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Resource Dependence, Integration, and Diversification in MENA*

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Abstract

In spite of improved performance during the last decade, the MENA region has had a disappointing performance compared to other middle income countries. The paper surveys underlying causes by constructing micro and macro indicators and comparing performance with other countries. Lower growth and higher volatility (growth and real effective exchange rates) are typical of the Region (even when comparisons are restricted to other oil exporters). A sustained real exchange undervaluation found to be critical for most sustained growth episodes was largely absent in the countries in the region over the last thirty years. Compared with other middle-income countries, the manufacturing sector is under-sized, especially in resource-rich labor abundant countries. In spite of recent progress, microeconomic reforms are still to be completed, particularly in the area of regulatory policies and backbone services and trade policy barriers are still higher than elsewhere. .../...

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Abstract

In spite of improved performance during the last decade, the MENA region has had a disappointing performance compared to other middle income countries. The paper surveys underlying causes by constructing micro and macro indicators and comparing performance with other countries. Lower growth and higher volatility (growth and real effective exchange rates) are typical of the Region (even when comparisons are restricted to other oil exporters). A sustained real exchange undervaluation found to be critical for most sustained growth episodes was largely absent in the countries in the region over the last thirty years. Compared with other middle-income countries, the manufacturing sector is under-sized, especially in resource-rich labor abundant countries. In spite of recent progress, microeconomic reforms are still to be completed, particularly in the area of regulatory policies and backbone services and trade policy barriers are still higher than elsewhere. A MENA 'specificity', as captured by dummy variables in cross-country and panel estimates of different models (gravity, duration) is usually present. Diversification is less and survival rates of export flows lower than for comparable middle-income countries.

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1. Introduction

Most recently, prior to global crisis of 2008, the MENA region had been doing quite well. During the 1995-2006 decade, export growth excluding mineral and fuels was higher than the average for developing countries leading to an increase in market share despite the strong competition from Asia. MENA countries were also catching up along other dimensions, expanding the reach of export markets at a greater pace than competitors in ECA and EAP. A catching up on the policy front took place as well, as average protection—which started from higher averages than competitors— fell more rapidly than elsewhere, with the MENA regional average for applied MFN rates falling by a third over the 2001-07 to reach 15%.

Yet, the reports on MENA's trade performance over the past twenty years, including the most recent one (World Bank (2010)) have all pointed in the direction of an unfinished agenda for a successful integration in the global economy. A cyclical pattern of positive but insufficient performance is reflected in the repeated policy recommendations in these successive reports. These reports all point in the direction of unfinished implementation along two main policy fronts: trade reforms and regulatory reforms resulting in low trade shares of manufacturing and services exports for their level of development. In these reports, the region's lack of trade integration is viewed as much as a cause and as a consequence of the region's difficulties.[1]

The following were singled out as contributing to the general lack of integration: rents from natural resources as an obstacle to industrialization because of currency overvaluation leading to a low profitability for tradable manufactures; a large low-productivity public sector in a weak institutional environment spurred by rents, foreign aid and remittances; the weakness of the institutional environment itself resulting from the high-rent environment; and the difficulty to carry out reform in such an environment (see e.g. World Bank (2004) and Lopez-Calix et al. (2010)).

Recommended policy packages included the following elements: (i) reduce protection, particularly for NTBs, still estimated to be high, and implementation of trade facilitation measures ; (ii) removal of behind-the-border measures reflected in measures and practices restricting competition in domestic markets; (iii) 'deep' regional integration to promote trade in Goods and Services in the region; (iv) external anchoring with the EU through commitments in various agreements (Euro-Med, Barcelona process and European Neighborhood Policy); (v) completing WTO membership for Algeria, Lebanon, Syria, and Yemen.

The recent and ongoing upheavals sweeping through the region pose the question of sustainability of the recent improvements in the past fifteen years as much as how to complete the unfinished agenda. With many countries not yet members of

[1] The most recent study is the volume edited by Lopez-Calix et al. (2010). Havrylyshyn (2010) reviews the main recommendations for policy reforms in previous reports (Diwan and Squire (1993), Hoekman (1995), Shafik (1995), Havrylyshyn (1997) and especially the comprehensive World Bank (2004) report). That report was the first to identify the unfavorable political economy of reforms where oil rents, remittances and foreign aid together conjure to lessen the pressure for reform. The Arab World Competitiveness report (2005) also noted that oil and other strategic rents have limited the exposure to new technologies, innovation and ideas resulting in poor performance on the social and economic fronts.

the WTO, with the agenda for regional integration still unfinished, and with the great diversity among countries in the region, recidivism with a return to protectionism is a distinct possibility even if it did not occur during the 2008 crisis. The MENA region is very diverse, arguably the region with the most diversity along many fronts (resource endowments, internal market size, policies) among the major geographical regions in the world explaining the difficulty to integrate successfully at the regional level in spite of a long tradition at trading arrangements. This cautions against hoping for generalized observations applicable at the regional level and justifies looking for suitable countries against which to compare individual countries' performance.

Yet, controlling for this heterogeneity and in spite of the usefulness to divide the region into resource-rich and resource-poor members, the above-mentioned reports convey the perception that there is a MENA 'specificity' in its overall performance, notably that it has been unable to innovate, to reap the gains from trade, to diversify its economies as well as "comparable" economies, and in the case of resource-rich countries to take advantage of resource abundance. With population growth twice the average of developing countries during the 2000-2010 decade, the inability to absorb the rapidly expanding labor force has resulted in social and political unrest.

This chapter is organized around an 'evolving wisdom' that says that sufficiently sound macro policies are a sine qua non for successful export-led growth (export-led growth being accepted as desirable), policies that have to be coupled with context-specific microeconomic policies. Together with a sound macro environment, these micro policies help competitiveness by: (i) aligning micro-incentives by removing highly distortive taxes and economically unjustifiable non-tariff barriers; (ii) reducing trade-related costs which implies dealing with incentives and regulations in backbone services necessary to participate in the fragmentation of production around the world; (iii) overcoming government and market failures. Each one of these elements is examined in the chapter, sections 2 to 4 dealing mostly with the macro channels influencing performance, and the remaining sections dealing with the micro channels.

Section 2 reviews the 'natural-resource curse' thesis and the channels through which riches lead to under-performance: concentration in low-productivity sectors, extraction from a narrow base with few linkages to the rest of the economy inimical to export diversification, rents and the 'easy life', concentration conducive to an appreciated real exchange rate and macroeconomic volatility. Evidence on the operation of these channels is then gathered throughout the rest of the paper.

Section 3 starts with a summary of the lessons about the correlates of growth accelerations from 'event analysis'. This work shows that, for developing countries, sustained growth is accompanied by growth in trade and investment which is preceded by a strong and sustained depreciation of the real exchange rate. The section closes with an estimation of the equilibrium real exchange rate that shows that over the period 1970-2005, MENA countries were either marginally overvalued or slightly undervalued but usually not as undervalued and not for as long periods as those countries that had sustained growth episodes.

Section 4 turns to growth comparisons over as long a period as allowed by the data (there is a lot of missing data throughout the region). All reveal a particularly poor performance for the Resource-Rich (R-R) group, especially the labor-abundant group, both in terms of average growth and also in terms of the volatility of growth, this 'specificity' being robust to comparisons according to several country classifications. Since all the countries in the R-R group except Syria and Libya have been involved in internal or external conflicts during the period, this lower performance is not surprising even though conflicts have been as widespread in other parts of the developing world. Moreover, MENA countries display high growth volatility and high volatility in their real effective exchange rates. This is so especially for the R-R group and for the GCC group during the 1980s. Even when compared with other resource-rich countries that had similar external shocks, the MENA countries exhibit an unstable macroeconomic environment which contributed to the region's difficulty in integrating the global economy.

The remaining sections turn to the microeconomic policies and trade outcomes. It takes inspiration from the observation that countries become rich by producing tradable goods that are consumed by the rich countries. With the increased fragmentation of production made possible by lower trade costs, this implies producing manufactures and tradable services (banking, professional services), diversifying one's export bundle, and sustaining export growth both at the intensive (increased volume) and extensive (new products and new partners) margins.

Section 5 deals with barriers to Trade. It confirms an unfinished reform agenda with lagging trade policy indicators relative to other regions in spite of some catching up in the last decade. The region also lags in terms of indicator values for trade-supporting indicators summarizing regulatory reforms and the legal environment. With the exception of the GCC which has largely achieved integration in goods markets, the objectives of regional integration under PAFTA are still to be implemented as are the objectives in the ambitious network of regional trading arrangements. In light of the political-economy difficulties of moving ahead in all these directions, it is suggested that concentrating on accession to WTO (for those not yet members) and taking advantage of the European Neighborhood framework might provide the impetus for further steps at regional integration later on. Gravity-based estimates also confirm a MENA uniqueness in its bilateral trade patterns. After taking into account a large array of controls that influence bilateral trade, on average, MENA countries' bilateral trade in manufactures is still the lowest among developing regions. Second, whereas for most countries the average distance of trade has been increasing or staying constant, for MENA the average distance of trade has fallen markedly until recently.

Section 6 inquires into the correlates of export growth, export diversification and survival. A review of the evidence confirms the importance of achieving a sustained devaluation of the real exchange rate to achieve an export surge and that MENA countries have low efficiency levels across most manufacturing sectors. These lower technical efficiency levels are positively correlated with below-average indicator values for the regulatory and legal environment suggesting that an undervalued real exchange rate may be necessary to overcome the technical efficiency handicap. Correlates of survival rates for export flows confirm earlier estimates showing low survival rates.

Main lessons are summarized in a concluding section.

2. Resource abundance, rents, and reforms.

Even though it has turned out to be elusive upon closer scrutiny, the manifestations of the natural-resource-curse are perhaps the most invoked reason for MENA's overall under-performance in the past fifty years (see e.g. World Bank (2004, chp. 2)). Three channels for the deleterious effects of natural resource abundance have been invoked. First, natural resources are often concentrated in sectors that may be associated with lower physical and capital accumulation, lower productivity growth and fewer spillovers. Second, natural resources are often extracted from a narrow economic base ('point-source' sectors— see below) giving rise to rents. These rents and the 'easy life' for the elite in turn have been found to be associated with lower investment in human capital contributing less learning and innovative capacity (Gylafson (2001)). These aspects are central to the Dutch-disease aspect of the curse whereby manufacturing (and tradable services) activities are depressed through an appreciated real exchange rate during resource booms that is exacerbated when, during busts, countercyclical fiscal policies are not operative and exchange rate policies are rigid.[2] Third is the high level of export concentration leading to higher price volatility and hence to macroeconomic volatility.[3] However, this vulnerability to changes in a country's terms of trade is not particular to natural resource abundance but more to a country's overall openness to trade.[4]

These channels have been explored in a vast cross-sectional growth literature. Early findings revealed a robust negative conditional correlation between growth and the share of primary exports. More recent contributions have pointed out the weaknesses of the early estimates relying on trade-based proxies (i.e. primary exports measured by the share of oil and minerals in total exports) as proxies for relative endowments (Lederman and Maloney (2008)). These proxies are outcome variables that reflect resource dependence rather than resource abundance and, as such, do not capture resource abundance resulting in a lack of resource curse effects when better proxies for resource are used (see the critique in Lederman and Maloney (2007), (2008)). Moreover, case studies of high growth rates by resource abundant countries (Botswana, Indonesia, Oman to name a few), cast doubts on the early findings, a conclusion that also appears here in the mobility analysis in section 4.

Less easily apprehended is a fourth channel by which natural riches engender institutional weaknesses as groups attempt to capture rents (Mehlum, H., K. Moene and R. Torvik (2006)). This curse-via-politics is largely endogenous to the political environment and not subject to improvements by governments in power

[2] The Dutch disease model is exposed in Corden and Neary (1982). Gelb (1988) and many others have applied it in the context of oil windfalls.

[3] A higher volatility of the real exchange rate is typical of natural-resource abundant countries and can also be a channel for a resource curse. See Lederman and Maloney (2008) and Hausman and Rigobon (2002).

[4] As put by Lederman and Maloney (2008), Costa Rica's microchips are as vulnerable to exogenous developments in world market conditions as Chile's copper.

who have a vested interest in blocking institutional change.[5] Resource riches can also be the cause of conflicts.[6]

In the Arab world, curse-via-politics effects could have been important but this channel has probably been operative in the destiny of nations prior to the ascendance of oil in the world economy. It is arresting that the MENA region was a powerful engine of progress through several millennia mostly through trade (see World Bank (2004), box 3.1)) and that is was the most technologically advanced region of the world around 1000 AD just about the time when the Islamic legal institutions were introduced. Five hundred years later that technological leadership was erased and the Arab region was lagging Western Europe and China, a decline that has continued until now.[7]

Several studies have uncovered a positive correlation between natural resources (proxied by resource rents or the share of exports of fuels and minerals) and an index of corruption has been questioned (Pritchett et al. (2005), Leite and Wideman (2002) in cross-section). However, Bhattacharya and Hodler (2010) show that this correlation becomes negative when the sample is split into a democratic and a non-democratic group, thereby justifying why some natural-resource-rich countries like Canada, Iceland and Norway have avoided the curse. With panel data covering the period 1980-2004, they show that the relationship between natural resources and corruption depends on the quality of democratic institutions, the curse only applying in non-democratic environments. Insofar as the inertia in the institutions in MENA are still linked to far-away legal developments, there might be a MENA 'specificity' on the institutional side.

Two other pieces of recent evidence are relevant to the natural-resource curse and reforms. Freund and Bolaky (2008) relate business regulations to per capita income over a large sample of 126 countries in which all the MENA (12) countries in the sample are among the 50% most regulated economies. They find that increased trade is only positively correlated with income for countries that are the least regulated (50% per cent least regulated) indicating that domestic policies that impede factor mobility blur the positive relation between trade openness and income. This finding upholds the policy package above that recommends that trade and regulatory reform are complementary and should go hand-in-hand. Given the multiple possibilities for regulatory capture in high-rent environments this may explain why all the MENA countries in their sample are in the most regulated group. Drawing on the Doing Business data, in a large sample of 133 countries, Amin and Djankov (2008) find that the proclivity to undertake micro-reforms that

[5] Acemoglu, Johnson and Robinson (2005) present the view that institutions evolve very slowly largely as a result of a change in the balance of power between parties with opposing wealth.

[6] Collier and Hoeffler (2004) were the first to give evidence that conflicts were more likely to be driven by greed to get hold of the rents than by grievance for ethnic or religious reasons. Bulte and Brunschweiler (2009) contest this result suggesting that conflict increases dependence on resource extraction (captured by the share of primary exports) while resource abundance (measured by resource stocks) is associated with a reduced probability of civil war. MENA has had its share of conflicts, but over the past thirty years, the count is no higher than in other regions.

[7] The technology estimates are from Comin et al. (2010, table 5). The importance of legal institutions is developed by Kuran (2010). He argues that the Islamic legal institutions introduced around the 10th-Century (the waqf under the Shariah was the alternative to the corporation in the West but lacked its flexibility as it could not participate in politics nor adapt to changing conditions) were a powerful brake against modernization that also facilitated the rise of dictatorships and hence the lack of institutional change.

reduce regulation is much less in countries whose exports are concentrated in abundant natural resources.

3 The Importance of the Real Exchange Rate and Trade in Growth Events

As shown below in table 2, on the whole, MENA countries have lagged other countries in climbing up the development ladder, yet countries in the region have experienced periods of sustained growth (and collapses). Are these similar and as prevalent in other regions of the world and what are the characteristics of these episodes? 'Event analysis' is useful to identify these changes, particularly for developing countries where growth patterns are much less stable than those portrayed in the standard growth models.[8] In an early 'event-analysis', Hausmann et al (2006) studied 83 growth episodes (i.e. an increase in GDP per capita growth of at least 2 percentage points for an eight-year period with a post acceleration growth of at least 3.5% per year) over the period 1957-1992 using the Penn World Tables. Of the 83 episodes, 8 (years in parenthesis) were from MENA: Algeria (1975), Egypt (1976), Jordan (1973), Morocco (1958), Tunisia (1968), and Syria (1969, 1974, 1989).

Hausman et al. found that compared to the previous seven years before the growth episode, the acceleration period was correlated with increases in investment and trade shares in GDP and a sharp depreciation of the real exchange rate of over 20%. Hausman et al. find that investment and trade (imports and exports) shares in GDP were close to 15% higher than prior to the acceleration period contributing up to one fifth of the growth acceleration.

Using the same Penn data, Jones and Olken (2008) also study the extremes of growth and collapse events using structural break techniques for time-series data that were more stringent that those used by Hausman et al. (2006). They find an asymmetry between up and down breaks: growth collapses feature sharp reductions in investment in the midst of price instability while growth take-offs are associated with large expansions in international trade (the latter, a similar finding to Hausman et al). They identify 73 breaks (30 up and 43 down) in 48 out of the 125 countries with at least 20 years of data. Among these, 4 belonged to MENA (years of up breaks separated from years of down breaks by a semi-column), Algeria (; 1981), Egypt (1975; 1970, 1980), Iran (1981; 1976) and Tunisia (1967; 1972).Under this more stringent selection criterion, only three countries had an up break and the region has four down breaks.

