February 4th - 2024

The OPEC/MENA/Arab nexus and the missing democratic transition

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Abstract:
The democratic transition is a strong relation in the data, as analyzed elsewhere. This paper deals with the only large exception: The 26 countries in the OPEC/MENA/Arab nexus have no democratic transition. The explanation is complex and as it requires (at least) two intertwined theories: The *oil theory* and the *Muslim culture theory*. More than half of the OPEC and MENA groups overlap, and in addition all but two of the MENA countries are Arab, with similar language, religion, history, and culture, giving spatial effects. Thus, it is difficult to untangle the effects, but it is still demonstrated that both theories matter, so that the Muslim oil countries are especially far from democracy.

Keywords: Democratic transition, the OPEC/MENA/Arab exception
Jel: P52, Q43, R12, Z12

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1. Introduction: Long-run transition curves for the average country

In the theory of economic growth, a transition is the change from one steady state to another. Economic history knows of two basic steady states: The traditional and the modern; see Maddison, 2003, and Galor, 2011. Consequently, this paper sees a *transition* as a change in a socioeconomic variable, when a country develops from the traditional to the modern steady state.[2] It is a function of development as proxied by income. The full process for all variables is the *Grand Transition*. It takes more than a century and consists of many confluent transitions.

The democratic transition is a typical transition. The political system of the *Main* group of most countries has a neat transition curve  , where the system is explained by income. Poor countries are stable autocracies of roughly the same type. Economic development changes the power structure of societies in much the same way across countries until stable democracy is reached. The democratic transition in the Main group of countries is analyzed elsewhere; see sections 2 and 3 for brief summaries of the findings and explanation.

The subject of this paper is the only major exception: The *OMA* group of the 26 OPEC-MENA-Arab countries has no democratic transition. The data gives a different curve  , with a hump and a weakly falling trend, so the curves for the two country groups diverge. It has caused the development of a political gap between the OMA and the Main groups. The confidence intervals around both the curves for the Main and the OMA samples are narrow, so the curves are well determined. Thus, they must have a *general* explanation. Section 3 surveys the literature and presents two intertwined explanations for the OMA exception.

The first theory considers the OPEC countries. It shows that oil wealth changes the power structure in a different way in the OPEC countries than in other countries. The other theory addresses the fact that also the non-oil countries in the MENA-region have a weak transition. It is likely that a cultural factor matters as the 18 MENA countries have been Muslim for more than a millennium. Other Muslim countries have been so for a shorter period. Section 2 briefly considers the full Muslim sample. Most of the MENA countries are Arab, with much in common as regards language, religion, and history. Even when they occasionally quarrel, they mostly cooperate. Consequently, it is not surprising that their data contains spatial effects.

The paper study transition as curves generated as averages in large data samples unified across countries and time. The curves give well determined long-run paths for the average

[2] Unfortunately, the term transition has found a broader use. Many speaks about the transition from socialism in Eastern Europe, or to changes over time in general. This paper uses the strict definition mentioned.

country. The transition is overlaid with much short-run fuzziness, but it is still the core path of the political system, and thus an important part of the skeleton of development. In this perspective many interesting stories about individual countries must be disregarded.

Section 2 reports the stylized facts to be explained. Section 3 is a brief literature survey and presents the theories used. The end of the section makes three predictions about the development in the three sub-groups defined in Table 1. Section 4 uses standard regression analysis with binary group dummies, while section 5 looks at kernels for the groups and sub-groups. For easy reference, Table 1 covers the terminology, variables, and the country groups giving the samples analyzed, while Table A (at the end) lists the countries of the OMA sample. The documentation for everything claimed is too bulky to present within the frames of a standard paper. Thus, a Net-Appendix is available, see references.

Table 1. Terminology, variables, samples, three groups, and three sub-groups

Part 1 terminology for transitions. [a)]				
Steady state	Growth equilibrium. Everything grows at the same rate, so all ratios are constant			
Traditional	Steady state of all countries before 1750 and low-income countries (LICs) until recently			
Modern	Steady state of high-income countries today (HICs), with the OPEC exception			
Transition	Change diverging from the traditional steady state and later converging to the modern one			
Part 2 data.				
PV	Two indices for the political system. From the Polity and V-Dem projects, see references			
P	*Polity*(2). Scale: Integers in the closed interval [-10, 10], from authoritarian to democratic			
V	*Polyarchy.* Scale: 2-3 decimals in the open interval]0, 1[, from authoritarian to democratic			
GDP	Gross Domestic Product, in fixed PPP, purchasing power parity, prices			
gdp	GDP per capita. From the Maddison Project, see references			
y	*Income*, the natural logarithm to *gdp*. One logarithmic point is a *gdp* change of 2.72 times			
Part 3a. Samples discussed. Unified panel data. For 1800-2018, see Figure 1. All data $N = 12{,}332$				
Sample	Cnt.	*N*		Reference
OMA	26	1,749	The data analyzed in the paper	Table A (at the end)
Main	130	10,583	For comparison only	Paldam (2021)
Part 3b. Alternative samples. Used in section 2.3 only				
Muslim	44	2,441	See section 2.3	Figure 3
Non-Muslim	112	9,891		
Part 4. **The three groups and three sub-groups** of the OMA sample				
	Cnt.	*N*	Groups overlap, while sub-groups are exclusive	Figure
Group 1	18	1,224	OPEC, present and former OPEC members. Sub-groups 1 and 3	5
Group 2	18	1,107	MENA, Middle East and North Africa. Sub-groups 2 and 3	5
Group 3	16	940	Arab, the MENA countries except Iran and Turkey	5
Sub-group 1	8	642	OPEC-only, OPEC but not MENA, Table A top section	6
Sub-group 2	8	525	MENA-only, MENA but not OPEC, Table A middle section	6
Sub-group 3	10	582	Overlap, both OPEC and MENA, Table A bottom section	6

The samples are limited to observation for formally independent countries, where all variables have data, i.e., observations where polity is zero are omitted. OPEC is the Organization of Petroleum Exporting Countries. Bahrain and Oman are added to the OPEC group, as they are close to OPEC. It makes OPEC and MENA symmetrical, with 18 countries in each group. **Cnt** is countries and ***N*** is the number of observations.

2. The stylized facts to be explained

The purpose of this section is to present the facts discussed in the rest of the paper.

The main tool used to reveal long run common trends in multi-country samples is kernel regression on the unified panel of the sample. The panel $(P, y)_{it}$, where i is country and t time, is unified to become the vector $(P, y)_j$ with $j = it$ elements in some order. The kernel is $K^P(y, bw)$ for P explained by y. Here the vector is ordered by y. The kernel curve is a moving average with a constant bandwidth bw, smoothed by the Epanechnikov kernel. The interpretation presumes equivalence: Wide cross-country samples reflect the long run and thus give the same picture as long-run time series.[3]

No economic theory and few restrictions on its form are used to calculate kernel curves. Hence, it is a test of a theory if a curve with the form predicted can be drawn within the 95% confidence intervals of the kernel. It is a strong test under two conditions: (i) The intervals are narrow, and (ii) the prediction is distinct. These conditions both hold for the democratic transition. Condition (i) also shows that the unification is justified.

