, Tunisia, Yemen and Palestine.

Some of the oil countries, notably Kuwait, Qatar and UAE, have abundant oil, others have less, and some of the non-oil countries such as Syria, Egypt and Yemen have little oil. However, for the 9 oil countries on the list, oil and gas constitute more than half of exports, and for the 8 countries on the non-oil list, oil is a smaller post in exports, or they import oil.

Figure A1. The average growth path of the two groups of Arab countries

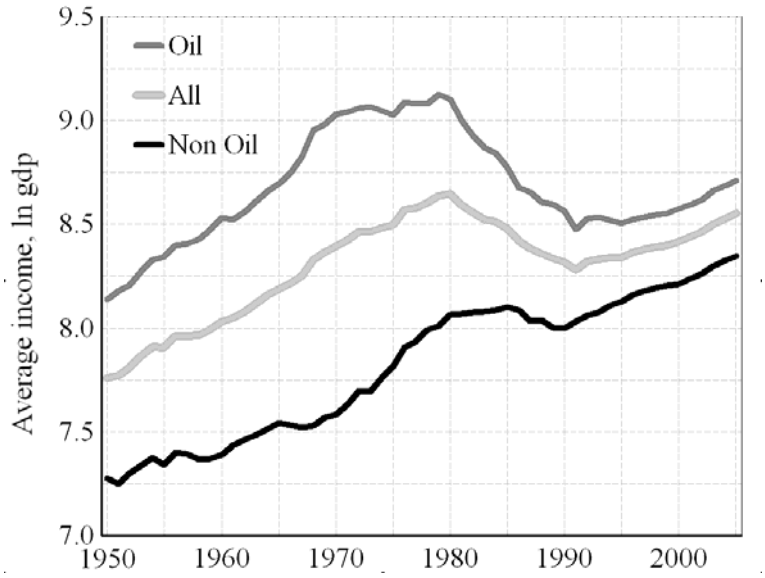
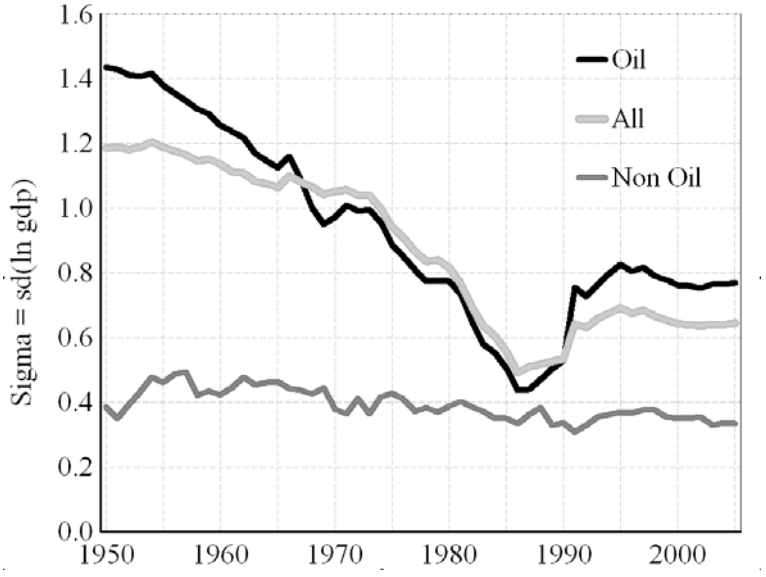


Figure A2. The pattern of σ-convergence for the groups of Figure A1



Figures A1 and A2 line up to Figures 2a and 3 as the average curves for all Arab countries are the same as shown on Figures 3a and b. But now, we add the curves for the two groups.

Figure A1 shows that the effect of the first "oil-crisis" 1973-75 was to boost growth in both groups of Arab countries. It is not surprising for the oil countries, where the price of the main export went up about 7 times. This resulted in a "growth hump" starting already in 1968 and lasting till about 1980. In the non-oil countries, a similar, but smaller "hump", took place with a small delay. This was due both to trade and remittance effects, and to the aid program of the Arab oil countries to Arabs countries with less luck.

If we first look at Figure A1, it is interesting to see that there is hardly any divergence between the two groups till 1980, and a strong convergence since then. This is due to a decline in the gdp of the oil countries. At closer inspection, it turns out that a key factor is the very rapid rise of the population – due to immigration – in the 3 super oil-countries: Kuwait, Qatar and UAE. But also Saudi-Arabia and Libya have falling gdp after 1980. Finally, Iraq has a lower gdp in 2005 than in 1950, for well-known reasons.

Figure A2 shows the σ-convergence measure for the groups. The interesting point to observe is that all three curves show convergence. The strongest convergence is within the oil countries, but note that the non-oil countries have a small and falling standard deviation. Clearly, the Arab countries converge to some joint attractor.

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