These results from event analysis all point in the direction of the importance of trade for growth and of the RER for the growth of trade, particularly of manufactures. At the macro level, the importance of the RER-- the relative price of tradables to non-tradables (RER= P_T/P_N)—in understanding growth operates

[8] "Event analysis" refers to a situation when the data is re-ordered around the 'event' which serves as the base year rather than the usual calendar year. In Hausman et al. (2006), data is centered around the year when the 'event' i.e. growth acceleration, Jermanowski (2006) also studies extreme growth events using a Markov-switching model that distinguishes four different growth regimes and finds that institutional quality helps determine the transition between these states. However, his study does not focus on regions so it is not helpful in detecting a MENA specificity.

directly and indirectly. Directly by increasing the relative profitability of tradables which in turn is associated with higher growth (Rajan and Subramanian (2007) and Rodrik (2009)). As argued by Rodrik, it also operates indirectly via two other channels: (i) at the micro level, market failures are likely to be more important in industrial production; (ii) at the macro level, greater penalties from weak institutions that result in lower appropriability of returns to investment in tradables (because tradables depend more on property rights, contract enforcement and hold-up problems). Thus undervaluation (an increase in the relative price of tradables) boosts tradables at the margin, contributing to higher growth.

Since undervaluation of the real exchange rate (RER) has been characteristic of growth accelerations (and also of export surges—see section 6.1 below for micro channels through which a RER undervaluation could lead to export growth, especially of new products), we check if MENA countries are more often under- of over-valued. Following Rodrik (2009a) we check if MENA countries have had an overvalued RER. Using the latest PWT7 tables, we estimate the equilibrium RER over the period 1970-2005 (before 1970 too many MENA countries were missing) taking 5-year averages for a panel of 8 periods (period fixed effects included) and obtain:

$$\ln RER = \underset{(15.5)}{1.35} - \underset{(-9.5)}{0.09} \ln GDP_{PC} \quad R^2 = 0.12 \qquad (1.1)$$

The result is close to the one obtained by Rodrik although the RER appreciation associated with the Balassa-Samuelson effect (an increase in the productivity of tradables as income rises brings about a RER appreciation) is about half in value because the latest PWT have raised substantially their estimates of price levels for low-income countries. So a 10 percent increase in income is accompanied by close to a 1 percent fall (i.e. appreciation) of the equilibrium RER. Following Rodrik, we take the log of the difference between the actual RER and the one estimated in (1.1), i.e. $\ln UNDERVAL_{it} = \ln RER_{it} - \ln RER_{it}$ so that a positive (negative) value implies undervaluation (overvaluation) with a zero value for the indicator corresponding to an equilibrium RER.

The results for MENA are reported in table 1 where column 1 gives the average deviation over the periods (from 5 to 8 depending on the country) and column 2, the percentage of periods with overvaluation for each country. There is no obvious pattern as most countries are overvalued about half the time, although a few countries (Oman, Saudi Arabia, Syria, and Morocco) are overvalued most of the time.[9] However, except for Iran and Yemen, the estimates suggest that countries in the R-R are overvalued for most periods. Also, overvaluation was much more widespread during the first periods, peaking with 13 out of 17 overvalued during 1980-5 and dropping to 5 out of 17 in the last period (2000-05).

Table 1: Deviations from Estimated Equilibrium Real Exchange

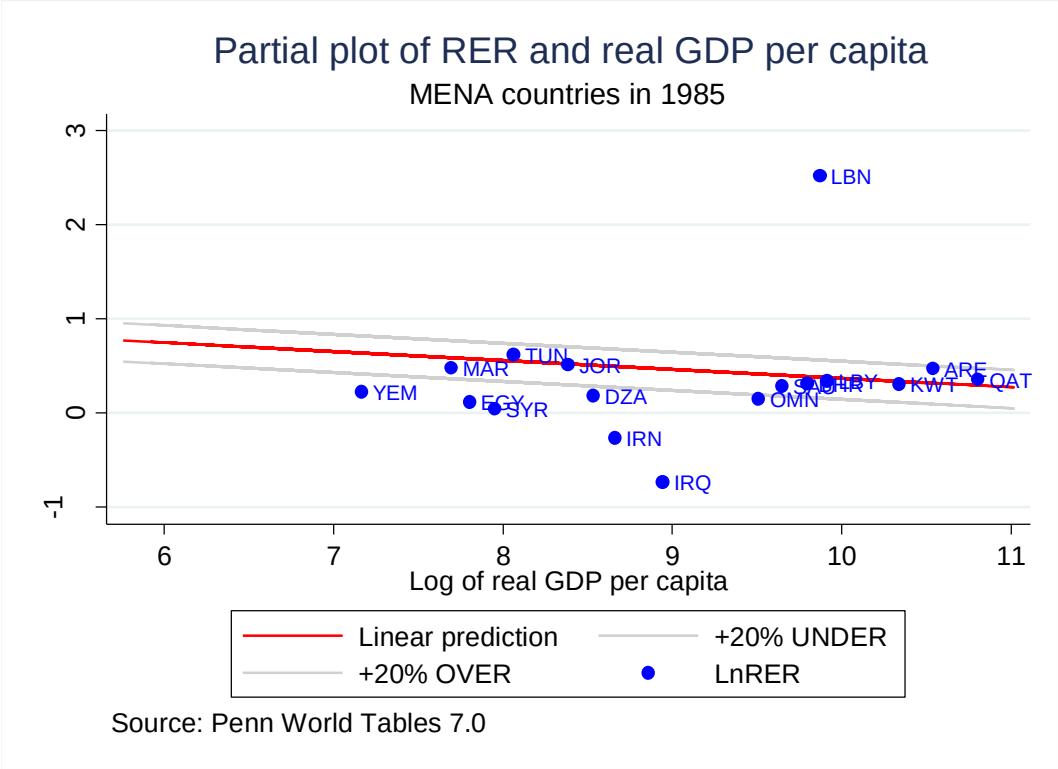
[9] Estimates for Lebanon and Iran reflect periods of conflict. We refrained from dismissing outlier observations according to a criterion (e.g. all observation with RER over or undervaluation greater than 200%) not only because we would have lost MENA observations, but also because the extreme values in column 1 are an indicator of overall macroeconomic instability in the region. The only excluded observation from the full sample is Zimbabwe (2005).

	Mean deviation of the RER in percentage	Percentage (number) of periods with Overvaluation
Bahrain (8)	4.7	50 (4)
Kuwait (5)	0.6	80 (4)
Oman (8)	-18.1	63 (5)
Qatar (5)	10.4	20 (1)
Saudi Arabia (5)	-9.0	80 (4)
United Arab Emirates (5)	6.4	20 (1)
Algeria (8)	-9.0	75 (6)
Iran (8)	13.3	25 (2)
Iraq (8)	2.7	63 (5)
Libya (5)	-1.9	60 (3)
Syria (8)	-17.9	63 (5)
Yemen (5)	6.1	40 (2)
Egypt (8)	9.4	50 (4)
Jordan (8)	-2.4	63 (5)
Lebanon (8)	144.5	0 (0)
Morocco (8)	-24.3	100 (8)
Tunisia (8)	-1.4	63 (5)

Note: Residuals from the equation (1). A negative value in column 1 means an overvalued RER on average during the whole period (up to 8 five year periods 1970-2005). In 1970, 7 of 11 countries with data had an overvalued RER, in 1985 13 of 17 countries and in 2005, 5 out of 17.

Referring to his previous work on growth accelerations discussed above (Hausman et al), Rodrik (2009, figure 10) shows that around the 'event' year when acceleration starts, there is an undervaluation of the real exchange rate (RER) of around 20%, an undervaluation that lasts throughout most of the decade following the start of the growth acceleration. Figure 1 traces the deviation of MENA countries from the estimated relation in (1.1) for one year, 1985 with two lines showing the 20% limit. It is clear that the distribution of observations outside the band is on the bottom of the figure, indicating significant overvaluation. We checked if there were countries which had two adjacent episodes (i.e. 10 years of undervaluation of over 20%). This was never the case. MENA countries do not exhibit the kind of undervaluation identified with extended past growth episodes.

Figure 1: Estimated Equilibrium Real Exchange Rates



Note: Partial plot of estimates in equation 1.1 Points under the line indicate overvaluation of the RER relative to the PPP equilibrium prediction.

If an overvalued RER is a penalty for manufacturing and for dynamic services sectors, this should show up in comparisons of MENAs shares of manufactures, and services relative to other countries at similar income levels. Annex 2 estimates predicted shares in both cross-section and panel. It turns out that dummy variables for MENA countries are never significant when total exports are considered (so MENA's openness is according to 'norm'). However, when it comes to the sector shares, the size of the manufacturing and services sectors in the economy diverge markedly from the estimated shares in both cross-section and panel estimates. In the resource-rich labor abundant (RRLA) group the manufacturing and services sectors are under-sized and their export shares in these sectors are also lower than predicted. However, this association is muted when the share of rents in GDP are taken into account suggesting the presence of resource-curse syndromes.

4. Income Mobility and High Growth volatility

Following a documented decline of MENA's openness over a fifty-year long period, in an influential report published in 2004, the World Bank argued that the region's State-led developing strategy relying on oil earnings, aid inflows, and worker remittances needed to give place to a new model based on three shifts: (i) from oil to non-oil; (ii) from State-dominated to market-oriented; (iii) and from an import-substitution industrialization to an export-oriented development strategy. This section puts MENA's growth performance in perspective. Comparisons are carried out against several comparator groups (per capita income but also OIL, LARGE, POINT SOURCE which are described in annex A1).

4.1 Low Income Mobility

From the 1960s to the middle 1980s, the region's growth was led by a prominent government with high public spending and protected national markets. This pattern of growth was helped by high oil revenues in R-R rich countries while in R-P countries, labor migration and workers' remittances helped out. Figure 2 compares trend growth rates over the longest period of time possible for a closed sample of countries. Unfortunately over this period, data for the two main groups of interest (R-R(6) and R-P(5)) are missing for over 1/3 of the data. From this incomplete sample, two patterns stand out: on average, the R-P group has done as well as the R-R group. And, as expected, the R-P had less variation in growth than the R-R group during the oil shocks of the 70s and early 80s. It is telling that the R-R group did not manage the swings in the oil price during this period. The figure suggests a better management of fiscal policy in response to swings in the price of oil during the later years corroborated in the time-series results in Zafar (2011) even though there are greater swings in the growth rates of the R-R group throughout the whole period.

During this period (except for Yemen after 1982), all MENA countries belonged either to the upper middle- (UM) or lower middle-income (LM) group. Figure 1b compares the trend performance for the two groupings with the average growth for the much larger samples of lower middle- (44) and upper middle-income (25) countries. Comparing the trend growth rates confirms the growth volatility of both groups compared to the UM and LM groups, but especially for the R-R MENA grouping. This greater growth volatility is partly due to the small sample size and the greater commonality of shocks in the R-R and R-P groups relative to the two larger samples. From this long-term perspective, there is no apparent Dutch-disease effect although the R-R group does not perform better than the R-P group.

Figure 2: MENA Long-Run Growth

Figure 2a: MENA Growth

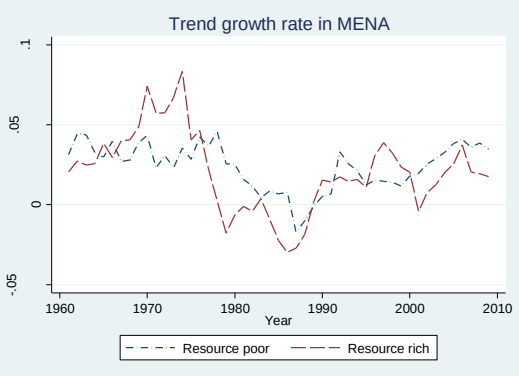
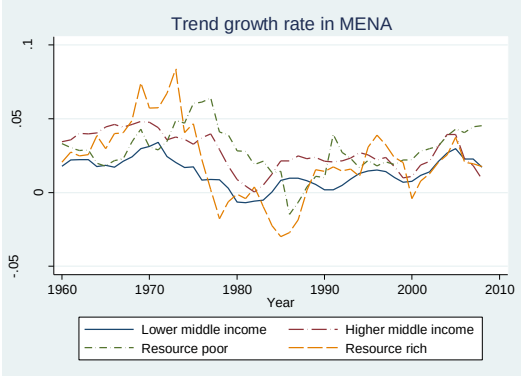


Figure 2b: MENA and Middle Income Groups



Notes: Sample is a 5-year moving average of the growth rate.

Because of the large amount of missing data for several countries, the trends revealed in figure 1 are not likely to be sufficiently representative of MENA's performance. To remedy this, table 1 takes a shorter time period starting in 1982 using complete gross national income (GNI) series for 12 MENA countries.

Table 2 compares MENA's performance with that of 115 countries over the period 1982-2010 with a split into two 14-year periods according to the World Bank's four group classification (L, LM, UM and H) presented above. The 12 MENA countries account for 10% of the sample of 113 countries.[10] Table 1 shows an overall under-performance for the sample of MENA countries. In the R-P group, no country moved up the ladder over the 28-year period, and one country, Jordan moved from UM to LM status. Among the R-R group, two countries moved down from UM to LM, but recuperated to their original status in the second sub-period (Algeria and Iran). Syria descended from UM to LM status and Yemen remained in the L group. Finally, in the GCC, group, no country moved up the mobility ladder.

For the whole sample, comparing the two sub-periods shows regression during the first sub-period (the "lost decade of the 1980s") as there are 28 countries below the diagonal (implying moving down the income-group ladder) while the second period shows a large improvement with over one third of the countries in the L group moving up to the LM group, and close to one-half moving from LM to UM status, and no country moving down the ladder.

[10] This sample includes 137 countries (an additional 22 countries of which 5 are MENA countries with incomplete data that were excluded from table 1).

Table 2: Per capita Income Mobility: 1982- 2010*

1982↓ | 1996→	L	LM	UM	H	Total (1982)
L	16 (0/1/0) (YEM)				16 (0/1/0)
LM	19	23 (0/0/3) (EGY, MAR, TUN)	3		45 (0/0/3)
UM		8 (0/3/1) (DZA, IRN, SYR, JOR)	13 (1/0/0) (OMN)	5	26 (1/3/1)
H			1 (1/0/0) (SAU)	27 (2/0/0) (ARE,KWT)	28 (3/0/0)
Total (1996)	35 (0/1/0)	31 (0/3/4)	17 (2/0/0)	32 (2/0/0)	115 (4/4/4)

1996↓ | 2010→	L	LM	UM	H	Total (1996)
L	22 (0/1/0) (YEM)	13			35 (0/1/0)
LM		17 (0/1/4) (SYR, EGY, JOR, MAR, TUN)	14 (0/2/0) (DZA, IRN)		31 (0/3/4)
UM			12	5 (2/0/0) (OMN, SAU)	17 (2/0/0)
H				32 (2/0/0) (ARE,KWT)	32 (2/0/0)
Total (2010)	22 (0/1/0)	30 (0/1/4)	26 (0/2/0)	37 (4/0/0)	115 (4/4/4)

Notes: All data are from the WDI and refer to gross national income (GNI) per capita data. The thresholds used in classifying countries by income level are those defined by the World Bank for 1982, 1996 and 2010. Former CIS countries are excluded. In parenthesis, the number of countries in each cell belonging to the 3 country groups considered for MENA in the following order (GCC (ARE, KWT, OMN, SAU), R-R (DZA, IRN, SYR, YEM) and R-P(EGY, JOR, MAR, TUN)). Reading across a row gives the number of countries in the corresponding row at the beginning of period and down the corresponding column the number of countries at the end of the period. So there were 28 H countries in 1982 and 32 in 1996. The bottom of the table shows that of the 31 countries in the LM group in 1996, 14 moved to the UM group while 13 from the L group joined the LM group.

As to MENA countries, during this thirty-year time-span, two patterns suggest specificity. First during 1982-1996, 5 out of the 28 countries that regressed were from the MENA region which is twice as large as the share of MENA in the sample. Second, during the 1996-2010 period of higher growth, of the 32 countries that moved up a notch, only four came from MENA again revealing under-performance.

In sum, in both sub-periods MENA countries under-performed, although MENA's performance improved in the post-1995 period compared to its own historical performance. Even though the groupings encompass a wide range in per capita incomes, this difficulty in catching up reflects the strong growth experienced by most developing countries during the period and perhaps the unfinished agenda in the region mentioned in the introduction.

4.2 The Real Effective Exchange and Volatility

Low growth and high volatility for MENA are apparent from all the comparisons in table 3 which reports GDP per capita growth and two measures of volatility (growth and the Real Effective Exchange Rate (REER).[11] With a mean growth rate of 1.4%, MENA is underperforming relative to all income classification groups (except the L group) with the GCC and R-R groups mostly accounting for the poor performance (col. 1). In spite of the presence of high-performer Oman in the group, the poor performance of the GCC group stands out over the thirty period. As discussed below and in Zafar (2011), managing volatility has been a problem, contributing to lower growth.[12]

The comparisons with the LARGE, OIL and POINT groups in the bottom of the table confirm this picture. Populous countries in MENA (over 20 million) had lower growth and higher volatility than the comparator LARGE group. Likewise, growth is lower and volatility is higher when the comparison is with the OIL group where this time the two samples are of the same size. It is only when MENA countries are compared with the heterogeneous sample of POINT source countries that includes many failed states, that MENA outperforms its comparator group with higher average growth and less volatility.

[11] The REER (from IFS data) is computed as the relative price of a trade-weighted basket of foreign relative to domestic goods is an indicator of competiveness in world markets and of sustainability of the current account. It is different from the RER defined in section 3.

[12] Data are from WDI indicators. In table 2, rows (A) and (B) give the composition of income groupings for the two definition years (1982 and 2002) with the classification in row B reflecting the outcome of the mobility during the period. This why the L group has a much lower growth according to the latter classification since it includes all the failed states that moved down the ladder during the period. Equally, the difference in the mean growth for the L and LM groups in rows A and B reflects the mobility shown in table 1 where nearly half (19) of the LM group joined the L group during the first period and one third (13) moved up from L to LM status over the second period. The Commission for Growth identified 13 countries with stellar performance over the period since 1960. Oman is in that group. See annex 2 for a summary of the lessons from the Commission for growth.