2.1 The democratic transition and the OMA exception[4]

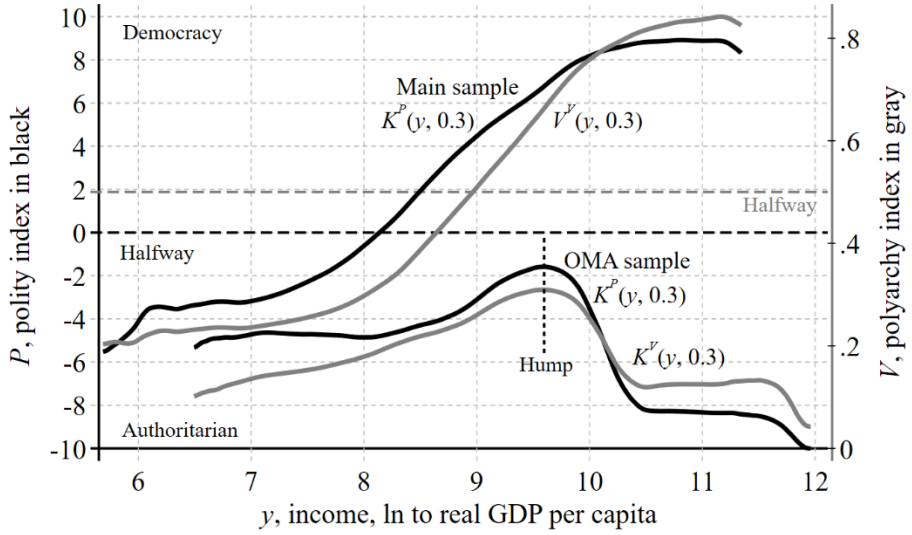
Figure 1 gives the kernel regressions, $K^P(y, 0.3)$ and $K^V(y, 0.3)$, for the Main and the OMA samples. The classification of Part 4 in Table 1 is covered by Table 4a and Figure 5 for the three groups and Table 4b and Figure 6 for the three sub-groups. The curves for P, polity, and V, polyarchy, are qualitatively similar.

The two curves for the Main sample show perfect transition curves. There is indeed a strong democratic transition in the main sample. The two OMA-curves differ in three ways: (i) They are fully in the lower, authoritarian, half of the picture, (ii) They have a hump-shape, with a peak midway, and (iii) They have a weakly negative trend.

The curves are calculated for all available data, see Table 1, but they are robust to sub-samples of the data, e.g., they are very similar if the samples are started when OPEC was formed; see Net Appendix, which also reports the 95% confidence intervals. For the Main sample they are so close to the curve that they are hard to see. The confidence intervals for the two samples do not overlap.

[3] When data allow, equivalence should be confirmed. It is for the democratic transition see Paldam (2021, 2024).
[4] Paldam (2021, 2024, 2025) analyze the transition curve for the Main sample. It shows the robustness of the curve, discusses the kernel technique used, and provide evidence that the main direction of causality is from income to the political system; see The Net Appendix adds evidence for the OMA sample.

Figure 1. Kernel regressions explaining the *PV* democracy indices by *y*, income



The gap between the curves for the samples may be measured in % of the range of the indices. It grows from 10% at low income to no less than 75% at high income. The gap has been known for a long time, see Borooah and Paldam (2007) and Potrafke (2012) who covers the older literature. The gap has caused conflict, so it is no wonder that the explanation of this fact has led to a huge discussion.[5] It includes many attempts to talk down the gap. Section 3 tries to explain the gap.

2.2 The development over time

The transition is a function of income, but income grows over time, so the transition leads to a secondary development in the democratic indices over time, as Figure 2 shows. Here the curves for the two samples are similar in form, but do not overlap. The OMA curves are much lower and show smaller changes. Furthermore, the curves over time have substantially larger confidence intervals than the curves over income; see Net Appendix. Thus, the transition curves are better determined.

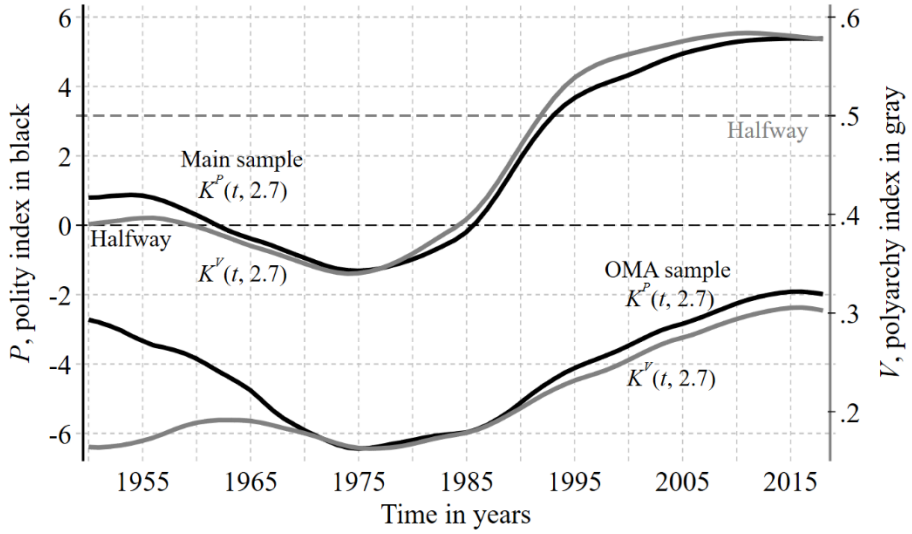
While the curves for Figure 1 only change marginally when the period is shortened, this is not the case for Figure 2, where the curves for the thin data from 1800-1950 show large fluctuations that are hard to interpret, so here time is started in 1950. While the relation is clear for the main sample, it is more dubious for the OMA sample, where the trend over time is less

[5] 'Islam and democracy' give 41 million hits in Google. The discussion was fueled by two bestsellers: Huntington (1992), speaking of *the clash of civilizations* and Lewis (2002), looking at the long period of *stagnation in the Muslim world* starting in the 16th century. Chapter 1 in Eldabawi and Makdisi (2017) is a fine survey of the discussion.

clear, especially since the curves have moved downward after 2018.

The polity index has not been updated, but the polyarchy index now goes to 2023 and so does the Freedom House index; see Net Appendix. While the polyarchy index shows a small fall, the fall is substantial in the Freedom House index.

Figure 2. Development over time of polity and polyarchy in the OMA and Main samples



N = 7,253 for the Main sample, and N = 1,542 for the OMA sample

In addition to the medium time picture there is also a literature on the very long run in the MENA area stressing the waves of colonial legacy first the Arab, the Ottoman, and finally the Western imperial rules; see e.g., Chaney (2012) and with Blayne (2013) and Hariri (2015). If these authors are right the legacy of the Arab empire is the most important. Thus, it is Islam and the set of socio-political institutions that comes with that religion that matters most.

2.3 All Muslim countries

The *Organisation of Islamic Cooperation* has 57 members. However, nine have a non-Muslim majority. Palestine has only sporadic data and a partly dependent political system. Also, the Maldives, Somalia and Brunei lack data. Thus, 44 Muslim majority countries are included in the analysis. 20 are OMA countries.

13 countries are Sub-Saharan African from the low end of the income spectrum where the difference between the main and the Muslim group is small. Seven are post socialist countries. Chapter 3.3 in Paldam (2021) shows that the political system of the seven Muslim

countries has converged to the MENA pattern after 1990, while the other 21 post socialist countries are converging to the main pattern. The remaining four countries are Afghanistan, Bangladesh, Malaysia, and Pakistan. Figure 3 shows the curves corresponding to Figure 1 for the 112 non-Muslim and the 44 Muslim countries.

Figure 3. Kernel regressions explaining the *PV* democracy indices by *y*, income
For the countries with a Muslim majority and other countries, see Table 1

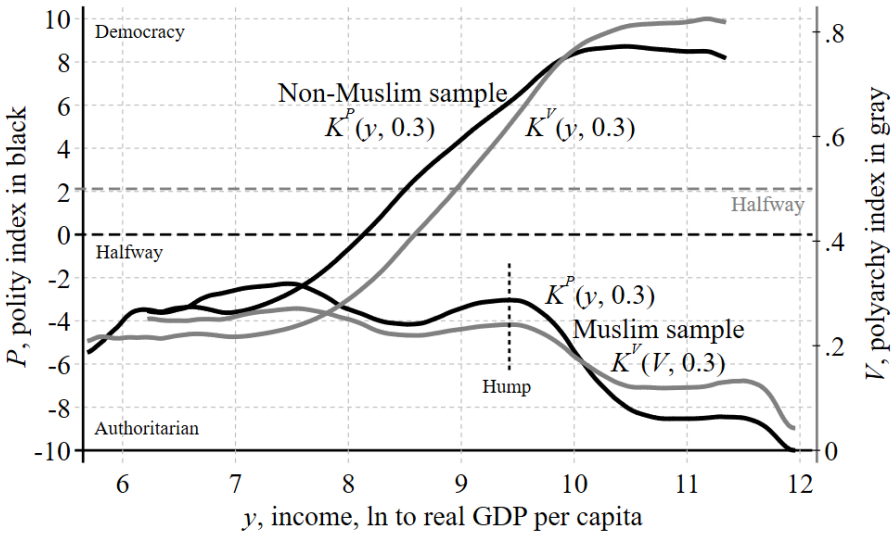


Figure 3 looks much as Figure 1, but the curves overlap in the beginning, where they have an extra top due to the African countries that had a democracy wave, when they became independent (see the background paper Paldam 2024c). Thus, the story of all Muslim countries is like the OMA story, but it is cleaner when told for the OMA countries alone.

2.4 The frequency distribution of the observations of the samples

The 4 graphs of Figure 4 make three points: (i) They give an alternative view of the deviation between the Main and the OMA countries. (ii) They show how non-normal political indices are. (ii) They illustrate the difference between the indices. Many countries are perfect democracies by polity, while polyarchy is stingier.

Figures 4a and c for the Main sample have two peaks for the two steady states. The skewness to the left in the OMA sample gives a much lower *PV*-level than other countries. The average values for income are $y_{Main} = 8.41$ and $y_{OMA} = 8.72$ so if the OMA countries followed the democratic transition the skewness should be small and go the other way.

Figure 4. The frequency distribution in % of the Main and OMA samples

Figure 4a. Polity Main sample

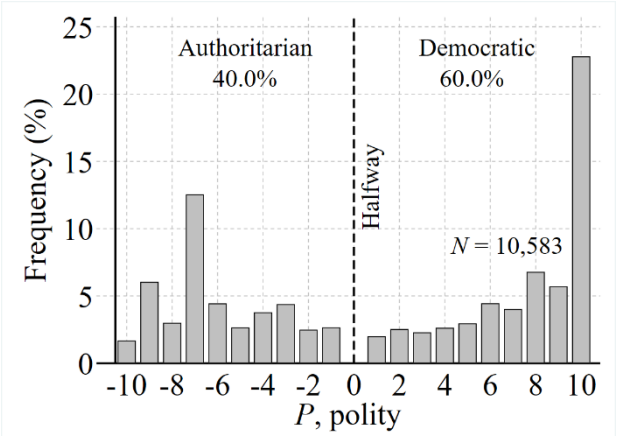


Figure 4b. Polity OMA sample

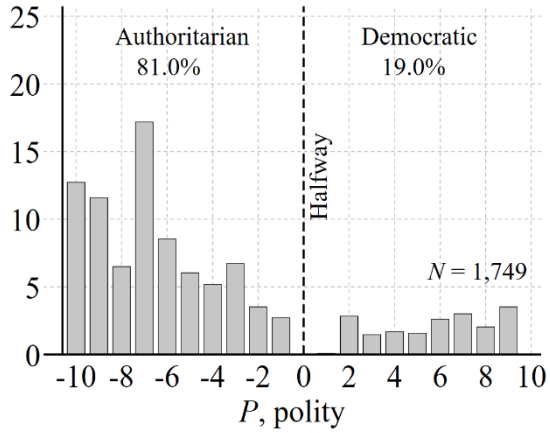


Figure 4c. Polyarchy Main sample

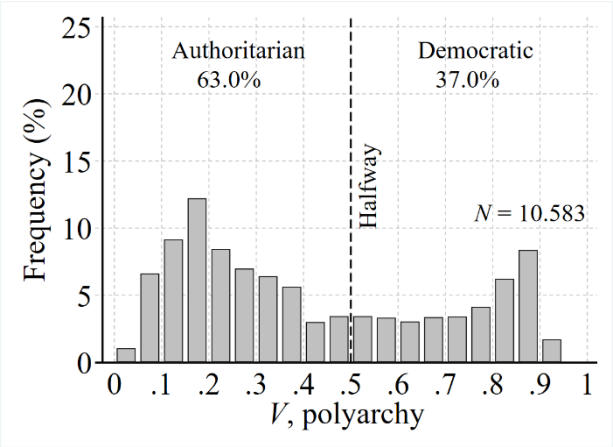
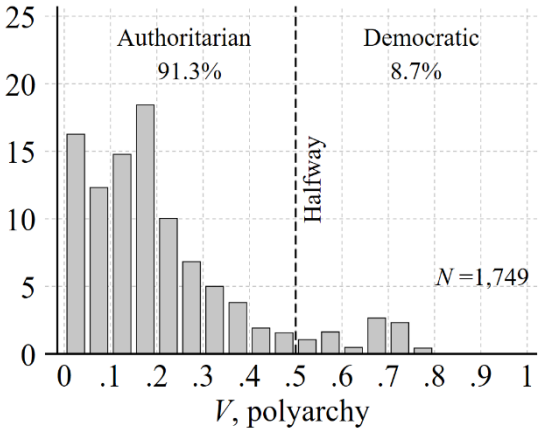


Figure 4d. Polyarchy OMA sample



The bin for polity is one polity point, while it is 0.05 for polyarchy. The polity index uses zero for an unclear system. These cases are omitted. Frequency distributions for the OPEC, MENA, and Arab groups are reported in NA (Net Appendix).

3. Literature and three theories

The following looks for theories in political economy that explain how *economic development* changes the *power structure* in society and hence the *political system*. The most general long-run processes are the transitions, so we first look at the power structure in traditional systems and then consider how key transitions change that structure. Theories that explain the development of one country only are disregarded.[6]

[6] Iran is the only Shiia majority country. It has its own language and a very long history as an independent country. Vahabi (2024) argue that the concept of *Anfal* (limited property rights) in Shiia theology is crucial for the development of the country under the present theocracy. However, the analysis reported in the Net Appendix found that Iran is no outlier.

The literature contains three general theories for the OMA countries. These theories come in many versions:

(T1) The ***resource-richness*** theory, where the relevant oil version is taken as the extreme case. This theory uses well understood economic mechanisms. Section 3.2 presents our version of the theory. The OPEC group is taken as a proxy for oil abundance.

(T2) The ***Muslim culture*** theory. It notes that the MENA holds the core countries of Islam. This theory is somewhat wooly as culture is a concept where measurement is difficult. Section 3.3 presents our version of the theory.

(T3) A ***conflict proneness*** theory that notes that the Middle East has had an unusual frequency of wars and civil wars. Section 3.4 discusses this theory.