Table 3: Growth and its volatility (1982-2010)

Columns	*Mean growth[1]* *(1)*	*Coefficient of variation[2]* *(2)*	*Mean change in growth[3]* *(3)*	*REER volatility[5]* *(4)*
(A) GNI per capita 1982				
Low (20)	2.03	2.99	4.55	49.46
Lower Middle (52)	0.96	5.00	3.31	35.34
Upper Middle (32)	1.90	2.36	3.63	21.44
High (33)	1.86	1.52	1.93	8.71
(B) GNI per capita 2010				
Low (24)	0.76	8.11	4.18	45.15
Lower Middle (38)	1.72	3.62	3.72	33.96
Upper Middle (32)	1.96	2.81	3.99	22.15
High (43)	2.24	1.87	2.44	11.12
MENA (17)	1.40	4.76	4.78	52.20
GCC (6)	0.51	11.31	4.59	27.48
Resource Rich (R-R)(6)	1.37	5.58	5.29	110.41
Resource-Poor (5)	2.28	2.81	4.50	23.66
MENA VS. COMPARATORS[4]				
LARGE (33)	2.04	2.44	3.15	46.49
LARGE MENA (6)	1.32	5.55	5.05	74.01
OIL exporters (6)	1.17	5.59	4.46	46.72
MENA OIL exporters (10)	0.97	7.23	4.82	65.79
POINT (34)	0.95	5.82	4.19	45.32
POINT MENA (10)	1.54	4.07	4.65	65.30

Notes:
See table A1 for definition of country groupings. In parenthesis, the number of countries under each classification.
[1] Mean growth is the average growth rate over the period 1982-2010. i.e. approximately 38 observations per country resulting in sufficiently large samples to give significantly different mean growth rates in each sample.
[2] Standard deviation divided by the mean.
[3] Mean change is the absolute mean change in growth rates observed between two years.
[4] See Annex A1 and table A1 for list of countries included in the comparator groups.
[5] The standard deviation of the monthly real effective exchange rate is computed over the period 1980-2010. The sample is not exactly the same as those for columns 1 to 3. See table 3 for a description of the sample and the calculation of the REER by sub-period.

Column 2 shows high growth volatility for MENA driven by the two groups of oil exports while the R-P group has low growth volatility. As shown in the bottom of the table, the high growth volatility of oil exporters is not particular to the MENA group, though it is almost a third higher than the growth volatility of the other oil exporters. Particularly striking is the high volatility of growth in the GCC group which is twice as high as volatility in the R-R group and four times as high as in the R-P group. This high volatility is confirmed in the detailed decomposition of

growth volatility reported by Koren and Tenreyro (2010). [13] They show that in the GCC, the idiosyncratic component of volatility which is large and mostly unavoidable in resource-rich countries is no larger than the country-specific component of volatility which reflects aggregate domestic policy.

Being pegged to a currency (the SDR for all countries except the Omani rial which is pegged to the dollar) implies that the GCC have relinquished the use of monetary policy for stabilization purposes potentially increasing volatility. Koren and Tenreyro also show that when compared to other countries at the same per capita income level, but also compared to a smaller comparator group of countries with high export shares of oil and gas products in total exports, the GCC group are outliers along several dimensions of volatility including the non-use of counter-cyclical fiscal policy.[14]

Using annual data on annual time-series, Zafar (2011) shows that when compared to an earlier period covering 1970-1990, in the 1990-2010 period, fiscal policy has changed from being pro-cyclical to being counter-cyclical thereby contributing to stabilizing the economy. He also finds that this improvement in the stabilization objectives of fiscal policies has largely coincided with the establishment of Sovereign Wealth Funds in the GCC when oil prices surged over the last decade. These results are consistent with the evolution of the volatility of the Real Effective Exchange Rate (REER) in table 3.

Finally, column 4 reports the standard deviation of the REER over the period across the different country groupings. As expected, REER volatility falls as per capita income increases. Among MENA countries, the R-P group and the GCC group, have much less volatility than the R-R group. Nonetheless, volatility is still three times higher than for the high-income group. Also, when the comparison is across the other three groupings (large, oil exporters and point source), MENA countries have each time a higher REER volatility than the comparator group. This suggests that the fundamentals of sound fiscal and monetary policies—a prerequisite for sustained performance—has been largely missing in the MENA region over the last thirty years.

Volatility of the REER can also hamper the development of non-resource-based activities. Gelb (1988) and others studying the resource curse argue that this volatility has resulted in a 'volatility-induced inefficient specialization' pattern. Hausman and Rigobon (2004) even suggest that volatility produces a vicious cycle. A volatile REER raises uncertainty and makes investments in non-resource tradables unattractive, leading to a concentrated export basket in the resource-based sector which then causes a volatile real exchange rate.

[13] See e.g. Koren and Tenreyro (2007) show a statistically negative correlation between the volatility of growth and per capita income.

[14] In the aggregate sample of Koren and Tenreyro, there is no systematic correlation between sector and country-specific shocks whereas there is a systematic positive covariance between the two in the GCC indicating a pro-cyclical fiscal policy which has subsisted over the thirty-year period they consider contributed to greater growth volatility. Interestingly, high-performing OMAN is the exception displaying a negative covariance between sector-specific and country-specific shocks suggesting the use of anti-cyclical fiscal policies.

Table 4: Real Effective Exchange Rate Volatility by Period

	1980-1989	1990-1999	2000-2010*
High volatility	Syria (120.5) Iran (116.5) Libya (66.2) Algeria (66.2) Oman (38.7) Tunisia (32.7)	Iran (52.6) Libya (46.1) Algeria (31.8) Egypt (24.5) Lebanon (23.0)	Libya (97.9) Egypt (26.6) Iran (21.9) Lebanon (14.2) Bahrain (13.9)
Low volatility	-	Morocco (5.3) Tunisia (1.9)	United Arab Emirates (5.6) Jordan (5.5) Kuwait (5.3) Morocco (3.5)
Mean volatility	26.0	15.7	11.7
Interquartile range	[7.3 – 32.7]	[5.3 – 18.8]	[5.8 – 13.4]

Notes: The standard deviation of the monthly real effective exchange rate from IFS data for each period is used as the measure of volatility for a sample of 16 countries over the period 1980-2010. High (low) volatile countries are those having a standard deviation higher (lower) than the third (first) quartile of values observed across countries. Extremely volatile countries (standard deviation higher than 200) were excluded from the sample (INS/IFS data).

Table 4 gives a decadal breakdown of REER volatility over the period. REER volatility has fallen continually over the period. Taking REER volatility as a first approximation for instability (the REER should be flexible to maintain external balance so this is not strictly a measure of macroeconomic instability), MENA countries have improved in each decade compared to the 1980s when no country in the region was in the bottom quartile and half the group of MENA countries were in the fourth quartile. The GCC have low volatility in the last decade along with Morocco (and Tunisia in the 1990s). Except for Egypt (and conflict-torn Lebanon), all the countries with high volatility (beyond the inter-quartile range) are R-R countries indicating another specificity for the R-R group.

5. Barriers to Trade: Policy-Related and Others

The consensus of past appraisals of trade policies and barriers to trade in MENA is one of limited reforms. This is not to say that reducing government intervention is the only key to success. Much recent literature and experience suggests that a comprehensive competiveness-based approach to exports and growth is part of the ingredients to success. Governments must still overcome market failures, particularly with regards to information externalities and to collective action and coordination challenges. But the evidence reviewed here suggests that MENA still has an unfinished agenda in terms of the disengagement of government.

Section 5.1 reviews progress on various indicators of trade and regulatory reforms with focus on NTBs. New estimates of the Ad-Valorem Equivalents (AVEs) are

computed for those countries that impose single NTBs on tariff lines (this gives a better estimate than the usual estimate where the AVE is computed over the four 'core' NTBs. Section 5.2 gives indirect estimates of trade costs drawn from estimates of bilateral volumes and from the trends in the average distance of trade, an indirect measure of trade costs. Section 5.3 draws implications for efforts at regional integration.

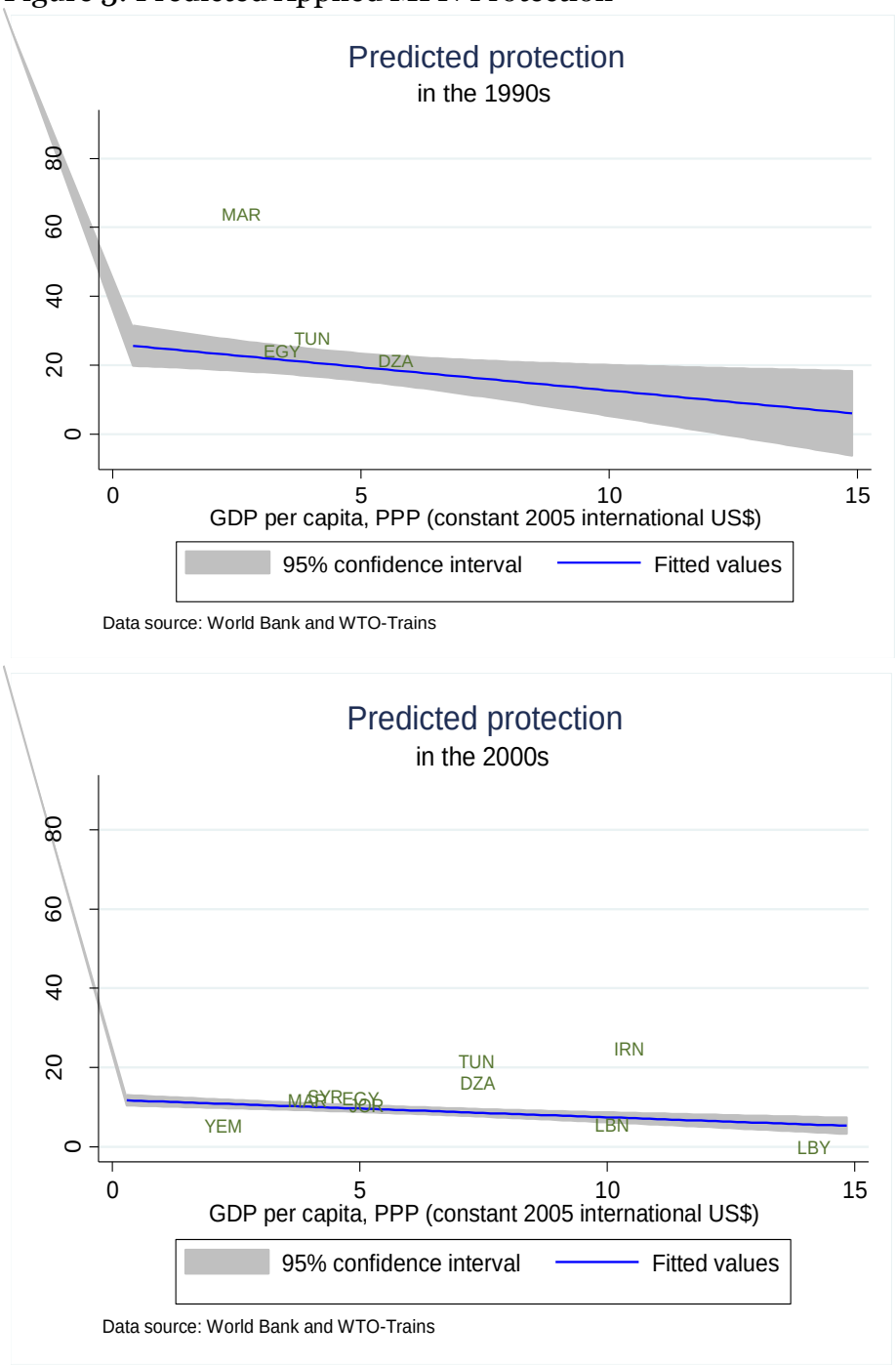
5.1 Tariffs and NTBs

According to practically all indicators, and in spite of recent progress with some catching up on protection (see figure 3), according to the policy indicators affecting trade displayed in table 5, the opening of MENA countries to world trade remains an unfinished agenda. The table is split in two groups of indicators: trade policy indicators in cols. 1-4 and trade-supporting indicators in cols. 5-8. Overall, individually, and by group, MENA countries have poor (i.e. high) ranks. Three patterns stand out. First, the indicators are best for GCC and worst for the R-R. Second the ranks for trade policy barriers are usually better than for the trade-supporting indicators. Third, the ranks are generally poor relative to the LM and UM comparator averages.

This is not to say that reform efforts over the past decade have been insignificant.[15] For tariffs, protection in agriculture is still high in all country groupings except the GCC with little reduction in protection over the last ten years. But average protection for industry has fallen, notably in the R-P group, but it is still high. Indeed, according to figure 3, several MENA countries are catching up to the norm, though the catching up was minor because other countries were also reducing tariffs. Controlling for per capita income, estimated applied tariffs around the world are about 10 percentage points lower in 2008 compared to their level circa 1990. The fit has also become tighter as the 95% confidence interval bands have narrowed. MENA countries having improved their relative position as they are now closer to the 'norm' average level of protection even though Algeria, Tunisia and Iran still have high protection and they are still spread out.

[15] Notably, MENA countries have resisted raising protection during the 2008-9 crisis. In a recent 2009 survey, private sector operators ranked tariffs last among the impediments to intra-regional trade and stated that there had been a marked improvement in customs clearance-related procedures (Hoekman and Zarrouk (2010)).

Figure 3: Predicted Applied MFN Protection



Source : Authors' calculations from WITS data based on 1995 or closest available year for predicted protection in the 1990s and on 2008 or latest available year for the second graph.

Notes: Countries included have at least 0.5 million population and per capita GDP in PPP is less than 15,000 US$. In the 1990-5 period only 4 MENA countries have tariff data.The estimated equations are: Tariff = 22.6 – 1.08 income + 0.04 pop for the 1990s based on 63 countries and Tariff = 11.84 – 0.44 income + 0.00 pop for the 2000s based on 116 countries. The mean standard deviation of MENA countries has reduced from 44.57 to 15.57 over the period (calculated for DZA, EGY, MAR and TUN). For the mean absolute deviation, a reduction is also observed (from 14.91 to 6.28).

Table 5: Policy Indicators Affecting Trade in MENA

	TAR-AGR	TAR-MAN	TTRI Value (rank: 125)	OTRI Value (rank: 102)	LPI value (rank: 164)	IE (DB) (rank: 183)	Tr. across borders (rank: 183)	Rule of law (rank: 213)
Year	90-95/ 06-09	90-95 06-09	2006-09	2008	2006-09	2006-09	2010	2009
RPLA			58.4		79.6	102	60.6	102.6
Egypt	35.8/54.6	23.6/9.2	3.3 (68)	10.0 (59)	94	106	21	97
Jordan	a-/16.7	a-/10.0	4.6 (108)	11.3 (66)	80	100	77	81
Lebanon	-/11.4	-/5.1	1.9 (50)	-	33	107	95	145
Morocco	66.5/26.7	63.9/10.8	1.8 (48)	14.1 (75)	131	128	80	106
Tunisia	29.6/38.6	28.0/21.0	0.9 (18)	11.7 (69)	60	69	30	84
RRLA			-		119.2	133.6	135.4	169.2
Algeria	25.4/21.5	21.3/15.9	0.7 (9)	1.5 (4)	135	136	124	156
Iran	-/28.5	-/24.6	1.9 (49)	2.7 (14)	104	137	131	171
Iraq	-/-	-/-	-	-	156	153	179	210
Libya	-/0	-/0	-	-	137	-	-	161
Syria	-/15.8	-/12.8	-	-	80	143	120	132
Yemen	-/7.0	-/5.3	-	-	103	99	123	185
GCC			49.8	-	41	38.5	50	77
UAE	-/4.7	-/4.2	3.6 (71)	3.5 (20)	24	33	3	76
Bahrain	-/7.7	-/3.9	2.6 (58)	3.3 (19)	32	20	33	77
Kuwait	-/3.1	-/4.2	-	-	36	61	113	73
Oman	8.2/4.9	5.1/3.7	1.4 (31)	3.1 (16)	60	65	87	66
Qatar	-/5.9	-/4.1	1.8 (47)	-	55	39	46	81
Saudi Arabia	11.8/3.0	12.4/4.1	1.7 (42)	2.6 (12)	39	13	18	89

Sources:a- Missing data cols: (1-2) WITS : Applied AHS tariffs ; cols (3-5) World Trade Indicators; Col (6) Doing Businees; Col(7) World Governance indicators. For all ranks, a higher value means a worse rank.

This still relatively high level of tariff protection is reflected in the values and rankings of the Total Trade Restrictiveness Index (TTRI) for the MENA countries (table 5, col. 3) and also for the regional average when compared with other middle income countries. On a regional basis, the overall Tariff-only Trade Restrictiveness Index (TTRI) was still the second-highest in the world after South Asia. When NTMs are included, the Overall Trade Restrictiveness Index (OTRI) for the MENA region (based on the countries listed in col. 4 in table 5) is the highest in the world. This high value is mostly due to the high AVE of NTMs for the countries in the R-R group. The barriers to trade in MENA penalize particularly exports from SSA (40%) and Latin America (57%).

Because reforms are often complementary, improvements in the trade-supporting indicators (cols 5 to 8) will be needed for trade to be an engine of growth in MENA. To partake in the rapid growth of offshoring in services (e.g. back-office work processes, call center operators, legal research and so forth), restrictions to trade in services must be removed or, at least not be higher than in competing countries. Likewise, to participate in the global production networks, where different stages of production take place in different locations, a country needs state-of-the-art supply and logistics chains (high performance transport, customs and communication) and efficiency in the full range of backbone service sectors). Except for the GCC, none of the MENA countries has good scores on these trade-supporting indicators.