The explanation (T1) considers the long-run dynamics of the power structure in the representative country. Thus, it is the oil-version of the general theory of the democratic transition. This is evident when it is compared with the transition in the Main sample.

3.1 The democratic transition in the Main sample: The dynamics of the three pillars model[7]

The two democracy indices used go back to the year 1800 where they covered 22-25 (mainly European) countries that still exist, though often after some change of territory. Except for the USA that had just started, these countries were all kingdoms. Historical narrative for these countries and at least twice as many go much further back in time. Thus, we know that during the last 500 years before 1800 nearly all countries were kingdoms, where the power of the king was based on the *three pillars:* A King, a feudal nobility/regional chiefs, and the 'Church'.[8] Some of the old countries have had a period as colonies (e.g., Korea and Morocco) of a more developed country, but they do have an independent period of at least half a century at the start and the end. Today all high-income countries have turned democratic, except the richest OMA countries (and Singapore). The change in the political system is neatly explained by the fact that the Grand Transition undermined two of the pillars.

The *agricultural transition* changed the share of agriculture in GDP from about 50% to about 2%. This meant that the share of GDP accruing to the feudal aristocracy fell similarly. This surely reduced its power. With this reduction many countries made land reforms, and all modern countries abolished the privileges of the aristocracy.

[7] This section is a brief summary of Paldam (2025).

[8] The term Church (with a capital letter) is used for the institution of the religion, even if it is not Christian. Note also that some of the old countries have had a period as colonies (notably Korea and Morocco) of a more developed country, but they do have an independent period of at least half a century at the start and the end.

The *religiosity transition* changed the share of strongly religious people from almost 90% to about 30%.[9] The share of the Church sector in GDP has fallen even more. Thus, the power of the Church has fallen substantially.

With the great weakening of the two pillars the royal pillar has been weakened too, and Kings have been abolished or turned into national symbols. The agricultural and Church sectors have been replaced with other sectors, and the middle class has come to dominate. It has absorbed the huge increase in human capital, and it wanted mass representation. Consequently, democracy resulted.

This story gives an underlying transition path, but political regimes in power always try to consolidate, so countries typically see spells of constant regimes of about a dozen years even when the transition is fastest. They represent *status quo equilibria*. However, when a triggering event happens, they do not return to the old system but jump. The transition path acts as an attractor for these jumps. The equilibrium is only stable in the two steady states at the ends of the income scale.

3.2 Theory (T1): Abundant oil resources change the dynamics of the three pillars model

The three pillars model works differently in very resource-rich countries, notably in oil countries, which were LDCs, with a traditional political system, when oil was found.

In the short run oil only increases income, but gradually this causes changes in society. It may require half a century to reach the full effect. Think of human capital; even if the government of the oil country wants to expand human capital to fit to the new high-income level, it will take a handful of decades. Some papers explain the OPEC exception by the Dutch disease/resource curse theory,[10] see e.g., Haber and Menaldo (2011) and Aslaksen (2011).

Oil prospection and production are capital-intensive high-tech operations. Thus, a new oil sector in an LDC must rely on international technology and expatriate technicians, who often spend a few months only in the country and rarely speak the local language. Oil installations are expensive and highly explosive, so they are heavily fenced. Once it produces, it needs few workers. Thus, the oil sector becomes an *enclave* with few direct links to the rest

[9] Religiosity is defined as the percentage of strongly religious respondents at polls. The World Values Survey covers 14 aspects of religiosity in many countries over 5 (soon 6) waves. Thus, each poll gives a matrix of (14 *x* 6) values for the religiosity of people. A factor analysis shows that one strong factor dominates these values. Thus, it is a measure of religiosity; see chapter 11 in Paldam (2021).

[10] The literature on *Dutch Disease* goes back Corden (1984). His analysis had the new oil production in Australia in mind. Here the resource sector was/is rather small and integrated in a modern economy. The term *resource curse* was the second coming of the Dutch Disease theory. Sachs and Warner (1995) introduced the modern version of the theory, and the ensuing discussion is surveyed by Ploeg (2011) and Paldam (2013). While the economics of the theory is well worked out, the political part is covered by fewer papers.

of society. Other cases of abundant resources may have similar effects, but oil is extreme due to the large rents produced.

The large effect is indirect. Oil produces resource rent that is easy to tax, so the king's treasury becomes awash with funds. Consequently, the economic power of the king rises.[11] In the three pillars model, the royal pillar strengthens so much that the joint power of the three pillars increases. Hence, the transition comes to work in the reverse. Instead of changing society toward democracy, the political system becomes more authoritarian. Figure 5 below shows that the OPEC kernel looks precisely as that with a marked peak and a downturn as in Figure 1. The oil theory explains the peak as the point where the king becomes so rich as to control the country, and hence the country becomes more authoritarian. The average income of the non-OPEC Arab countries from 2000-2018 is about $ 8,500. The peak is 60% higher, and thus well ahead of where the countries would have been without oil.[12]

In addition, there is the Dutch disease effect already mentioned: The big inflow of foreign exchange causes the exchange rate to appreciate, and hence the non-oil sectors lose international competitiveness. This reduces employment, but the king can afford to subsidize his supporters. Thus, they become plentiful, and in some cases much of the population comes to rely on subsidies. In the wealthy oil countries, most manual work is done by guest workers, so a domestic labor class does not develop. There is even an arrangement where the guest workers require a native sponsor (the kafala system), who taxes his workers, turning many natives into employment entrepreneurs.

3.3 Theory (T2). The Muslim culture theory

Section 2 showed that the MENA sample is the most authoritarian – also in the countries without oil; see Net Appendix. Islam is deeply embedded in the culture of these countries, notably in the Arab countries.[13] This suggests that Muslim culture may be a second barrier to democracy. The suggestion refers to two observations about the culture and history of the Arab/Muslim world.

(1) Many Muslims see the regime in Mecca at the time of the prophet Muhammed (ca

[11] When oil is found in countries with democratic control of the treasury, the resource rents support democracy. The link from oil wealth to royal power was already proposed by Huntington (1993).

[12] OPEC was started in 1960, but most of the countries were oil exporters before that, and some has been oil exporters only for some of the time covered. As shown in the Net Appendix it does not change the way Figure 1 looks if the data starts in 1950. Other papers in the authors project have estimated the curves for samples starting in 1960 or 1972. The curves are robust.

[13] The countries of the MENA/Arab group are all Muslim though pockets of other religions survive in most of the countries, notably in Lebanon. These pockets are dwindling.

570-632) as an ideal. It was an oligarchy dominated by the largest trading families, though it is difficult to use modern terminology for such distant times. In addition to being considered the chosen spokesman of Allah, Muhammed was a big worldly success. He became successful in business, as a general, and as the leader of his town. He started the military expansion that led to the big Arab-Muslim empire within a century of his death. Consequently, he is greatly admired. He was not a democratic ruler, and after his death his close associates started the tradition of khalifs in Islam.[14]

(2) The sacred Quran does not recommend democracy,[15] as the term is understood today, though, once again, it is difficult to interpret words spoken so far ago. Today many radical Muslims reject democracy as part of the 'decadence' of the West.

Islam came from the Arab peninsular, and the prophet preached in high Arabic as spoken by the elite at that time. With some effort it is accessible to the modern Arab, and Muslims are urged to read it in the original. The other important source to tradition is the Hadith, which is a collection of stories describing the life of the prophet and his close associates. Together these sources make the Arab people and their language central to Islam. Figure 5 below demonstrates that the Arab group has a lower *PV*-level than MENA in general.

The Muslim culture theory does not explain the hump-shape, but only a general low level of democracy. The peak on the OMA curve is only explained by the oil theory. Section 3.5 uses these observations for prediction about the sub-group.

While the facts about the OMA exception are clear the Muslim culture theory poses the emotional question: Is Islam the explanation? As sketched above, the Muslim culture theory is not a theory with simple economic mechanisms. It hinges on traditions and cultural factors that may or may not have a basis in the Muslim theology, and thus, in the last resort, in the Quran and the Arab empire before the Ottoman and the western ones. The gulf separating the political systems of the West, and the Muslim world is a problem giving political tensions/conflicts, even terrorism, and military interventions. Thus, there is a wish to talk the gulf down. Hence, the question asked may be reformulated; see Bayat (2007). Instead of asking why Muslim countries are so authoritarian, it asks if Islam and democracy are incompatible. To prove that Islam and democracy are compatible only needs a few examples of democracy in a Muslim country, and such cases do exist, but they are rare.

[14] This contrasts to Jesus, who was a poor itinerant preacher, who never had worldly success. He was even executed, and for the first 350 years Christianity was a religion of the poor and downtrodden.

[15] Muslims see the Quran as the words of Allah spoken by his prophet and immediately written down. Most Christians agree that the new testaments of the Bible are four narratives of the life and words of Jesus written half a century (or more) after his death. Thus, the text of the Quran is more sacred and less amenable to interpretations.

There is also micro evidence from polls where Muslims answers as nicely as other people to items about their preference for democracy; see e.g., the early survey by Inglehart (2002) and Hofmann (2004). Here the argument soon reaches the chicken and egg circularity. Maybe certain cultural traditions – such as the strong control/protection of women – cause Arab countries to be so authoritarian. Then it becomes necessary to explain where these cultural traditions came from. I believe that most Muslims will say that they came from Islam, i.e., from the Quran and tradition, as described in the Hadith.

3.4 Theory (T3). The conflict proneness theory from the Arab project

Recently a large *Arab project* at the American University in Beirut analyzed 'democratic transitions' in the Arab world. The project led to a couple of books, of which the latest is Elbadawi and Makdisi (2017). The project notes that democracy indices are low and increase slowly in the Arab world: The project constructed a modernization variable dominated by income and, as above, showed that it did not work to predict democratization in the Arab world. Then the project turned to use the term transition for a change over time. Figure 2 demonstrated that there was a 40-year period from 1975 to 2014 where the political indices did rise, but it is dubious if the change is of a long-run nature. The project also demonstrates that the data for Arab countries contains substantial spatial correlation. It presents a handful of explanations and rejects most except three:

The project accepts (T1) the oil theory, plays down (T2) Muslim culture, and stresses theory (T3) conflict proneness. During the Ottoman Empire till 1918 and the period of European domination, where some countries were French colonies and others were under (more indirect) British control the region was peaceful. But after the countries became independent,[16] they have had an unusual frequency of wars and civil wars.

This raises the complex question of causality: Are the conflicts due to the authoritarian regimes or vice versa as the Arab project claims? An old literature points to the peaceful nature of democracy, both internally and externally; see Gleiditch (1992) for a fine survey going back to the 1960s.[17] The data does not allow a study of the causality in the democracy/income/war nexus, so the argument comes to rest on the identification of exogenous events. The project claims that the wars/civil wars are due to exogenous events.

The most important is the rise of Zionism. It started in central and eastern Europe at the

[16] See note 2 in sources on the effect of independence on the political regimes in Africa and the MENA countries.
[17] Fukuyama (1992) is a book-length (controversial) bestseller that makes the same point. It predicts 'the end of history,' when everybody has turned democratic!

end of the 19th century, grew due to the terrible events for the next fifty years, and led to the establishment of Israel in 1948, and the first Arab Israeli war. This was surely exogenous to the MENA/Arab region. However, the conflict has remained since then and has caused 5-6 wars. Perhaps, they are mainly endogenous, as various regimes in the region have had strong political reasons to keep the conflict boiling. This also applies to Israel, which uses the conflicts to gradually acquire more of the land the Zionists dreamed about. With more peaceful political systems the conflict may have slowly decreased.[18]

The second is the rise (and fall?) of Jihadist ideology in the MENA area, which has led to a handful of civil wars. In addition, there have been some wars between countries, where various military strongmen have tried to expand their country, much as happened in Europe before democracy became the dominating political system.

The rest of the paper will use (T1) oil theory and (T2) Muslim culture but disregard (T3) conflict proneness.

3.5 Two theories, three sub-groups, and three predictions

The theories lead to three (new) predictions about the sub-groups:

Sub-group 1: The *OPEC-only* sub-group of eight countries have oil but are outside the MENA area – most are not Muslim. They are so far from the MENA/Arab countries that spatial effects are unlikely. Hence only the oil theory should work. They should have a hump and a *PV*-level between the Main and the OMA-level.

Sub-group 2: The *MENA-only* group of eight countries are Muslim but have no oil. Here only the Muslim culture theory should work. All are close to oil countries, and only one is non-Arab (Turkey). Thus, spatial effects are likely. Hence, they should have no peak and a *PV*-level between the Main and the OMA-level. If the two theories are of equal strength the MENA-only curve should be below the OPEC-only curve.

Sub-group 3 The *Overlap* group of ten countries that are both MENA and OPEC and contain only one non-Arab member (Iran). Thus, it should show the effect of both theories working together, so the Overlap curve should have a *PV*-level below the OMA-level.

The three predictions are analyzed by two techniques: Section 4 uses OLS regressions with binary dummies for the groups and sub-groups. They show average effect-sizes for the

[18] The Israeli declaration of independence (from the UK) and first Arab Israeli war led to a large exchange of population between the new state of Israel and the Arab world, as Arabs left/were pushed out of Israel, and Jews left/were pushed out of the Arab countries and came to Israel. The oriental Jews were gradually absorbed in their new country, but many of the Palestinian refugees came to stay in refugee camps waiting for a return to their motherland while growing increasingly bitter. Since then, much has happened to deepen that bitterness.

two theories. Section 5 report kernel regressions for the groups and sub-groups. They show that the paths for the groups and sub-groups have a pattern precisely as predicted.

The sub-groups consist of only 8, 8, and 10 countries, so results may not be robust. Complex stories can be told about each country. Saudi Arabia treasures traditional/orthodox Islam and is the guardian of its most holy places, while Turkey has a Kemalist tradition for secularization.[19] Other MENA countries, such as Algeria, Libya, Egypt, Syria, and Iraq have had periods of Arab socialism. There have also been waves of radical Islam, and since 1980 Iran has been a theocracy. The Net Appendix analyzes the robustness of the aggregation in the six cases of three sub-groups and two indices. For each case, a *bundle* of kernels is estimated, by deleting every country and recalculating the kernel. The six bundles have some variation, but the average pattern is robust.

4. The results from linear tools

The democracy indices are defined on limited intervals, so the standard linear tools are not perfect for the purpose, but they are rather robust and often used in democratization studies. Section 5 uses the nonlinear tool of kernel regressions. It is reassuring that the results tally, even when section 5 gives additional information.

4.1 The correlation between income and the two democracy indices

Table 2 reports correlations between *PV* and *y* for the groups and sub-groups. Figure 4 showed that the distributions of the *PV* data are far from normal. Therefore, the Pearson correlation, r, is supplemented with, ρ, Spearman's rank correlation. The polyarchy correlations are larger than the polity correlations indicating that polyarchy has a stronger upward trend than polity. This was already visible in Figure 1.