This impression of significant remaining barriers to trade is confirmed by the rankings for the Services Trade Restrictiveness Index (STRI) not reported here because of insufficient data. A disaggregation of the components shows poor scores especially in the category of professional services, financial services and transport services.[16] Except for the GCC, the pervasiveness of NTMs is compounded by the relatively poor ranking in the indicators capturing the regulatory environment: the logistics performance index (col.5), the Doing Business Indicator (col 6), the trading across border indicator (col 7) and the Rule of law indicator (col 8). By and large, both R-R and R-P countries have low rankings according to most of these overlapping indicators capturing the regulatory environment.[17] Taken together, these rankings are consistent with rigid economies with an unfriendly business environment where, as shown by Freund and Bolaky (2008), more trade is not associated with a rise in per capita income (as it is the case in the flexible economies).

[16] World Bank (2010, figures 9 and 10) show that Restrictiveness is high relative to other regions in all major services sectors with poor regulatory and implementation capacities. Case studies and recommendations for Algeria, Morocco and Tunisia are given in Lopez-Calix et al.
[17] These indicators are averages of several sub-indicators, some subjective. There is overlap and one could be tempted to take an average across the indicators in cols 6 to 9.

Table 6: Frequency Distribution of Number of NTBs

Nber of NTBs per HS6 lines	EGY	DZA	MAR	TUN	SAU	OMN	LBN	JOR
1	0	0	4,641	1,510	685	642	1,298	2,073
2	9,774	7354	590	276	106	36	322	764
3	162	2418	15	30	0	0	3	21
4	0	1760	0	0	0	0	0	0
5	0	90	0	0	0	0	0	0
Total lines	*9,936*	*11,622*	*5,246*	*1,816*	*791*	*678*	*1,623*	*2,858*

Table 7: Ad-valorem Equivalents of NTBs*

NTB codes	Country	freq.	AVE simple	Tariff simple	AVE weight.	Tariff weight.
31 Adminitrative Pricing	SAU	8	42.90%	11.69%	12.35%	15.77%
61-Non-automatic licensing						
	JOR	823	47.09%	13.90%	40.20%	9.98%
	LBN	661	40.57%	4.61%	35.14%	5.92%
	OMN	47	28.57%	32.94%	16.41%	41.90%
	SAU	540	35.50%	10.96%	16.35%	5.45%
	TUN	226	33.21%	26.39%	15.69%	20.59%
63-Prohibitions						
	LBN	9	63.65%	2.18%	4.67%	0.05%
	OMN	27	47.63%	6.92%	28.95%	8.23%
	SAU	56	45.35%	5.19%	10.16%	12.61%
71- Single-channels for imports						
	JOR	2	72.54%	6.29%	72.54%	6.29%
	LBN	10	44.86%	3.37%	72.43%	4.61%
	SAU	3	74.09%	5.20%	35.99%	5.77%
	TUN	34	24.55%	19.10%	16.83%	15.00%
81- Technical Regulations						
	JOR	1248	40.21%	15.06%	20.14%	14.23%
	LBN	618	44.58%	8.51%	58.36%	9.07%
	MAR	4641	13.99%	27.08%	7.36%	22.50%
	OMN	568	49.43%	8.73%	55.97%	3.23%
	SAU	78	35.60%	11.00%	38.61%	10.80%
	TUN	1250	44.22%	43.90%	27.21%	27.69%

Source: Authors' calculations from Carrère and de Melo (2011) The 2-digit NTM classification level has the four NTMs listed here plus the following: Voluntary export price restraint (32), variable charges (33) and quotas (62).
* AVEs are calculated only for tariff lines that have a single NTB.

To get a better an idea of the importance of NTBs, we compare the incidence of NTBs of MENA countries with those of other countries in the large sample of countries in Kee et al. (2009) data base (91 countries of which 21 OECD countries for 4,961 HS-6 product categories). With 8 countries, MENA is sufficiently well represented to make comparisons. Table 6 shows the frequency distribution of core NTBs for the MENA countries in the NTB data base. First, although not indicated in the table, Egypt had a core NTB in 4941 tariff lines out of a potential of 4961, that is only 20 tariff lines at the HS-6 level did not have a core NTB in Egypt in 2002-04. On a comparative basis, this is an extremely high level of incidence for the core NTBs, even though prohibitions are important and these are mostly on the basis of origin (e.g. ban on imports from Israel).[18] Second, whereas 74% of the tariff lines in the sample of 91 countries only had one core NTB, according to table 6, only 31% of the tariff lines in the MENA sample had one core NTB. For the MENA countries the multiple NTBs are usually a combination of a technical regulation and a prohibition at the HS-6 level either for the environment, a suspension of issuance of licenses or a prohibition on the basis of origin (embargo).

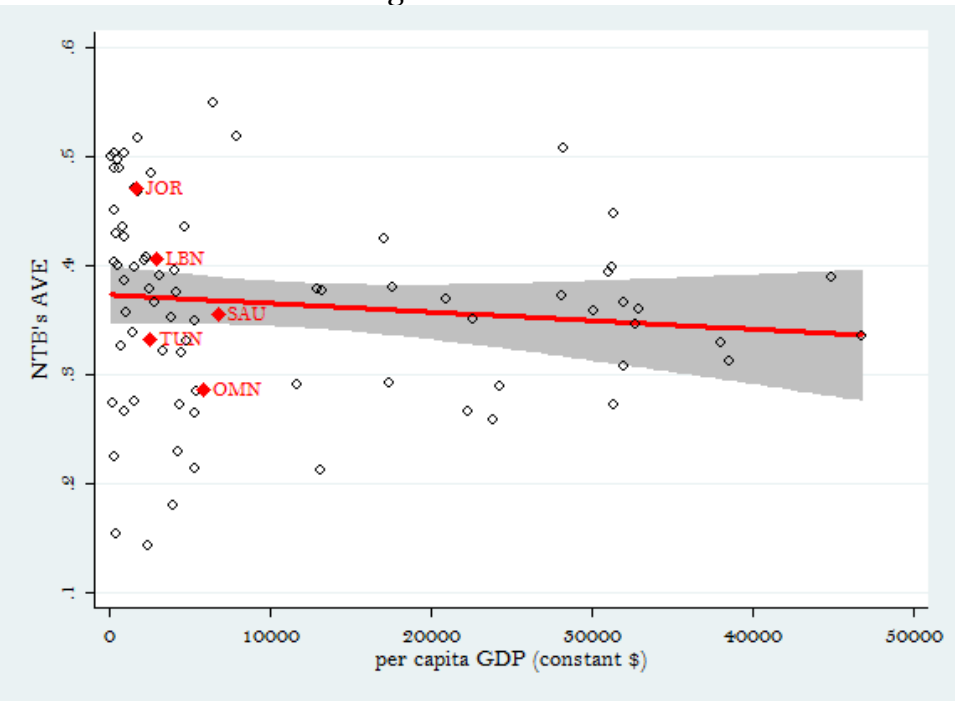
Carrère and de Melo (2011) have calculated the average tariff equivalent (AVE) for these single NTM lines (74% of the tariff lines in the Kee et al. sample). This has the advantage of estimating the tariff equivalent of each NTM separately so that one can distinguish between the AVE for, say technical regulation vs the AVE for non-automatic licensing. These estimates are reported in table 7 for the MENA countries that have single NTM lines.

Several patterns emerge. First, the distribution of AVEs is narrow with most NTMs having an AVE of around 40% which is almost always greater than the corresponding tariff rate on that product line. Second, the simple tariff on the product line with the NTM is usually high, often above the average tariff for manufactures. Third, as can be seen from a comparison of the un-weighted and import-weighted AVE, the estimates show that NTMs are associated with smaller import volumes.

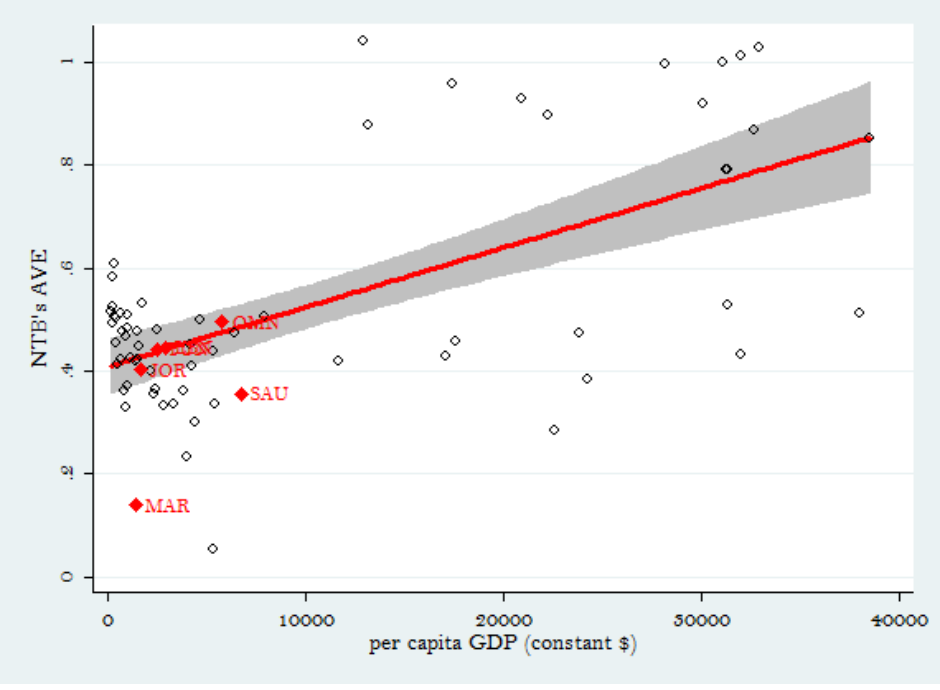
[18] For comparison, on average across countries, only 1341 lines have at least one of the 5 core NTBs. Korea is the country with less incidence of core NTBS (2 lines). Countries with the highest incidence (4941 lines) are Algeria, Cote d'Ivoire, Egypt, Malaysia, Morocco, Nigeria, Philippines, Sudan, Senegal and Tanzania. The median number of lines with at least one of the core NTBs is 799.

Figure 4: Ad-valorem Equivalent of NTMs and Per Capita Income (For HS lines with single NTB)

61 Non-Automatic Licensing



81 Technical Regulations



Source:Authors' computation adapted from Carrère and de Melo (2011)

As a final comparison, figure 4 plots the estimates of the AVEs for the sample of countries against per capita income for the two most important NTMs, non-automatic licensing and technical regulations. Non-automatic licensing is quite widespread while technical regulations are more widespread in high-income countries.[19] The scatter plot does not include Algeria and Egypt, the two countries with the most NTMs (only multiple NTMs per product line). For the other countries, they are spread around the estimated line so that one can confirm that the AVE of single-product line NTMs are high for the MENA countries, but that the estimates are in line with those for other countries.

5.2 Trade Costs and Trade Facilitation

MENA manufactures, and exports of non-oil exports, especially those of the R-R group have under-performed (see the estimates in annex A2). Two broad categories of factors have been advanced so far: macro policies and the unfavorable regulatory environment (unfavorable indicator values in table 5 relative to competitors). In the standard gravity model, after controlling for other factors, this lack of integration would show up in a high value for a regional dummy variable. To see if this is the case, we estimate a gravity model augmented by a proxy for trade facilitation which captures the unfavorable environment reflected in the indicators in table 6. The proxy is the time-to-export from the factory to the port (broken down in the number of days for documentation, transit time, and port handling and customs clearance available for three years from the Doing Business data base). Because we wish to estimate the model separately for MENA countries estimation is over a panel of three years covering 2006 to 2008. The model estimated for non-oil and non-mineral bilateral exports is:

$$LnEX_{ijt} = \alpha_1 X_{it} + \alpha_2 LnDIST_{ij} + \alpha_3 Z_{ij} + \alpha_4 TIME\_EXP_i + \alpha_4 DUMR_i + \mu_j + \varepsilon_{ijt} \qquad (1.2)$$

where EX_{ijt} are bilateral exports of manufactures (excluding oil and minerals) from i to j, X_{it} is a vector of exporter-specific variables that includes GDP, population, and indicator of remoteness, $DIST_{ij}$ is distance between partners, Z_{ij} are the usual bilateral controls (contiguity, common language, former colony), $TIME\_EXP_i$ is the time to get a standardized container from factory gate on board to the ship, $DUMR_i$ is a regional dummy (OECD region is the

[19] Since the AVE is computed as the estimated impact of the NTB on trade via the dummy variable (after controlling for other factors affecting trade including tariffs) divided by the corresponding estimated import demand elasticity, the positive correlation between the AVE and per capita income could reflect a lower elasticity coefficient (in absolute value) for high income countries. However, this is not the case (see Carrère and de Melo 2011 figure 6). So the pattern reveals more restrictive technical regulations in high-income countries rather than differences in import demand elasticities.

omitted dummy), and μ_j captures all time-invariant importer-specific characteristics. [20]

Results are reported in table 8. All the controls have expected magnitudes and expected significance levels. Of interest is the negative coefficient for the MENA dummy in col. 1 which implies that MENA exports about 39 percent less ($e^{-0.89}$-1=-0.39) than expected relative to the excluded region, the OECD after having taken into account the effects of all the other controls. Interestingly, East Asia star performers, export 630 percent more than the OECD, followed by South Asia. All other regions export less on a bilateral basis than the reference group, but what comes out of the estimates is that MENA is the region that deviates the most from the expected trade volume.

Adding the time-to-export variable (col.2) to capture the effects of trade facilitation lowers only slightly the coefficient value for the dummy. Unlike the results by Freund and Rocha for SSA where introducing the time-to-export variable takes away much of the significance for the SSA dummy, this is not the case for MENA's exports of manufactures. Nor are the results affected by the shift to a log specification for the time-to-export variable (col 3).

The estimates for the MENA subsample of 13 countries are given in cols. 4 and 5. Even though MENA countries are not landlocked, the coefficient on the distance variable increases significantly, suggesting higher than average distance-related trade costs for MENA countries. The contiguity coefficient is not significant probably reflecting partly conflicts in the region but also a lack of trade facilitation at the regional level. In MENA, the average time to get the merchandise from the factory gate to the port is 20 days (less than in the other regions except the OECD because of the low values for inland transit given that MENA countries are not landlocked). According to the estimates in column 4, a reduction in time of 10 percent (i.e two days) would increase trade volume by 8 percent.

Breaking down the time-to-export into each one of the three components (as done by Freund and Rocha in their table 4) also results in negative and significant coefficient values for each component. When the respective coefficient values between the estimates for the whole sample and for the MENA sample are compared, the coefficient value for time related to customs & ports is much higher for the MENA sample (-0.21) than for the whole sample (-0.05). While interpretation of the results is subject to endogeneity problems (trade facilitation may stimulate trade but trade is also likely to influence trade facilitation), the large estimated values for the customs & ports components suggest benefits from trade facilitation (see table A9).

[20] We thank Caroline Freund and Nadia Rocha for providing the data on time to export. Our specification is the same as theirs except that we only deal with exports of manufactures. All control variables in the vectors X and Z not reported here had expected signs and were usually significant. The model was also estimated for total exports yielding similar results (see table A7).

Table 8: Correlates of Bilateral Non-oil Exports

Ln(Aggregate non-oil exports)	(1) All	(2) Time exp.	(3) Log time	(4) MENA	(5) MENA
Ln(GDP)	1.30***	1.21***	1.15***	0.55***	0.43***
	[0.01]	[0.01]	[0.01]	[0.05]	[0.05]
Ln(Population)	-0.15***	-0.06***	-0.00	-0.13***	-0.14***
	[0.01]	[0.01]	[0.01]	[0.03]	[0.03]
Ln(Distance)	-1.64***	-1.65***	-1.66***	-1.96***	-1.97***
	[0.01]	[0.01]	[0.01]	[0.08]	[0.08]
Time to export		-0.02***		-0.08***	
		[0.00]		[0.01]	
Ln(Time)			-0.63***		-2.32***
			[0.03]		[0.15]
MENA	-0.89***	-0.83***	-0.74***		
	[0.04]	[0.04]	[0.04]		
SSA	-0.44***	-0.45***	-0.48***		
	[0.04]	[0.04]	[0.04]		
LAC	-0.20***	-0.26***	-0.21***		
	[0.04]	[0.04]	[0.04]		
EAP	1.99***	1.94***	1.91***		
	[0.04]	[0.04]	[0.04]		
SAS	0.38***	0.29***	0.30***		
	[0.06]	[0.06]	[0.06]		
ECA	-0.66***	-0.51***	-0.47***		
	[0.03]	[0.04]	[0.04]		
Contiguity	0.80***	0.80***	0.79***	-0.34	-0.33
	[0.07]	[0.07]	[0.07]	[0.26]	[0.26]
Partner FE	Yes	Yes	Yes	Yes	Yes
Observations	53359	52458	52458	4808	4808
R-squared	0.702	0.706	0.707	0.607	0.615

Notes: Aggregate non-oil exports are equal to total exports minus exports in HS 2-digit sectors 26 (oil) and 27 (ores and minerals). All exports are gross exports. MENA, SSA, LAC, EAP, SAS and ECA are dummies variables for regions: Middle East & North Africa, Sub Saharan Africa, Latin America, East Asia & Pacific, South Asia and Europe & Central Asia. The reference region is OECD.

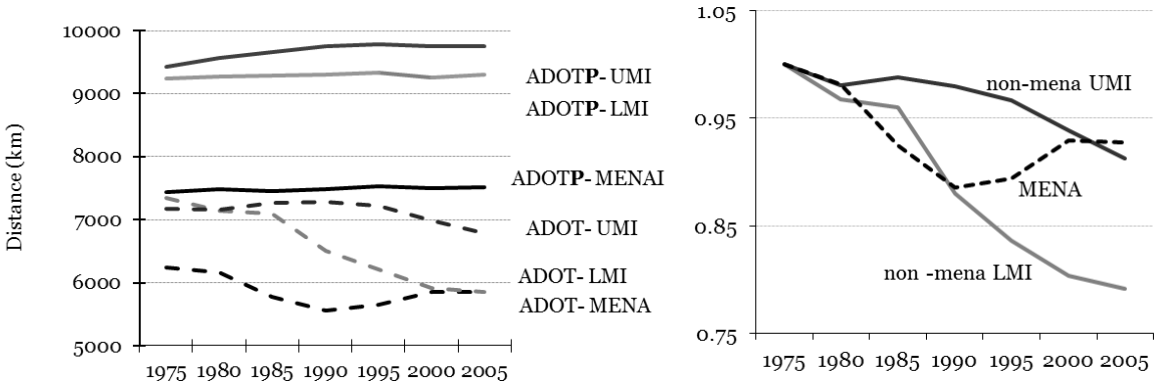
Other control variables included in the regression are common language, colony, landlocked and remoteness..The estimates for unreported control variables are always statistically significant with the expected sign. Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

MENA countries in the sample: Algeria, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen.

As shown in figure 5a, unlike most other countries and regions, the average distance of trade for MENA countries has fallen from 7000 km to 6000 km over a thirty year period. Referring again to the gravity trade model, this could be due to two developments. One is that the region is losing ground and lagging relative to competitors (as suggested by the comparative performance along the indicators in table 5). Then costs related to international trade are increasing relative to those of competing partners. This would lead countries to trade with closer partners to minimize trade costs (or alternatively other countries are taking their place because their trade costs are falling more rapidly).

An alternative possibility is that MENA countries have decreased trade-related costs mostly on a regional basis, as for example reduction in tariff and NTBs or trade facilitation, but all on a regional basis. If so, with relative trade-related costs falling faster on a regional basis, as for instance because of the implementation of regional trade agreements, countries would trade more with close partners, thereby reducing the average distance of trade. Carrère et al. (2011) detect an increase in intra-partner trade over the period 1990-2009 for MENA countries following the implementation of PAFTA and other regional agreements in MENA.

Figure 5a: Average distance of Trade and Trade Costs
MENA and Comparators, 1970-2006



The prediction that a fall in border-related costs should lead countries to increase the volume of international (relative to internal) trade is largely borne by the data since over the last thirty years international trade has increased by 300% while world production has increased by 75%. According to the gravity model, in a frictionless world, potential trade would be proportional to the trading partners' GDP. Multiplying by the distance between the partners and summing over all partners gives the gravity-predicted average distance of trade for country i , denoted here as the potential distance of trade ($ADOT^{P}_{i}$). This measure (which takes a maximum value when all countries are of the same size) will increase when there is less dispersion in the group and over a long period when there is convergence in incomes.

A reduction in all costs related to distance (including better information about distant markets) should lead countries to increase their trade with distant partners. On the contrary, if the relative costs associated with distance increase, countries should trade with closer partners. Since what counts are the evolution of distance-related costs across all partners, trade costs could be falling for all trading partners, but those for whom trade costs are falling the least would see a regionalization of their trade. Then if the gravity model is an adequate description of bilateral trade, the ratio of actual trade ($ADOT_i$) to potential ($ADOT_i^P$) here called the average distance ratio (ADR_i) is an indirect measure of trade costs: falling values of the ratio (i.e. a regionalization of trade) then reflects an increase in relative trade costs.

$$
\begin{aligned}
ADR_i &= ADOT_i / ADOT_i^P \\
ADOT_i^P &= \sum_i \sum_j (X_{ijt}^P / X_{wt}^P) ; \sum_i \sum_j (Y_{it} Y_{jt} / Y_{wt}) \\
ADOT_i &= \sum_i \sum_j (X_{ijt} / X_{wt}) D_{ij}
\end{aligned}
\qquad (1.3)
$$

Figure 5a reports these measures for the average of the 12 MENA countries with data over the period 1970-2004 along with the corresponding average for the upper middle- (UM) and lower middle-income (LM) groups since all MENA countries except Yemen belong to one of these two groups (see table 2).[21] To iron out fluctuations, each point is a five year average. For all countries, potential trade is greater than actual trade suggesting cost minimization in bilateral trade patterns by choosing closer partners (with lower trade costs). MENA countries potential (or frictionless) trade is about 2000 Km less than the corresponding estimate for the comparator groups (figure 5a). This reflects a higher dispersion in GDPs across the partners. Over time, there is a slight increase in the potential distance of trade for the UM group reflecting a higher growth for distant partners. For the MENA and LM groups, the potential distance of trade remains flat.

More interestingly, the indicator of trade costs in figure 5a (the ADR ratio is normalized to 1 in 1970) shows a sharp fall of around 10% in the average distance of trade for the two comparator groups. This could be either because the trade costs associated with physically close partners are falling more rapidly (as for example with deep integration) or that the costs of barriers to trade have not gone down as rapidly as for the high income countries whose ADR ratio (not shown here) stayed constant throughout the 30 year period. However, for MENA, the fall in the ratio is reversed starting in the early 1990s which is the period when the region-wide preferential trade agreements were put in place (along with others outside the region).

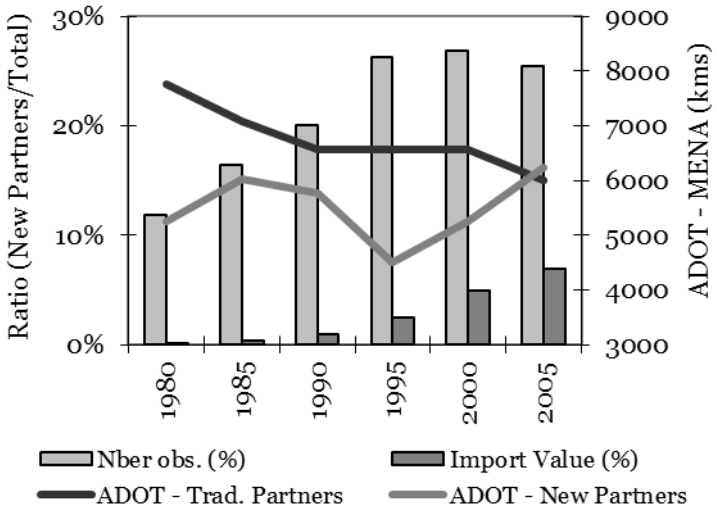
Since the average potential distance of trade stays constant, a change in the composition of trading partners must have taken place. If new partners (extensive margin) are geographically close, then one will observe a regionalization of trade. A regionalization of trade would also be observed if

[21] The 12 MENA countries in figure 5 are : United Arab Emirates, Algeria, EGY, IRN, JOR, KWT , MAR, OMN,SAU,SYR,TUN,YEM

existing trade were redirected towards geographically close partners or if trade among geographically close partners was growing faster.

Figure 5b which gives the breakdown between existing (intensive margin) and new partners (extensive margin). It shows that until 2005, the new partners are closer. This is line with the results in Carrère et al. who find that trade increased following the signing of preferential trade agreements. It also shows that new partners have an increasing weight in total import value. Thus the regionalization of trade has taken place at the intensive margin and the increasing trend in regional trade noted by Shui and Walkenhorst (table 10.3) has been in new products.

Figure 5b: Average Trade Distance of MENA countries
with Traditional and New Trade Partners



Notes: Authors' calculations from Carrère, de Melo and Wilson (2010). Country averages over 5-years periods over 1970-2004 and a 2-years period 2005-2006 . UMI= Upper middle income; LMI= Lower-middle income. ADOTP = Potential average distance of trade in a frictionless world, ADOT = Actual average distance of trade and ADR = ADOTP/ADOT= Trade cost.

It is tempting to say that this regionalization of trade is due to the regional agreements put in place. However, the regionalization of trade started in the 1980s before the implementation of RTAs even though Carrère et al. find that intra-regional trade increased (usually at the expense of extra-regional trade) over the period 1990-2009. Also the regionalization of trade reversed starting around 1990-95 when the region increased its trade (imports and exports) with India and China (see Brenton et al. (2010)).

5.4 Regional Integration

Regional integration networks on all fronts has been an important part of MENA's opening-to-the-world strategy. In addition to the Euro-Med agreements with the EU, MENA is engaged in a large number of bilateral trade agreements (see Shui and Walkenhorst (2010 table 10.1)) for a description of the large network of crossing intra-regional bilateral trade agreements.

In addition to the network of bilateral agreements outside the region, MENA has also been reducing protection regionally mostly through PAFTA which has been in force since 1997. The many studies on the trade effects of PAFTA have failed to reveal any visible and robust effects on the volume of intra-regional trade (see the review in Hoekman and Sekkat (2009)). Reasons for this outcome include the low complementary in production structures, lack of coverage of services and agriculture, persistent NTBs and uneven tariffs, and the lack of coverage of services (see Shui and Walkenhorst (2010) for discussion).

In sum, except for the GCC, so far regional integration has been 'shallow' rather than 'deep' event though there has been a regionalization of MENA's trade up until the mid 1990s. These trends could either represent trade diversion if regional partners are displacing more efficient non-preferential partners (in which case it can be either welfare augmenting or welfare reducing), or trade creating in which case it is unambiguously welfare improving. It could also reflect learning and the building up of scale economies on the regional level prior to entering global markets (the 'discovery' process associated with new exports is less costly and less risky when started at the regional level) or also participation in regional production networks.

Carrère et al. find that intra-regional trade increased following the entry into force of most agreements with evidence of trade diversion for only agreement, PAFTA. They show that the trade diversion came from the replacement of imports into R-R countries by inefficiently-produced exports from R-P countries. R-P poor countries did not experience trade diversion so that preferential trade agreements within the region between R-R and R-P countries amounted to a redistribution from R-R towards R-P members.

Pursuing, the regional strategy, even if it takes place in the form of 'open regionalism' as suggested by Shui and Walkenhorst, has to overcome several hurdles. First, the still large disparity in tariffs across countries and across partners complicates the issue of compensation. This disparity in rates across countries and across partners apparent from figure 3 makes it politically difficult to open markets regionally as industries in partner countries benefit to a different extent from policy-generated transfers. The uneven distribution of costs and benefits of moving to freer trade in the absence of compensation (compensation for newcomers was key to the successive EU enlargements) has been a reason for the lack of implementation in many past South-South integration schemes and now in MENA. Avoiding the compensation issue by

opting for the unilateral route, is an important factor behind the successful integration of East Asia into the world economy.

Second, the web of regional trade agreements requires administrative capability, not to mention the application of Rules of Origin (RoO) that are costly to comply with for both producers and importers, and for customs officials not to mention that they give room for discretion in their application. It is widely accepted that for tariffs lower than 5%, the administrative costs associated with their implementation exceeds the value of the rents accruing to the partner (Cadot and de Melo (2008)).

Several countries (Algeria, Lebanon, Syria, and Yemen) are still in the process of WTO accession. This is at least reflective of hesitancy about multilateralism in the region. While pursuing regional integration may help build human capital, as suggested by Shui and Walkenhorst, it is also diverting scarce human capital from negotiating WTO accession which will bring many benefits in terms of harmonization of many trade procedures and their application. Moreover, it is not clear that negotiating technical aspects of trade policy on a regional basis, especially prior to WTO membership, will not be captured by powerful protectionist forces and that these rules and procedures will not have to be subsequently made WTO-consistent.

Third, the lack of sufficient political will, present before the recent upheaval has resulted in little 'deep' integration across the region which could have been extended to reduce NTBs and the trade costs that extend behind the borders (BTB). These BTB measures which are not directly the result of trade policies, could be more easily removed on a regional basis under 'deep' integration that removes costs and hence is trade-creating for the partners involved— i.e. integration that includes harmonizing standards, combining regulatory institutions, and cooperating intensively on trade facilitation— as could be the case if PAFTA commitments were to be extended to cover these aspects.

This disappointing scorecard on implementation in the many regional integration networks around the world (and the long time span in getting there when integration was 'deep' as in the EC) suggests narrowing the focus, moving from a 'broad but shallow' to a 'narrow but deep' regional integration strategy. [22] Individually, MENA countries could concentrate their regional integration efforts at getting closer with the EU. Besides potentially bringing political benefits in terms of governance, it might be beneficial on two fronts. In the short run, the European Neighborhood Policy framework could provide

[22] The inherent difficulty in making progress towards 'deep integration' should recognize that the straightjacket imposed by the tight rules at the WTO and the dispute settlement process are largely at the root of the mushrooming of regional trade agreements around the world (see Baldwin (2011)). However, in the case of MENA, with the exception of the GCC, regionalism has not yet represented a significant move forward towards greater integration in the world economy, and with the current political upheaval in the region, it is questionable that the regional route will bring forth the domestic coalition support that is needed to carry out to complete the reform agenda..

the anchor to carry out needed regulatory reforms that would then be more easily harmonized at the region level later on. [23]

6. Exports, Diversification and Survival

On the whole, MENA countries have lower shares of manufacturing exports than comparators. What are the symptoms: is it mostly a matter of the volume of trade, lack of diversity, a difficulty in maintaining export spells for new products? Three areas of evidence are reviewed below, two based on 'event analysis' that emphasize (again) the role of the real exchange rate, and one based on a comparison of micro-level estimates of factor productivity. We then present new results on the correlates of export survival in new products.

6.1 Trade Liberalization, Export Growth and the Real Exchange Rate

Relying on an 'event-analysis', Wacziarg and Welch (2008), provide the most extensive study of sustained trade liberalizations across the world comparing each country's performance before the identified date of trade liberalization with its performance after over a period of close to fifty years. Updating an earlier study by Sachs and Warner (1995) to cover the periods between the 1950s and 2001 and using the same criteria, they identify whether a country is open or closed, and the date at which the change in trade regime takes place. In their sample of 141 (24 OECD) countries, 9 are from MENA of which four were closed throughout the forty-year period (average tariffs over 1990-99 in parenthesis followed by the Black Market Premium (BMP) if it is the criterion determining that the country was closed). The countries are: Algeria (24%, BMP), Iran (BMP), Iraq (BMP) and Syria (16%, BMP).[24] Among the nine, only one country, Yemen (20%), was classified as open throughout and four opened up during the forty-year period: Egypt (30%, 1995), Jordan (16%, 1965), Morocco (24%, 1984) and Tunisia (28%, 1989). Excluding the OECD group, 42 countries were still closed at the end of period in their sample for 75 that were open. With the exception of Jordan, MENA countries that opened only did so late in the period.

Comparing before and after trade-liberalization performance within-countries, Wacziarg and Welch estimate that post-liberalization GDP growth was 1.4 percent higher and that the investment rate was 1.9 percentage points higher, the investment channel accounting for 20% of the trade-liberalization

[23] The Euro-med agreements and the European Neighborhood framework could provide the impetus for deep integration as it could bring about regulatory convergence with the EU. Diop (2010) discusses the benefits for Morocco of taking inspiration of the EU set-up in strengthening its regulatory framework. Were other countries to do the same bilaterally with the EU, they would de facto move towards harmonization in their regulatory frameworks.

[24] A country is classified as closed if one of the following four criteria on average during a decade: (i) average tariff of 40% or more; (ii) NTBs covering at least 40% of trad; (iii) A black market premium (BMP) of at least 20% on the exchange rate; (iv) A State Monopoly on exports; (v) A socialist economic system. Wacziarg and Welch show that there new updated sample is less open to the main criticism of Rodriguez and Rodrik (2001) that the trade regime status was mostly determined by criteria (iv) and (v).

effect on growth. They also found that the openness ratio increased by 5.5 percentage points and they showed that sustained improvements in performance usually occurred about three years after the timing of the reforms.

In a similar vein, Freund and Pierola (2011), examine export surges for manufacture products using the same 'event analysis' approach. [25] They confirm the importance of real exchange depreciation uncovered by Hausman et al. They estimate a much stronger effect of a real exchange rate depreciation on export growth for developing than for developed countries and attribute 40% of the export growth to an undervalued real exchange rate by 20% following the export surge. They also find that over their 92 episodes of export surges, the growth in exports via new products and new markets accounts for 30% of the export growth for developing countries.

In addition to the greater penalties against tradables in a weak institutional environment mentioned above, both findings are consistent with the view that there is a distortion that disproportionately affects tradables in developing countries, distortion that is alleviated by a significant depreciation of the real exchange rate. As a possible channel, consider that exporters do not know about the profitability of new markets until they enter. Then there is an information externality that is alleviated by a real exchange rate depreciation that increases the return to entry and accelerates the discovery process, a channel that would seem particularly important for the R-R group where the rent share in GDP is large and the real exchange rate is likely to be overvalued. Two follow-up questions are whether low productivity levels could be a barrier to exporting and, when new exports take place, what contributes to the survival of new exports since an export surge cannot last if survival rates are low.