Rows (i) and (ii) tell the same story as Figure 1. The (*PV*, *y*)-relation differs strongly in the Main and the OMA samples. Rows (1) to (3) show the pattern across the groups, while rows (4) to (6) consider the sub-groups. Both rows (4) for the OPEC-only and (5) for the MENA-only groups have positive correlations, but they are smaller than in the Main group confirming predictions for the sub-groups 1 and 2 . The lowest correlations are in row (3) for the Arab group, but also row (6) for Overlap is low confirming prediction for sub-group 3.

[19] Mustafa Kemal Atatürk ruled Turkey 1923-38. His policies aimed at development through modernization. One method was to secularize society, so the Arab alphabet and traditional dresses were abolished, etc.

Table 2. The number of observations and correlations to *y* in groups and sub-groups

	Group or Sub-group	Number of Countries	*N*	Polity r(*P*, *y*)	Polity ρ(*P*, *y*)	Polyarchy r(*V*, *y*)	Polyarchy ρ(*V*, *y*)
(i)	Main	130	10,583	0.581	0.609	0.705	0.647
(ii)	OMA	26	1,749	-0.048	-0.126	0.103	0.088
(1)	OPEC	18	1,224	-0.128	-0.253	0.039	-0.020
(2)	MENA	18	1,107	-0.123	-0.196	0.002	-0.023
(3)	Arab	16	940	-0.142	-0.229	-0.016	-0.054
(4)	OPEC-only	8	642	0.386	0.321	0.535	0.492
(5)	MENA-only	8	525	0.339	0.307	0.527	0.501
(6)	Overlap	10	582	-0.128	-0.156	0.079	0.023

The two coefficients of correlation are the standard (Person's) **r**, and Spearman's rank correlation **ρ**. The two correlations are close in samples of normally distributed data, but they differ as democracy indices are non-normal.

Table 3 is a factor analysis of the groups. It adds an important point: Only one factor matters. It is due to the high correlations of the two democracy indices. While income belongs to this factor in the Main sample, it does not belong in any of the three OMA samples.

Table 3. Comparing a factor analysis for the OPEC and the MENA samples

	Main, *N* = 10,583		OPEC, *N* = 1,224		MENA, *N* = 1,107		Arab, N = 940	
	Factor1	Factor2	Factor1	Factor2	Factor1	Factor2	Factor1	Factor2
Eigenvalue	2.13	0.03	1.67	0.17	1.51	0.08	1.40	0.07
Variable	Factor loading		Factor loadings		Factor loadings		Factor loadings	
P, polity	0.87	-0.10	0.92	-0.11	0.87	-0.07	0.84	-0.05
V, polyarchy	0.93	-0.10	0.91	0.13	0.86	0.09	0.83	0.08
y, income	0.71	0.12	-0.05	0.37	-0.07	0.26	-0.10	0.24

4.2 OLS regressions with binary group dummies

The two tables in this section have the same format. Parts A are for the polity index, and parts B are for the polyarchy index.

Table 4a analyzes the effects of the groups Regressions (2) and (8) show the pure effect of the OMA dummy. It is substantial, negative, and increases the effect of income. Regressions (3) to (5) and (9) to (11) analyze if the three parts of the nexus contribute to the explanation of the OMA-variable. All three do, as seen from the aR^2 scores. They increase the effect of income, while the effect of the OMA variable is reduced. The change from regression (2) to (3) and from (8) to (9) only increases the fit marginally. Both MENA and especially Arab gives a larger contribution.

Rows (6) and (12), include all three parts of the nexus. Here the coefficient on OMA even becomes positive, due to multicollinearity. OPEC gets the strongest coefficient, and the

sum of the change in the coefficient to OMA equals the coefficient to OPEC, so OMA and OPEC have almost the same effect, but still MENA and especially Arab add something to reduce the effect of OMA.

Table 4a. The three groups, all $N = 12{,}332$ observations

Relation estimated: $PV = Constant + a_1 Income + a_2 OMA + a_3 Group + u$

	Part A. Polity, *P*						Explained	
	Constant	*Income*	*OMA*	*OPEC*	*MENA*	*Arab*	aR^2	ΔaR^2
(1)	-25.6 (-55)	3.13 (58)					0.211	Basis
(2)	-26.5 (-62)	3.35 (66)	-6.99 (-45)				0.322	0.110
(3)	-26.7 (-62)	3.38 (67)	-5.23 (-20)	-2.52 (-8)			0.325	0.114
(4)	-27.4 (-64)	3.46 (69)	-3.27 (-14)		-5.92 (-20)		0.343	0.132
(5)	-27.7 (-66)	3.49 (70)	-3.27 (-15)			-7.00 (-25)	0.354	0.142
(6)	-28.8 (-69)	3.62 (73)	3.99 (9)	-7.25 (-21)	-4.33 (-8)	-6.05 (-12)	0.375	0.164
	Part B. Polyarchy, *V*						Explained	
(7)	-0.87 (-56)	0.150 (81)					0.349	Basis
(8)	-0.91 (-63)	0.158 (94)	-0.263 (-51)				0.460	0.112
(9)	-0.92 (-64)	0.159 (95)	-0.198 (-22)	-0.093 (-9)			0.464	0.115
(10)	-0.94 (-67)	0.162 (95)	-0.128 (-16)		-0.215 (-22)		0.481	0.132
(11)	-0.95 (-67)	0.163 (98)	-0.139 (-19)			-0.236 (-25)	0.487	0.138
(12)	-0.99 (-71)	0.168 (103)	0.142 (10)	-0.269 (-23)	-0.209 (-12)	-0.162 (-10)	0.508	0.160

Table 4b. The three sub-groups, all observations, using the same relation

	Part C. Polity, *P*						Explained	
	Constant	*Income*	*OMA*	*OPEC-only*	*MENA-only*	*Overlap*	aR^2	ΔaR^2
(1)	-25.3 (-55)	3.11 (57)		-2.46 (-9)			0.217	Basis
(2)	-27.4 (-64)	3.46 (69)	-9.20 (-49)	5.92 (20)			0.343	0.126
(3)	-25.4 (-55)	3.13 (58)			-4.42 (-15)		0.226	Basis
(4)	-26.7 (-62)	3.38 (67)	-7.75 (-43)		2.52 (8)		0.325	0.099
(5)	-29.1 (-68)	3.61 (71)				-12.50 (-49)	0.338	Basis
(6)	-28.6 (-68)	3.60 (72)	-4.15 (-23)			-8.75 (-29)	0.366	0.028
	Part D. Polyarchy, *V*						Explained	
(7)	-0.86 (-55)	0.149 (81)		-0.097 (-11)			0.355	Basis
(8)	-0.94 (-67)	0.162 (98)	-0.343 (-55)	0.215 (22)			0.481	0.126
(9)	-0.87 (-56)	0.150 (82)			-0.168 (-17)		0.364	Basis
(10)	-0.92 (-64)	0.159 (95)	-0.159 (-27)		0.093 (9)		0.464	0.100
(11)	-1.00 (-70)	0.168 (99)				-0.463 (-54)	0.473	Basis
(12)	-0.98 (-71)	0.167 (102)	-0.159 (-27)			-0.319 (-32)	0.503	0.029

The data for the tables includes both the Main and OMA samples. The table use four binary dummies *OMA*, *OPEC*, *MENA*, and *Arab*. They are one if the country is in the group, and zero otherwise. Numbers in parenthesis are t-ratios – above 5 they are rounded to the nearest integer. The aR^2 is the adjusted R^2. The ΔaR^2 says how much the aR^2 increases compared to the basis. The number of observations for the groups is reported in Table 1.