6.2 Low Firm Productivity

Many firm-level studies support the view that increased openness to world markets stimulates productivity levels in stronger firms and encourages weaker firms to leave the market thereby releasing resources from weaker to stronger firms. The firm-level studies also show that access to imports (made possible by foreign exchange earnings from exports) boosts growth by granting access to capital goods and inputs from many competitive sources (this is probably a reason why investment rates shoot up after trade liberalization). However, we do not know if it is mostly exporting that improves productivity at the plant level or if it is that exporters self-select into

[25] In Freund and Pierola (2011), an 'export surge' occurs when there is an upward break in the series that lasts at least 7 years and in Wacziarg and Welch (2008) the year of a major trade reform where trade reform is defined as a substantial reduction in tariffs and NTBs according to the criteria in an earlier study by Sachs and Warner(1995)). In both studies, an event is a period of at least 7 years.

exporting based on higher productivity, even if interviews from case studies suggest that quality matters for exporting to rich markets.[26]

At the micro level, much effort has focused on the correlates of the low level of productivity (technical efficiency) in MENA manufacturing. A typical finding is that, compared to other middle-income countries, MENA manufacturing firms have lower technical efficiency, lower productivity and higher labor costs across a wide range of manufacturing sectors. This is the case for the results of a recent study by Kinda et al. (2011) reported in table 9 below[27] . Table 9 shows a lesser performance for MENA countries relative to other middle-income countries across nearly all industries suggesting again a MENA specificity.

Table 9:Firm–level Productivity MENA/ Non MENA

	Textile	**Leather**	**Garment**	**Agro Processing**	**Metal & Machinery Products**	**Chemic & Pharm Products**	**Wood & Furniture**	**Non Metal & Plastic Materials**
Labor Productivity (LP) (US dollars at current exchange rate)								
Non MENA	10.08***	6.80***	6.65*	14.9	16.0	18.5	7.5	11.1**
MENA	7.93	4.91	4.96	15.2	15.6	18.6	7.3	8.8
Unit Labor Costs (ULC)								
Non MENA	0.37***	0.46***	0.69	0.46	0.44**	0.33*	0.58**	0.54
MENA	0.49	0.82	0.63	0.42	0.50	0.43	0.68	0.48
Technical Efficiency (TE)								
Non MENA	44.6**	63.9***	62.3	44.5***	60.6***	40.8	48.3***	61.6***
MENA	***42.8***	***54.7***	***64.8***	***40.3***	***44.4***	***42.5***	***37.5***	***49.8***

Source. Kida et al. (2011, table 4). Test of significance of differences in means. at 10 %(*), 5%(**), and 1%(***). Number of firms per industry: 360 (leather) to 1601 (garments). MENA countries: Algeria, Egypt, Morocco, Lebanon, Saudi Arabia. NON-MENA: (LAC) Brazil, Ecuador, El Salvador, Guatemala, Honduras, Nicaragua; (AFR) Ethiopia, South Africa, Tanzania, Zambia, (SAS) Bangladesh, India, Pakistan, Sri-Lanka; (EAP) China, Philippines, Thailand.

Kinda et al. also find that in most sectors lower technical efficiency is positively correlated with below-average indicator values for the regulatory and legal environment captured by the Investment Climate (ICA) indicators (quality of infrastructure, experience and education of labor force, and different dimensions of the government-business relationship). Given the poor rankings of most MENA countries in the rankings for trade and

[26] Drawing on interviews with 23 successful exporters across the region, Nassif (2010) concludes that successful export products in the region appear to depend most on information about new business opportunities and risk taking.

[27] In their sample of 22 middle-income countries, 5 are from MENA (Algeria, Egypt, Morocco, Lebanon and Saudia Arabia) and the firms are taken from 8 sectors (textiles, leather, garment, agro-processing, metals and machinery, chemical and pharmaceuticals, wood and furniture, and plastics). The number of firms per industry per country is often small (no more than 1600 in leather) calling for caution in interpreting the results.

regulatory indicators, this result is not surprising. In sum, as concluded by several studies and reports (Nabli (2007), World Bank (2004), World Bank (2009a)), over the last three decades, investment has lagged, manufacturing exports have not diversified and a largely inefficient manufacturing sector has developed.

6.3 Export Diversification and Survival

Is product diversity (in terms of products and/or partners) correlated with superior performance? At the macro level, concentration of activities is associated with volatility,[28] so the natural policy response– which has been part of the package of reforms advocated for MENA countries– is to push for export diversification (export growth at the extensive margin either from existing products to new markets or from new products). But the evidence at the micro level is still inconclusive. Some have pointed out that productivity increases are primarily achieved through inter-industry spillovers and that these are more likely in certain product groups— i.e. in the product-space language, in the 'denser' part of the 'forest' where there are greater opportunities for cross-product linkages.

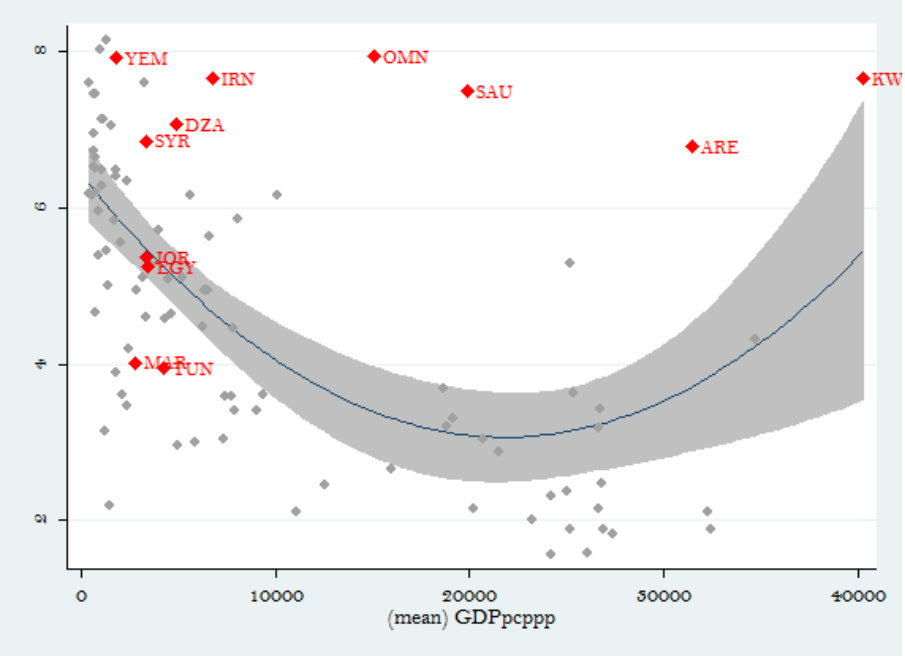
Along these lines, Hausmann, Hwang and Rodrik (2008) find that, after controlling for intervening factors, notably per capita income, countries with a more sophisticated (i.e. more diversified) export bundle, subsequently grow faster. These results have not remained unchallenged. For example, Harrison and Rodriguez-Clare (2009) suggest that the linkages between diversity and productivity have not yet been established and that it may be quality upgrading– which is essential to remain competitive in rapidly evolving markets– rather than product diversity that is key to success. Also, the evidence is mixed about whether productivity increases come through learning from exporting, or if initially at least, it is the highest-productivity firms that self-select into exporting (increases in productivity that might come from first exporting at the regional level).

Figure 6 adapted from Cadot et al. (2011) estimates an index of concentration in relation to income per capita at the HS-6 level for 156 countries over two periods: 1990-95 and 1996-2007 (period averages). Their estimates show that diversification takes place mostly at the extensive margin (new products to old or new partners) rather than at the intensive margin (old products to existing or new partners). As can be seen from figure 7, this decrease in concentration takes place until about 22,000$. The fit is quite tight, and the relationship is stable over the two periods, with a slightly more concave estimated curve for the second period.

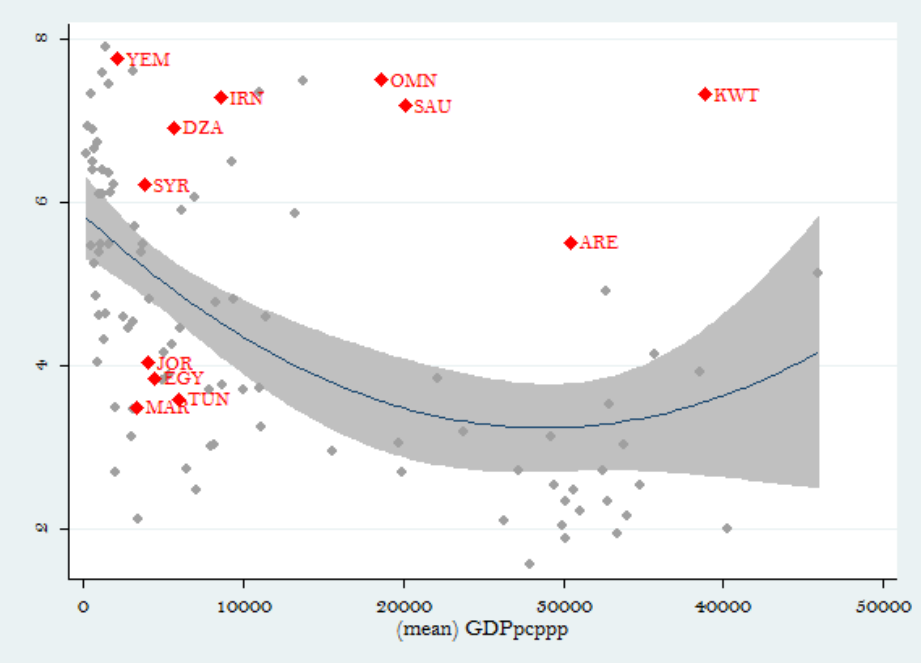
[28] Export concentration is associated with greater volatility of the real exchange rate which in turn is associated with greater volatility in GDP growth (Di Giovanni and Levchenko (2008) and Loyaza et al. (2008)).

Figure 6: Export Diversification and Per Capita Income

(1990-95)



(1996-2007)



Source: Cadot et al. (2011)

Observe that all oil exporters in the R-R and GCC group are way above the estimated line while the R-P countries are either on or below (meaning more diversified) the estimated line. This is undoubtedly related to the small size of their industrial sectors and it once more reveals a specificity for the oil exporters even though the root causes for lack of diversification will vary across countries. But moving to new products is not just a matter of passive factor accumulation: as emphasized by Hausman and Rodrik (2003), it also

requires having the capabilities associated with the new products, capabilities that depend on what you already export. According to the measures developed by Hidalgo and others (2007), these capabilities are limited for exporters of hydrocarbons.

In the case of Algeria, Hausman et al. (2010) show that Algeria's export bundle is very concentrated, even when one excludes oil and minerals. They reject real exchange rate appreciation and volatility as potential explanatory factors. They recognize that high protection and rent-seeking might have played a role as well as a business-unfriendly environment but they argue that (partial) correlation between DB indicators and the product-diversity of the export bundle still shows that Algeria's non-oil export basket is very concentrated once controlling for the value of the DB indicator. Using a measure of the connection of products which shows that the product space has a core-periphery structure, they find that hydrocarbons are poorly connected to the rest of the product space, suggesting that diversification for oil exporters will be inhibited because new activities are far in the product space (see their figure 4.9). Thus the pattern in figure 6 is suggestive that exporters of hydrocarbons have an inherent difficulty in diversifying.

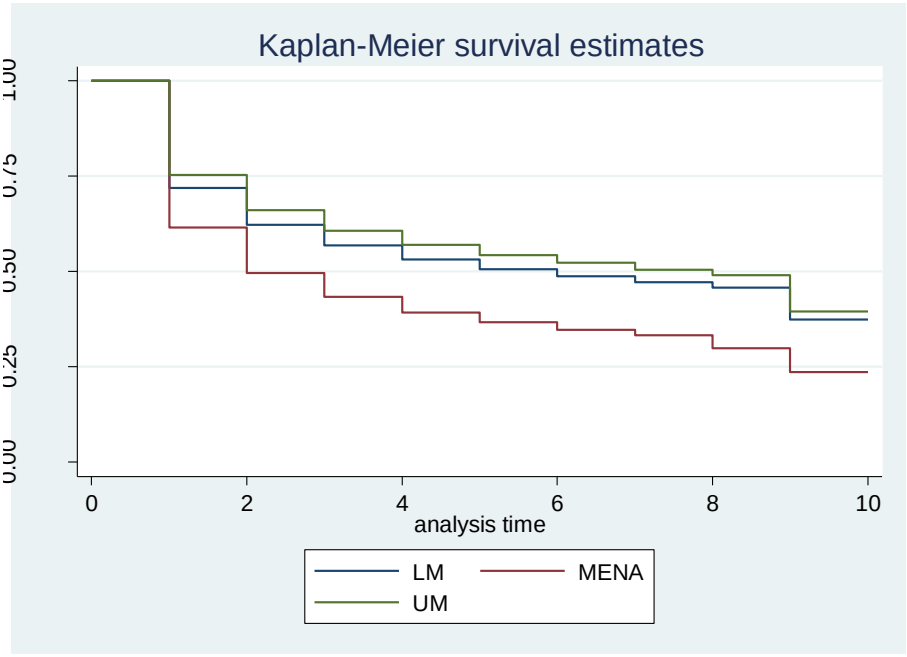
There is however, an intriguing implication behind the quadratic shape of the concentration curve in figure 6. Cadot et al. show that the search for new products (called "discoveries" by some and "export entrepreneurship " by others) which disappears after the turning point, coincides with a change in the export bundle towards resembling more to the comparative advantage of countries (as measured by the distance from their endowments). So, among MENA countries, the oil exporters might be closer to their long-term comparative advantage as high diversification characterizing the middle part of the development process is an out-of-equilibrium stage between two states characterized by specialization according to comparative advantage. But it could also reflect weak links due to the size of their industrial sector as suggested by Olarreaga and Ugarte (2011).

Typically, export spells are of very short duration in low-income countries. The issue then is what accounts (is correlated) with this lack of duration of new products. From a policy point of view, having clues about this is as much if not more than what lies behind the discovery phase. Having shown that 80% of new exports die within a year, Besedes and Prusa (2006) suggest that higher survival rates are essential for achieving faster export growth, a conjecture that finds support in Brenton, Pierola, and Von Euxküll (2009) who show that poorly performing countries are not inferior to stronger countries in introducing new trade flows, but rather that they experience much lower rates of survival. They find that there is a strong positive association between export survival rates and per capita income and also that the probability of death of an export flow diminishes the longer the export flow survives. More recently, Besedes and Prusa (2010) show that differences in survival rates and the deepening of existing relationships are important drivers in accounting for long-run differences in performance

Figure 7 compares the survival rates of exports for the MENA group compared with those for the sample of upper-middle and lower-middle income groups

used earlier in the paper using HS-4 level data to remove the large errors in measurement for low income data in the more disaggregated data.[29] This gives us 1240 product categories over the years 1998-2007[30]. Survival rates increase with income per capita (see Brenton et al. 2011, figure 1). Since MENA countries mostly belong the lower-middle (LM) and upper-middle (UM) groups, we compare survival rates with those of the UM and LM group averages. Survival rates are lower for the MENA group than for both the LM and UM groups (survival rates across the three MENA groups are very similar—see figure A3) so this low survival of exports is MENA 'specificity'.

Figure 7: Kaplan-Meier Survival Rates



[29] Easterly and Reshef (2010) document the extensive errors in the HS-6 level data for low-income countries and also opt for aggregation to the HS-4 level. As customary we use reporter data. As in Brenton et al. we delete left-censored observations (right-censoring is not a problem).

[30] Brenton et al. use a 5-digit SITC product classification which gives 1271 products for 82 exporting countries and 53 importing countries for 20 years (1985 to 2005). We only have data for a ten-year period covering 1998-2007 for HS-4 level (1241 commodities). However the BACI data from CEPII corrects for the reliability trade flow data. This gives us 142 countries from which we exclude countries with less than 0.5 million.

We now use the standard Cox proportional hazard model to estimate the correlates of the hazard rates and estimate:

$$\lambda_i(t) = \lambda_0(t)\exp(z_i(t)'\beta) \tag{1.4}$$

where $\lambda_o(t)$ is the baseline hazard rate, and $z_i(t)$ is a vector of covariates that has a proportional impact on the hazard function. [31]

Table 10: Correlates of Hazard Rates for 4-digit Export Flows

	High and middle income countries		MENA countries	
	$\exp(\beta)$	p-value	$\exp(\beta)$	p-value
Log(Distance)	1.078	0.000	0.984	0.024
Contiguity	1.007	0.170	0.876	0.000
Common language	1.010	0.003	0.884	0.000
Colony	0.931	0.000	1.013	0.605
Log(Total bilateral trade)	0.800	0.000	0.884	0.000
Volatility	1.007	0.000	1.004	0.000
Misalignment	1.028	0.000	1.118	0.000

Note: The dependant variable is the hazard rate of export flows at HS 4-digit level excluding oil and minerals (HS-2 digit: 26 and 27). Coefficients are presented in exponential form so a coefficient of 1.07 (0.93) means that, holding the other covariate values constant, the hazard rate is 7% higher (7 % lower) than the baseline estimate. The total bilateral trade is calculated for the first year of the spell. Volatility is the monthly REER volatility of the exporter with respect to the partner's volatility. Misalignment is the exchange rate between exporter and importer in the year the trade relationship starts relative to the period average (1998-2007).

Results are reported in table 10 for the high and middle-income group of countries in the first two columns and for the 15 MENA countries in the last two columns. For the control comparator group (cols. 1 and 2), greater distance between the partners reduces the duration of the export spell. Surprisingly, this is not so for the MENA group of countries for which distance does not affect the hazard rate. Contiguity and common language are associated with longer duration. Interestingly, misalignment is associated with significantly lower export spells.

It is difficult to come to definite conclusions as there are truncation problems because the time-series data is only over a ten-year period and some of the

[31] The list of covariates is inspired from Brenton et al. but we have taken out those that are consistently insignificant. Estimates with the more general Prentice-Gloecker model often does not converge because of the large sample size.

coefficient values change when the sample group is altered. Nonetheless, since there is evidence that diversification and duration of export flows are associated with superior long run export growth, the evidence suggests that MENA countries are handicapped by short duration of their export flows.

7 Conclusions

MENA's recent performance has shown progress with higher growth rates, less growth volatility, and increased market shares for its exports in spite of the competition from China and India. This catching up is encouraging against the backdrop of a generally disappointing performance over the last fifty years, especially for the resource-rich countries. During this period, performance was better for the resource-poor countries that have tracked quite closely comparator groups (except the high-growing Asian countries), while resource-rich labor abundant countries have lagged. However, with the exception of Oman, MENA countries have failed to climb up the ladder remaining either in the lower-middle or in the upper-middle income group.

The evidence in the paper points towards the combination of macro and micro policies in a generally weak institutional environment have combined to produce this outcome. At the macro level, MENA countries have been unable to maintain a depreciated (under-valued) real exchange rate for long periods, such under-valuation helping to correct the market failures and poor institutional environment that hits hardest the dynamic non-resource-intensive traded sectors. The region, but especially the resource-rich group has displayed greater volatility in macro indicators than comparable groups until the period of the middle 1990s which corresponds to the period when performance started to pick up. For example, for the GCC, but also for the resource-rich group counter-cyclical fiscal policies have been less effective than in other resource-rich countries with comparable external shocks. As a result, the volatility of the real effective exchange rate has been greater than in comparable groups, volatility that is associated with the lack of development of new activities outside the resource sectors and of short-lived export spells.

Cross-country evidence shows that the positive relation between openness and per capita income only holds for countries with good indicator values for regulatory reform. The Doing Business data also shows that countries rich in natural resources are less inclined to carry out reforms than others. In spite of some progress towards reducing tariffs on industry, MENA countries fare poorly for most indicators describing the domestic microeconomic environment giving the impression of an environment in which trade is not facilitated and of an unfinished reform agenda. This is consistent with the poor public-sector governance, discretion, and privilege first noted in World Bank (2004) and more recently in World Bank (2009). Improved domestic regulatory policies along with improved public-sector governance reflected in better indicators values would help achieve greater integration in the world economy.

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ANNEXES to

Resource Dependence, Integration and Diversification in MENA
Jaime de Melo and Cristian Ugarte

Annex 1: Country Grouping Classifications

This annex defines the different grouping classification used in the text. For most comparisons, countries are classified according to the three-grouping classification: (i) Resource-Poor Labor-Abundant (RPLA) countries (Egypt, Jordan, Lebanon, Morocco, Tunisia); (ii) Resource-Rich Labor Abundant (RRLA) countries (Algeria, Iran, Iraq, Libya, Syria, Yemen), and (iii) Resource-Rich Labor Importing (RRLI) countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates).[32] This last group corresponds to the members of the Gulf Cooperation Council (GCC) countries.[33] As there is no ambiguity, we refer to the groups as R-R(6), R-P(5) and GCC(6). To signal missing data leading to a reduced sample, we indicate each time how many countries are included in the group in parenthesis.

This classification in three groups captures only some of the diversity in the region. For example in the GCC grouping, half of the countries have a population of 1 million, two of 3-4 million, and Saudi Arabia has 25 million. To account for the importance of market size and the exploitation of economies we constitute a group of LARGE (48, 6)[34] developing countries with a population over 20 million. Likewise, we build an OIL (18, 10) group that includes all the major oil exporters in the region (i.e. those with oil exports accounting for 80% or more of total merchandise exports). Although they are not included in the OIL group, Morocco, Syria, and Tunisia have natural resources and qualify as 'point-source natural resource' countries in the classification proposed by Pritchett et al. (2005).[35] This classification distinguishes natural-resource-rich countries according to whether these resources are 'diffuse' (e.g. U.S) and do not give rise to rents or are 'point-source' like Morocco (phosphates) that give rise to rents. The resulting group POINT (43, 8) is large and has half of the MENA countries, including Egypt. Finally, for the mobility analysis, we include MENA countries in the WB four group classification: low- (L), lower middle- (LM), upper middle- (UM) and high-income (H) categories in an extended sample that includes also OECD countries (but excludes ex-socialist countries of Europe and Central Asia).

[32] This three-group classification was introduced in World Bank (2004, chp.2)
[33] The GCC was founded in 1981 with security and economic cooperation as main objectives. Regional integration picked up around 2000, with a quasi Common Market Status reached in 2008.
[34] Total number followed by number of MENA countries in parenthesis.
[35] The objective of this classification is to capture the idea that natural riches produce institutional weaknesses (the 'voracity effect' associated with the attempt at rent-capture by different social groups—see Tornell and Lane (1999)). 'Point source' natural resources such as oil, minerals and plantation crops are extracted from a narrow economic base while 'diffuse' natural resources are extracted from a large base. While this voracity effect extends to all sources of rents (natural monopolies, foreign aid, NTBs, financial elites), over the long haul, it makes sense to include a classification of countries along this dimension.

The list of countries in each grouping is given in table A1. It corresponds to the groupings used in table 3 in the text.

Table A1: Comparator Groups

	Countries
Middle East and North Africa[1] (MENA)(17)	Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen.
Resource-rich (R-R) countries (6)	Algeria, Iran, Iraq, Libya, Syria, Yemen
Resource-poor (R-P) countries (5)	Egypt, Jordan, Lebanon, Morocco, Tunisia
GCC (6)	Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates
LARGE Large countries (48, 6)[2]	Afghanistan, Algeria, Argentina, Bangladesh, Brazil, Canada, China, Colombia, Germany, Egypt, Ethiopia, France, India, Indonesia, Iran, Iraq, Italy, Japan, Kenya, Korea, Morocco, Mexico, Myanmar, Malaysia, Nigeria, Nepal, Pakistan, Peru, Philippines, Poland, Dem. Rep. of Congo (Zaire), Dem. Rep. of Korea, Romania, Russia, Spain, Saudi Arabia, South Africa, Sudan, Tanzania, Thailand, Turkey, Uganda, Ukraine, United Kingdom, United States of America, Uzbekistan, Venezuela, Vietnam
OIL Oil exporters (18, 10)[3]	Angola, Algeria, Bahrain, Canada, Iran, Iraq, Kazakhstan, Kuwait, Libya, Mexico, Nigeria, Norway, Russia, Oman, Saudi Arabia, United Arab Emirates, Yemen, Venezuela
POINT Point source natural resources (43,8)[4]	Algeria, Angola, Benin, Bolivia, Botswana, Burkina Faso, Chad, Chile, Congo, Dominican Republic, Ecuador, Egypt, Fiji, Gabon, Guinea, Guyana, Indonesia, Iran, Iraq, Jamaica, Jordan, Liberia, Malawi, Mauritania, Mauritius, Mexico, Morocco, Namibia, Niger, Nigeria, Oman, Papua New Guinea, Paraguay, Peru, Saudi Arabia, Sierra Leone, South Africa, Sudan, Syria, Togo, Trinidad and Tobago, Tunisia, Venezuela, Dem. Rep. of Congo (Zaire), Zambia

Notes:
When comparisons are made with countries in the LARGE, OIL and POINT groups, MENA members belonging to the group are excluded.

[1]Middle East and North Africa definition is based in the WB definition of MENA region. Number of MENA countries in the group indicated
[2]Large countries are those with population of at least 20 millions in 2000. It excludes OECD countries except for Korea, Mexico and Turkey.
[3] Oil exporters are the 15 major oil crude exporters listed by US Energy Information Administration (2005) to which we added Bahrain (80%) Oman (90%) and Yemen (93%) (share of oil in merchandise exports in parenthesis).
[4] Classification taken from Pritchett, L. et al. (2005)

Annex 2. Trade, Structural Change and Natural Resources

This annex examines patterns of structural change from traditional sectors towards high-productivity sectors, i.e. out of agriculture and the informal sector into the other sectors of the economy where the production of most high-productivity tradables takes place. For MENA countries, the low productivity sectors would include not only agriculture, but most rent-generating sectors in oil and minerals, many public sector services, and some non-tradable services.[36]

If development entails a resource shift towards manufactures and services, then there should be a positive correlation between the shares of manufacturing and services in GDP and per capita income. Likewise, if exports from these sectors reflect high productivity and the exploitation of spillovers, one would expect a positive correlation between the shares of exports of manufactures and per capita income. By the same token, one would also expect a positive correlation between the export shares of services and per capita income. Controlling for factors associated with exports, does this positive association hold and is there a MENA specificity?

Patterns of growth and structural change are examined by fitting trade and production shares against per capita GDP, y_{it}, and control variables, z_{it} (e.g. population, the share of rents in GDP, an index of trade costs, conflicts, and/or time and country fixed).[37] Endogeneity issues are ignored as the objective is only to see if MENA countries or groupings are 'different' from average development patterns. The typical estimated equation is:

$$\theta_{it} = \alpha + \beta y_{it} + \gamma z_{it} + \varepsilon_{it} \quad ; \quad i = 1, \cdots n, t = 1, \cdots T \tag{1.5}$$

We expect that the shares will be positively correlated with per capita GDP. Dummy variables for MENA countries are included to detect regional specificity (i.e. the effect of omitted variables). Data availability for the control variables determines the sample size. We start with trade shares, and then move on to predictions of Manufacturing and Services shares in GDP.

The first exploration takes a large sample of countries to try and identify the correlates of the trade share in GDP, taking first the overall trade share, then the share of manufacturing exports (excluding oil and minerals) in GDP as the

[36] Oil is not necessarily a low-productivity sector with no positive externalities. Much of the successful experience of Norway that moved from laggard to leader among the Nordic countries has been ascribed to the positive externalities from the high-technology oil sector (Larsen, 2004, p.17 cited in Lederman and Maloney (2008)). An example of low-productivity Services are the 800,000 chauffeurs earning around 350$ a month that are needed to drive around Saudi women who are not allowed to drive.

[37] Work on patterns of growth and structural change over the long haul was initiated by Chenery and colleagues (Chenery and Syrquin (1975) and Chenery, Robinson and Syrquin (1986)). That work established several stylized patterns: (i) strong Engel effects in consumption associated with a diminishing share of agriculture in GDP at the expense of manufactures and Services as a country develops; (ii) large countries trade less; (iii) A deepening of inter-industry linkages as per capita income increases.

regressand. To ease comparisons, the same set of regressors is used with a dummy variable for MENA added to the list of regressors, starting in each case with per capita income (col. 1) and adding one regressor at a time. For the correlates of the overall trade share (only reported in figure A1), per capita income always enters positively. Except for population which is always negatively related to the trade share, adding regressors only improves marginally the overall fit even though the share of rents in GDP, the average rate of protection, and the number of conflicts have the expected signs.[38] Noticeably, the LPI index (a higher value of the index means better physical infrastructure) is not significant, though this is because it is significantly positively correlated with per capita income. When taken jointly, the control variables (in addition to per capita income and population) are statistically significant. In conclusion, the MENA dummy variable is never significant, so there is no MENA specificity in the overall openness of the countries in the region, and to borrow from World Bank (2004, figure 2.3), contrary to what was said in that report regarding the trade share in GDP, one cannot say that MENA 'failed to ride the wave'.

This is confirmed in the partial scatter plot of the trade share against per capita GDP in figure 1a after having netted out the other control variables, where except for conflict-stricken Lebanon, all MENA countries are bunched around the predicted line.

However, when the same set of regressors is applied to the share of manufacturing trade (excluding oil and minerals) in GDP, a MENA specificity appears (see table A2). The sample is smaller, the fit less good and less stable, and there are obvious endogeneity problems with two-way causality between protection and trade, and between the infrastructure index and trade. The significance of per capita income disappears when the average rate of protection for manufactures is introduced in column 3 because of the significant negative correlation between protection of industry and per capita income in the sample. However, the significance of the MENA dummy remains for all specifications.

The partial scatter plot in figure 1b suggests that the specificity is related to the distinction between the R-R and R-P groups. Most R-R members, except for Bahrain and UAE (ARE) which are above the line, fall on or below the predicted relation while all the R-P countries are close to or above the regression line. Particularly significant is Algeria's low non-oil trade share. Hausman, Klinger and Lopez-Calix (2010) argue that Algeria's lagging manufacturing sector is mainly due to the lack of connection of hydrocarbons with other sectors (See discussion in section 6.3)

[38] The data on rents are for a sample of 174 countries from the World Bank database on adjusted net savings (see details on Bolt, Malete and Clemens, 2002). They include rents from 15 natural resources which are calculated as the difference between the market value of extracted materials and the average extraction cost and they are expressed as a share of GDP. As discussed in section 2, rents are an outcome variable, and hence not a good proxy for resource abundance.

Figure A1: Predicted Trade shares in GDP
(partial plot)

Fig. A1a: Total Trade

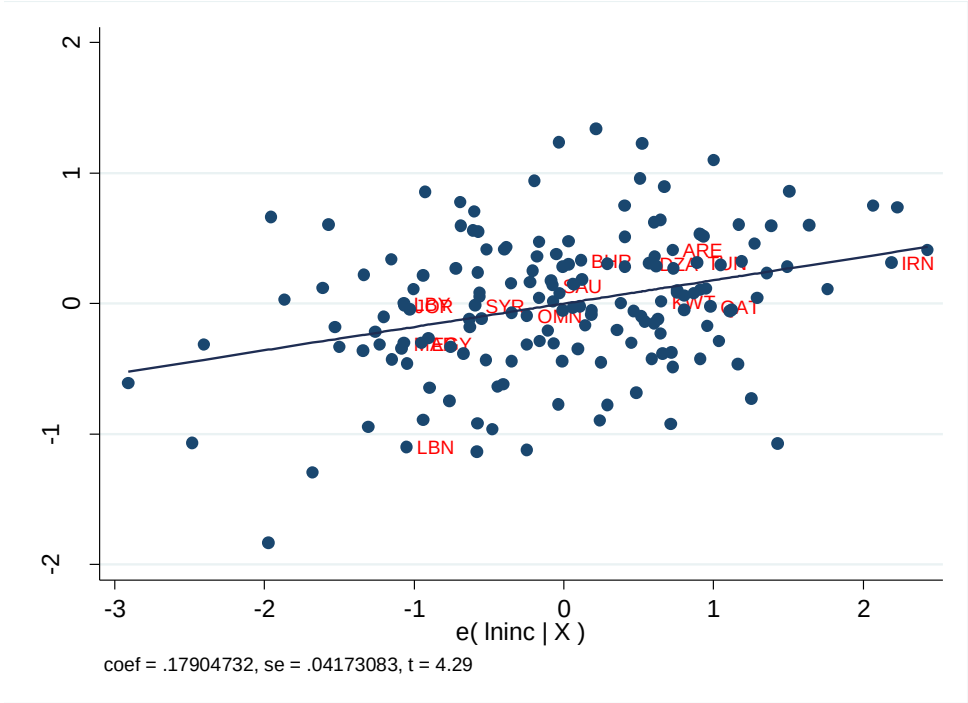
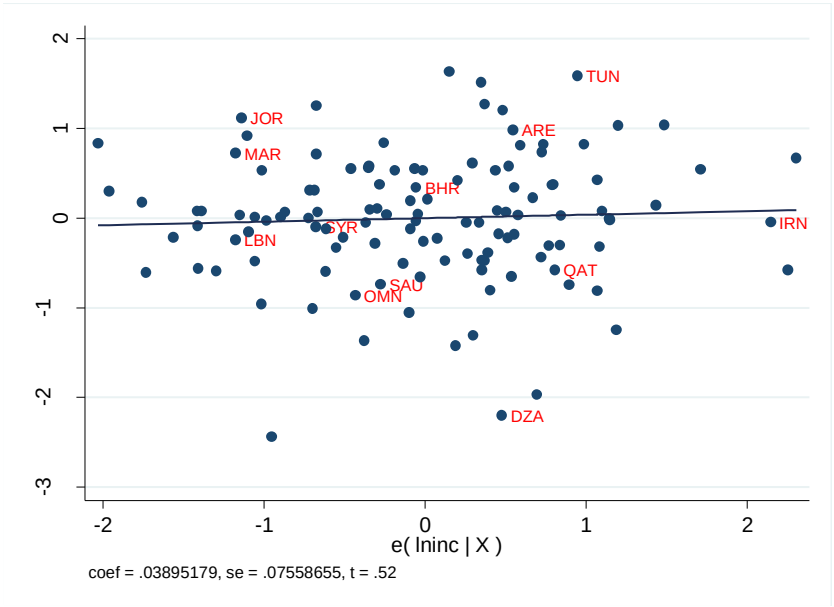


Figure A1b: Non-oil Trade



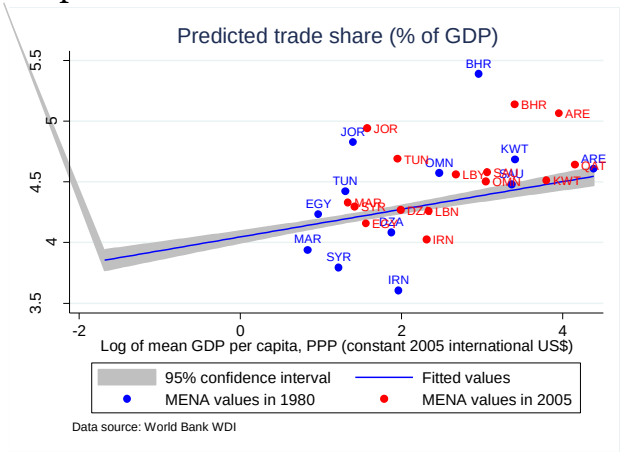
Notes: Partial plot of the share of total and non-oil exports in GDP (in logs) and GDP per capita at constant prices (in logs). Estimation is run on a cross-section of countries in 2005. For other control variables and its estimates, refer to column 6 in table A2.