Table 4b analyzes the effects of the sub-groups. The pattern for the OPEC-only and MENA-only are similar. When the OMA variable is not included the effect is negative, but when OMA is included the effect changes to be positive. This means that the *PV*-levels in the two groups are between the Main group and the OMA-group. The MENA-only effect is stronger than the OPEC-only effect, indicating that the Muslim culture barrier is stronger than the oil barrier, but the difference may not be significant given that the spatial effect from the Overlap group is likely for the MENA-only countries, but not for the OPEC-only countries.

The Overlap is very negative without the OMA-variable and remains negative when the OMA-variable is included. Consequently, both oil and Muslim culture give more authoritarian regimes. When they are combined in Overlap, the effect doubles as predicted.

5. Studying the functional form with kernel regressions

On Figure 1 the path of the two OMA curves had a peak. Before the peak, the slope is positive and after it is negative. The linear tools in section 4 gave averages over the observations for the whole scale. Consider the same hump-shaped curve. If most observations are in the positive part before the hump, it will dominate the linear estimate, but if most observations are negative, the part after the hump will dominate. Table 5 reports the fraction of observations after the peak. The table also gives the number of observations supporting all kernel estimates below.

Table 5. The fraction of observations after the peak for $y = 9.4$ in the five groups

Group or	Number of		Both indices	
Sub-group	Countries	*N*	After peak	In %
OPEC	18	1,224	332	27.1
MENA	18	1,107	276	24.9
Arab	16	940	240	26.4
OPEC-only	8	642	77	12.0
MENA-only	8	525	21	4.0
Overlap	10	582	255	43.8

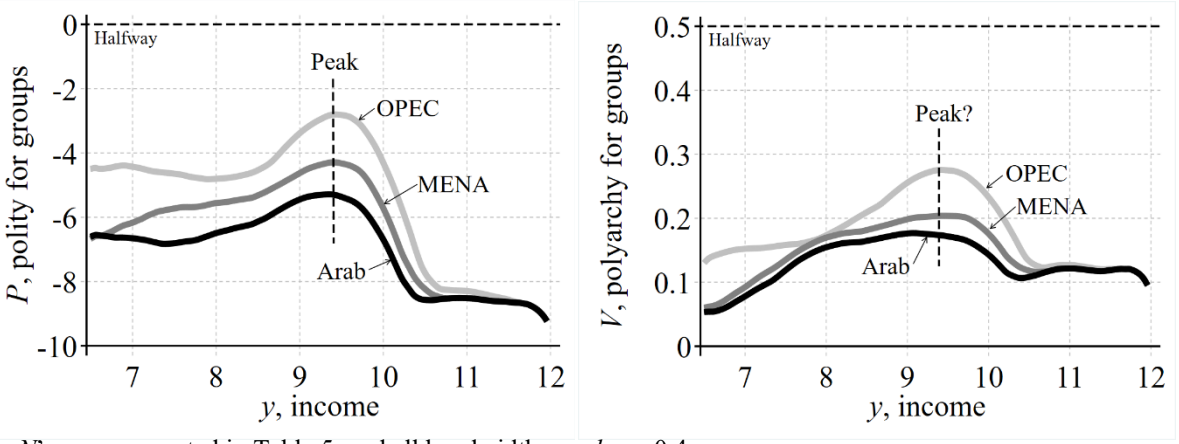
5.1 The kernels for the three groups: OPEC, MENA, and Arab

Figure 5 shows kernel-curves for OPEC, MENA, and Arab. The curves are all below the middle of the regime scales, i.e., they are in the autocracy range. The three curves have the same form for polity, but for polyarchy the MENA and Arab curves have a flatter form with a less clear peak. The *PV* levels differ, so that it is highest for the OPEC curve. The middle curve is the

MENA curve, while the Arab curve is the lowest, despite the great overlap to the MENA curve. The difference is due to Turkey. The Net-Appendix studies the effects of the two non-Arab MENA countries: While the effect of Iran is negligible, there is a clear effect of Turkey.

Figure 5. The kernels for the three groups and the two *PV* indices

Figure 5a. Polity $K^P(y, 0.4)$ Figure 5b. Polyarchy $K^V(y, 0.4)$



The *N*'s are as reported in Table 5, and all bandwidths are *bw* = 0.4.

The two *PV*(*y*)-curves for OPEC look like the OMA curves in Figure 1. The curves are non-linear, showing a clear peak in the middle, but on average the slopes are negative, as also found in Table 4. The negative slope of the linear approximation is dubious for the polyarchy index. The peak on the curves is at $y = 9.4$, which is about $ 12,000.

5.2 Kernels for the three sub-groups: OPEC-only, MENA-only, and Overlap

Figure 6 shows the kernels for the three sub-groups. The two dashed gray curves are the Main and the OMA curves from Figure 1. The three solid curves are for the sub-groups – hence they are new. When interpreting these curves, the reader should recall the three predictions in section 3.5. The Net Appendix shows the robustness of the curves. The same curves for the two indices are so similar that they will be discussed together.

Sub-group 1: The ***OPEC-only*** curve is for the eight countries outside the MENA area. It represents the pure oil-effect. It is between the main and the OMA curves. It is the highest of the three sub-group curves, and for the polity index it even extends into the democratic region of the graph. Thus, the countries may have been on the transition path, but then the oil effect sets in and creates a strong hump shape. As mentioned, the short-run effect of oil is only that income increases so that the curves shift to the right, while society remains the same. Thus,

the OPEC-only curve may be on the Main curve at the start, but then the oil mechanism causes the curve to turn down. It has a positive slope for most of the path as expected from Table 4.

The curves for the other sub-groups contain the effect of Islam – they are all lower, so a clear effect appears as expected.

Figure 6. The kernels for the three sub-groups and two *PV* indices

Figure 6a. Polity $K^P(y, 0.4)$

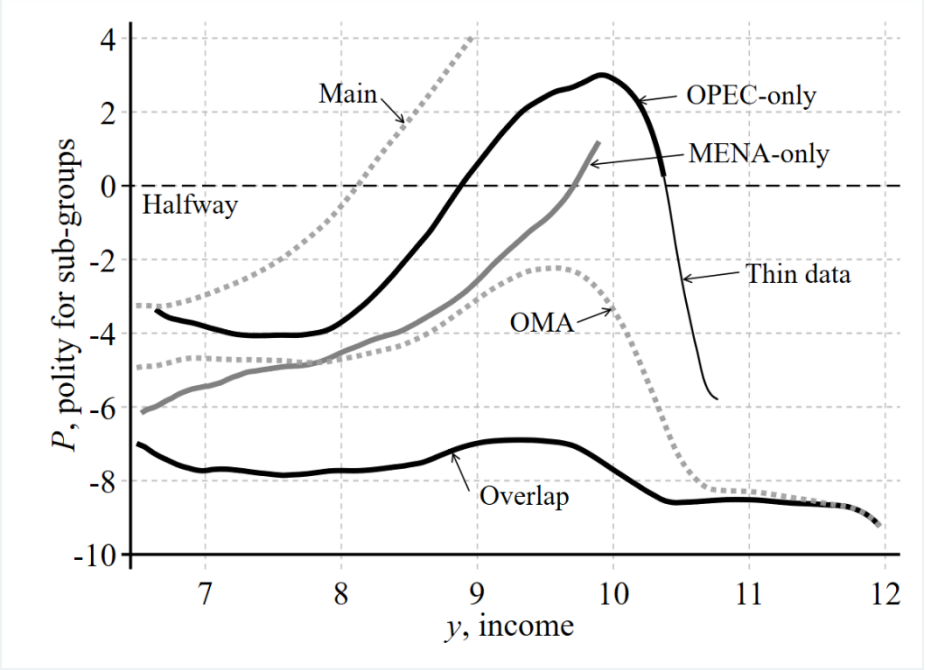
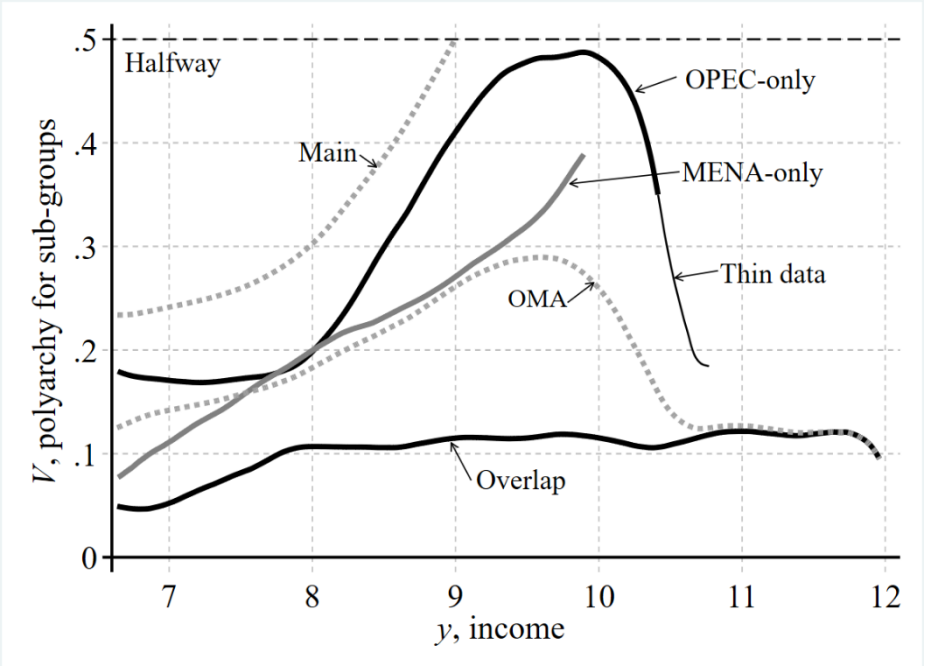


Figure 6b. Polyarchy. $K^V(y, 0.4)$



Sub-group 2: The ***MENA-only*** curve is for eight MENA countries without oil. As predicted it has no peak. Table 5 shows that it has only 4% observations above the peak, so

even if it had a peak, it would be hard to see. It has a positive slope throughout as expected from Table 2. The curve is between the Main and the OMA curves. Thus, the main point to note by comparing with Figure 1 is that the rising path is well below the one in the Main sample. The MENA-only shows the transition in non-oil Muslim/Arab countries. At the income $y = 9$, it is 7 polity points and 0.23 polyarchy points below the Main curve. It certainly speaks of a large effect. It is dragged down by spatial effects within the Arab area.

Sub-group 3: The ***Overlap*** curve is for countries that are both OPEC and Muslim, so both theories work. As expected, it is the lowest curve, well below the OMA curve. The richest oil countries are in Overlap, so the data for OMA and Overlap melt together at high incomes.

The three predictions made in the introduction and in section 3.5 are thus confirmed.

6. Conclusion

This paper deals with the OMA (OPEC/MENA/Arab) exception to the democratic transition and tries to sort out the parts of the nexus. The overlap of the groups and spatial effects within the Arab group makes it difficult, but still some results emerge from the efforts.

Two theories have been discussed. The oil theory for the OPEC group, and the Muslim culture theory for the MENA/Arab group. Both theories are confirmed. Thus, a Muslim oil country should have a particularly low level of democracy, and indeed, the ten countries in the Overlap group, are the most authoritarian group. Also, the group of OPEC-only countries that are outside the MENA area is the least authoritarian group. The hump-shape found on the kernel curve for both the OPEC and the MENA group suggests that oil is a strong factor.

Two remarks should be added: (1) The empirical analysis of the Main sample (elsewhere) uses large data sets and reaches strong conclusions. This paper uses much fewer observations, with strong spatial effects, so the conclusions are less strong. (2) The OMA group does deviate much from the Main group of all other countries. One may argue that exceptions are of a temporary nature only, and that the (failed) Arab Spring was a first attempt to move the most extreme country group closer to the mainstream. Other countries have experienced several such waves before they succeeded, so one may hope. However, the Arab world has also seen waves of violent reaction, so at present there is no clear trend toward system changes.

Sources and two net-papers with documentation

Papers of the author are (also) posted on: http://www.martin.paldam.dk/GT-Main2.php

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Paldam, M., 2024b. Net Appendix. Paper 6b on the home page

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Author statements

The paper has received no financial support, and I am aware of no conflict of interest.

All data used is in the public domain and also available on demand.

Appendix: Table A

The 26 OMA countries divided in the three non-overlapping sub-groups

Nr	Country	Group	Muslim majority	Polity, *P*			Polyarchy, *V*		
				N	Span	Start	*N*	Span	Start
			Sub-group 1: The OPEC-only group						
1	Angola	Africa	No	44	44	1975	44	44	1975
2	Congo Br	Africa	No	59	59	1960	59	59	1960
3	Ecuador	La Am	No	120	149	1870	122	149	1870
4	Equ. Guinea	Africa	No	51	51	1968	51	51	1968
5	Gabon	Africa	No	59	59	1960	59	59	1960
6	Indonesia	Asia	Yes	63	70	1949	70	70	1949
7	Nigeria	Africa	?	58	59	1960	59	59	1960
8	Venezuela	La Am	No	189	189	1819	190	200	1819
			Sub-group 2: The MENA-only group						
1	Egypt	Arab	Yes	69	69	1850	72	199	1820
2	Jordan	Arab	Yes	66	66	1953	66	66	1953
3	Lebanon	Arab	Yes but	39	69	1950	69	69	1950
4	Morocco	Arab	Yes	66	199	1820	66	199	1820
5	Syria	Arab	Yes	66	69	1950	69	69	1950
6	Tunesia	Arab	Yes	60	60	1959	63	63	1956
7	Turkey	No Arab	Yes	99	100	1820	100	199	1820
8	Yemen	Arab	Yes	60	69	1950	69	69	1950
			Sub-group 3 The Overlap group						
1	Algeria	Arab	Yes	57	57	1962	57	57	1962
2	Bahrain	Arab	Yes	48	48	1971	48	48	1971
4	Iran	No Arab	Yes	70	199	1820	70	149	1820
3	Iraq	Arab	Yes	62	69	1950	69	69	1950
4	Kuwait	Arab	Yes	55	56	1963	69	69	1950
6	Libya	Arab	Yes	60	68	1951	68	68	1951
7	Oman	Arab	Yes	69	69	1950	69	69	1950
8	Qatar	Arab	Yes	48	48	1971	48	48	1971
9	Saudi Arabia	Arab	Yes	69	69	1950	72	196	1823
10	UAE	Arab	Yes	46	48	1971	46	48	1971

The gray shading is for the countries without a Muslim majority. The two non-Arab MENA countries Iran and Turkey are classified with *No Arab*. Both countries have had a long period of secularization, but now Iran is a Muslim theocracy. The sample holds 16 Arab countries. The League of Arab States includes Comoros, Djibouti, Mauritania, Somalia, and Sudan. These borderline countries are not included in the present analysis. The League also includes Palestine, which is excluded as it is not (yet?) an independent country.