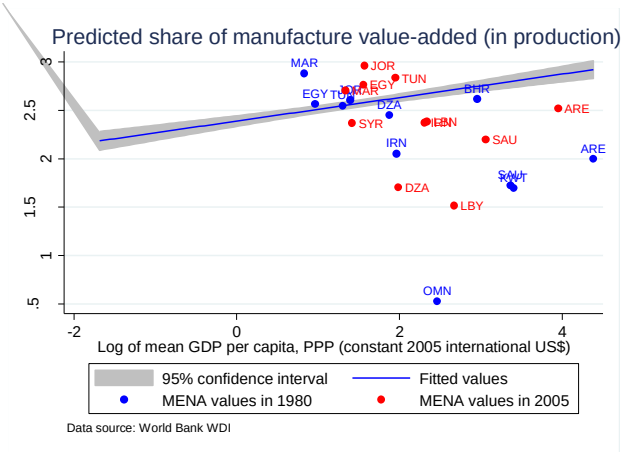
Table A2: Correlates of Trade Shares in GDP
(Non-oil Exports)

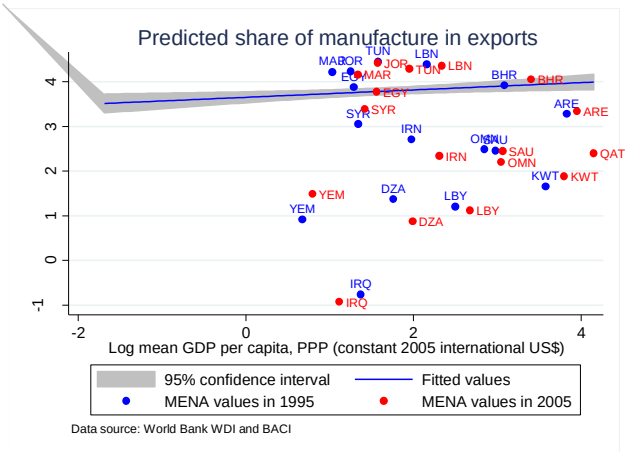
Ln(Non-oil Exp. as % of GDP)	(1) Income	(2) L-lock	(3) Pop.	(4) Protect.	(5) Rents	(6) Conflict	(7) LPI
Ln(GDPpc)	0.16***	0.18***	0.18***	0.05	0.05	0.04	-0.25**
	[0.05]	[0.06]	[0.06]	[0.07]	[0.08]	[0.08]	[0.10]
Landlocked		0.15	0.16	0.06	0.04	0.03	-0.02
		[0.19]	[0.19]	[0.18]	[0.18]	[0.18]	[0.18]
Ln(Population)			0.01	-0.02	-0.02	0.01	-0.12**
			[0.04]	[0.04]	[0.04]	[0.05]	[0.06]
Average tariff				-0.03*	-0.03	-0.03	-0.02
				[0.02]	[0.02]	[0.02]	[0.02]
Ln(Rents)					-0.01	-0.01	0.00
					[0.01]	[0.01]	[0.01]
Nr. of conflicts						-0.01*	-0.01
						[0.01]	[0.01]
LPI index							0.79***
							[0.20]
MENA	-0.86***	-0.83***	-0.83***	-0.72***	-0.70***	-0.69***	-0.56**
	[0.24]	[0.24]	[0.24]	[0.24]	[0.25]	[0.25]	[0.25]
Constant	2.60***	2.54***	2.51***	3.13***	3.06***	3.05***	1.65***
	[0.13]	[0.15]	[0.18]	[0.29]	[0.29]	[0.29]	[0.48]
Observations	124	124	124	122	121	121	113
R-squared	0.142	0.147	0.147	0.167	0.175	0.195	0.304

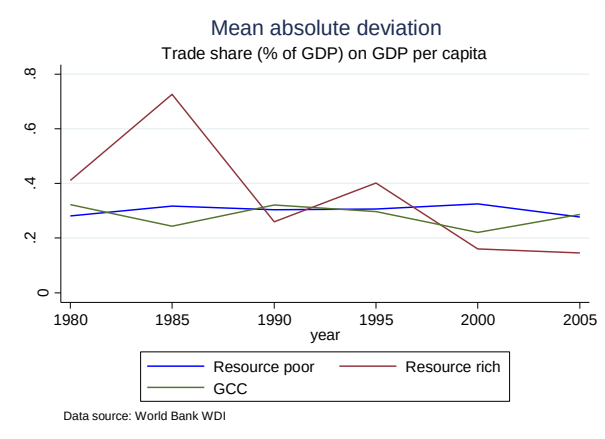
Note: The results are estimated in cross-section regressions for year 2005. Average tariff is a simple average of applied MFN tariffs on manufactures. Rents is the share of total rents in GDP (2004). Total number of conflicts by country is calculated over the period 1980-2005. Conflicts are counted yearly. LPI is the Logistics Performance Index (LPI). Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

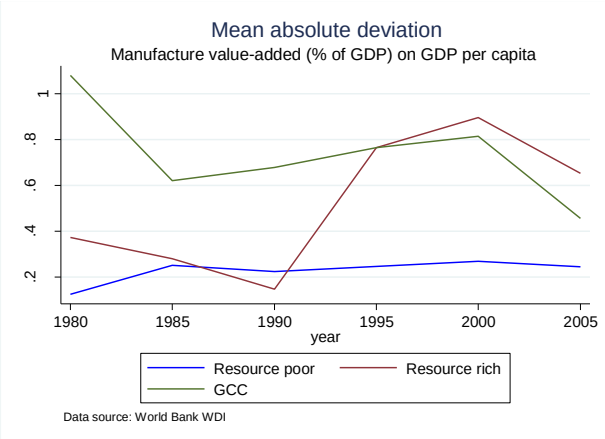
Figure A2: Actual vs. Predicted Shares of Manufactures and Manufacture Exports in MENA[1]

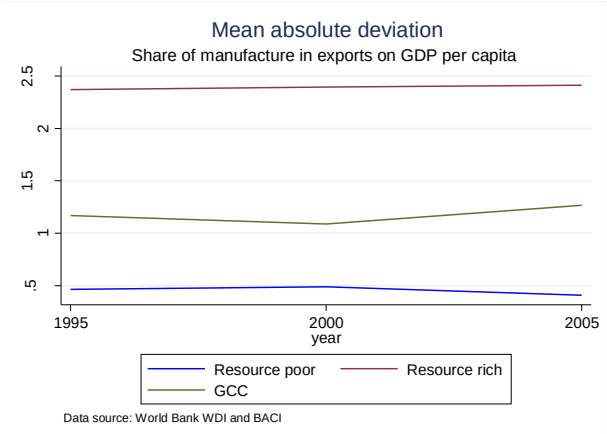












[1] Sources: WDI and BACI International Trade Database at the Product Level. Trade flows cover the period 1998-2007.
Notes: Authors' calculations of the share of manufacture on total exports. Manufacture exports is equal to total exports minus exports in HS 2-digit codes 01-28. The observed value of each variable in *t* is the average of the variable over the period (*t, t+4*). Fitted OLS line of variable on Y- axis against log mean per capita income on X-axis.

The significance of the MENA dummy also holds when it is applied to each group one at a time. In conclusion, the three groups display different non-oil export patterns that are still in need of further exploration.

A.2.1 A lagging Manufacturing sector for the Resource-Rich Group

Next we look for a MENA specificity in the share of manufactures and services in GDP over the period. This gives a slightly different perspective and is more directly addressed to the de-industrialization effect associated with the Dutch-disease while at the same time changes in production are also a close indicator of changes in exports.[39] Evolution of these shares is also a measure of the speed of structural change.

The regressions in table A3 are for a panel of 167 countries over the period 1980-2004. The top left panel reports the correlates for Manufacturing shares and the right panel for Services shares. Both have country fixed-effects that absorb time-invariant factors specific to individual countries and time fixed-effects for common changes in the external environment. The bottom part of the table are the same regressions for the MENA region as a whole and for the MENA sub-groups over the same periods, but without time fixed-effects to preserve degrees of freedom.

Focusing on manufactures and services has its roots in the dual-economy vision of development. This view, largely accepted, calls for the movement of resources out of 'traditional' relatively low-productivity activities to 'modern' high-productivity activities where externalities help establish a virtuous circle of growth. The modern high productivity goods are in manufacturing and more recently in the traded components of the Services sectors (banking, transport, telecommunications, professional services). As put by Rodrik (2009, p.4), "poor countries get rich by producing what rich countries produce". We comment first the results for manufacturing then for services.

Results for manufacturing for the whole sample are on the top left-side of the table. As expected, per capita income is significant, but so is the share of rents in GDP which enters negatively as would be expected from the resource-curse literature. The negative coefficient on rents holds in the bottom part of the table where the sample is restricted to MENA countries. Since per capita income is only significant for the R-P group, these results suggest resource-curse effects delaying the development of manufacturing in the R-R and GCC group.

[39] Freund and Pierola (2011) report a correlation of 0.95 between production and exports in log levels for sample of 113 countries over the period 1999-2008. In growth rates, the correlation is still 0.57.

Table A3: Correlates of the Share of Manufactures and Services in GDP
Panel Regressions

	Share of manufacture (% GDP)			Share of services (% GDP)		
	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	All	All	All	All
Ln(GDPpc)	1.82***	1.69***	1.69***	0.78	0.74	0.74
	[0.39]	[0.38]	[0.38]	[0.77]	[0.78]	[0.78]
Ln(Rents)		-0.08*	-0.08*		-0.02	-0.02
		[0.05]	[0.05]		[0.06]	[0.06]
MENA Dummy			-14.15***			-19.15***
			[1.45]			[2.00]
Constant	16.19***	16.21***	16.21***	28.34***	28.34***	28.34***
	[0.78]	[0.78]	[0.78]	[0.90]	[0.90]	[0.90]
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	3232	3232	3232	3648	3648	3648
R-squared	0.838	0.839	0.839	0.828	0.828	0.828

Notes: GDP capita in thousands $US at constant prices (2005). Rents is the share of total rents in GDP in percentage points. The sample is an unbalanced panel of 167 countries for the period 1980-2004. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	MENA	R-P	R-R	GCC	MENA	R-P	R-R	GCC
Ln(GDPpc)	-1.02	6.07***	-3.34	-2.22	-8.44***	3.71**	-12.45***	0.64
	[1.28]	[1.31]	[4.14]	[1.40]	[3.24]	[1.72]	[2.67]	[2.62]
Ln(Rents)	-0.33*	-0.14	-0.40	-3.67***	-0.82*	-0.04	-4.22***	-21.18***
	[0.18]	[0.08]	[1.17]	[0.86]	[0.42]	[0.08]	[0.77]	[1.84]
Constant	15.17***	9.63***	12.77***	31.30***	76.26***	43.04***	74.96***	109.85***
	[5.10]	[1.67]	[3.44]	[5.31]	[12.77]	[2.21]	[6.18]	[8.58]
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	No	No	No	No	No	No	No
Obs.	304	111	83	110	312	111	91	110
R-squared	0.763	0.539	0.511	0.729	0.762	0.872	0.932	0.726

Notes: GDP capita in thousands $us at constant prices (2005). Rents is the share of total rents in GDP in percentage points. The sample is an unbalanced panel of 16 countries for the period 1980-2004. Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Returning to the entire sample, there is also a strong MENA specificity after controlling for country and time fixed-effects. Time-varying omitted country effects must then have been important in the development of manufactures. Many omitted factors, specific to countries could account for the significance of this dummy variable including different macroeconomic cycles, policy changes, country-specific external shocks, or measurement errors.

Figure A2 takes the longest period of data available for trade and manufacturing shares in GDP for MENA countries and compares the trade and manufacturing shares with those predicted from a regression of the share

on per capita GDP (PPP). It complements the cross-section results in figure A1.

Two patterns stand out. From figure A2a, one sees that, on average, MENA countries do not under-trade on an aggregate basis, but that the spread around the predicted relation is large. Consistently, for all estimated relations, the R-P group is closer to the predicted line. The first part of Figures A2 shows that the share of manufacturing in GDP and the share of manufacturing exports in GDP are under the regression line, mostly for the R-R and GCC groups. Countries in the R-P group are either on or above the 95% confidence interval.

The bottom part of figure A2 shows the evolution of the absolute deviation of country shares from the predicted relation over the four time-periods. Across all shares, the R-P is closest to the norm and is relatively stable. The R-R group gets closer to the predicted line for the overall trade share, but distances itself for the value-added share of manufacturing in GDP and especially for the share of manufactured exports. On the other hand, the GCC are either closer or getting closer to the predicted line for both the predicted share of manufacturing in value-added or of the predicted share of manufactured exports.

A2.2. A lagging Services Sector in the Resource Rich countries.

Services and services trade have taken a growing role as a source of growth around the world, even though this is not evidence that the services sector is an engine of growth. However, the dramatic changes in the 3T's– technology, transportability and tradability— of many services activities has contributed to the growing share of the services sectors in GDP growth (50% of South Asia's GDP's growth between 1980-5 and 2000-7). Reis and Farole (2010) suggest that this may be the case and it is accepted that the fragmentation of production across the world has only been possible because of the provision of services.[40]

However, it remains that services sector is very heterogeneous mingling very high and very low productivity activities, making it difficult to capture with a single measure. Overall, one would therefore expect a growing share of services in GDP as per capita income increases capturing, among others, Engel effects in consumption and the development of human-capital intensive Professional services. In cross-section data, this should be reflected in a positive correlation between the share of services in GDP and per capita income (Hoekman and Mattoo, 2008). This is not the case for this sample and time period as the income per capita coefficient has a positive, but statistically insignificant sign (right hand side of table 4) although the expected positive pattern between per capita income and the service share holds for the R-P

[40] Francois and Hoekman (2010) highlight some key characteristics of the services sector: "… services facilitate transactions through space (transport, telecommunications) or time (financial services)" and "… services are frequently direct inputs into economic activities, and thus determinants of the productivity of the 'fundamental' factors of production – labor and capital – that generate knowledge, goods and other services. Education, R&D and health services are examples of inputs into the production of human capital."

group in the bottom of the table. Rents are also negatively associated with the share of services in GDP in the R-R and GCC group in the right-hand bottom part of the table, a pattern again coherent with resource-curse effects.

Overall, there is a distinctive pattern across the three groupings: as a region, MENA' openness to trade is close to predicted norms but, as expected, the share of non-oil manufactures in trade is below predicted patterns, and there is a MENA specificity in non-oil trade across all three groups . There is also evidence of a lagging manufacturing and services sector for the R-P group consistent with resource-curse effects.

Annex 3: Supplemental Tables

Table A4: Time to Export

	Documents	Customs & Ports	Inland transit
Middle East & North Africa (12)	10.3	6.1	3.6
East Asia & Pacific (23)	12.0	8.5	3.9
Europe and Central Asia (25)	13.8	7.6	9.6
Latin America & Caribbean (30)	11.2	7.3	3.9
South Asia (8)	16.3	8.6	7.6
Sub-Saharan Africa (45)	18.7	9.4	7.2
OECD (24)	5.0	3.1	2.0

Source: Freund and Rocha (2011), table 3.
Notes: Number of countries in each region in parenthesis. Average number of days to complete each one of the three procedures in the region

Table A5: Share of rents from Natural Resources in GDP

Region	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**
RPLA	13%	5%	2%	1%	2%
RRLA	19%	16%	23%	22%	32%
RRLI	55%	35%	34%	30%	41%
East Asia & Pacific	4%	4%	3%	3%	4%
Europe & Central Asia	3%	1%	1%	3%	3%
Latin America & Caribbean	7%	4%	3%	3%	4%
Middle East & North Africa	0.11%	0.05%	0.01%	0.01%	0.01%
North America	6%	3%	2%	2%	3%
South Asia	5%	3%	3%	2%	3%
Sub-Saharan Africa	6%	4%	4%	4%	6%

Source: Author's computation from World Bank database on adjusted net savings.
Notes: RPLA = Resource Poor Labor Abundant, RRLA = Resource Rich Labor Abundant, RRLI = Resource Rich Labor Importing (GCC).

Table A6: Decadal conflicts by region

	1980-1989	1990-1999	2000-2005
Europe (12)	14	42	9
MENA (12)	78	70	25
Asia (20)	156	178	94
Africa (32)	110	144	66
Americas (15)	55	35	12

Source: PRIO data base. The number of countries having a conflict per region in parenthesis. Cross-border conflicts are counted twice (one time for every country involved in the conflict). Conflicts are counted yearly.

Table A7: Time to Export Estimates (excludes re-exports)

Dep. Variable:	Ln(Aggregate exports)			Ln(Aggregate non-oil exports)		
	(1)	(2)	(3)	(4)	(5)	(6)
	All	All	MENA	All	All	MENA
Ln(GDP)	1.26***	1.25***	0.41***	1.23***	1.21***	0.24***
	[0.01]	[0.01]	[0.05]	[0.01]	[0.01]	[0.05]
Ln(Population)	0.01	0.01	0.39***	0.04***	0.04***	0.24***
	[0.01]	[0.01]	[0.03]	[0.01]	[0.01]	[0.03]
Ln(Distance)	-1.61***	-1.63***	-2.15***	-1.55***	-1.58***	-2.06***
	[0.02]	[0.02]	[0.09]	[0.02]	[0.02]	[0.09]
Time to export	-0.02***	-0.02***	-0.06***	-0.03***	-0.03***	-0.07***
	[0.00]	[0.00]	[0.01]	[0.00]	[0.00]	[0.01]
MENA Dummy		-0.87***			-1.07***	
		[0.04]			[0.04]	
Contiguity	0.99***	0.94***	-0.55**	1.00***	0.93***	-0.50*
	[0.07]	[0.07]	[0.28]	[0.07]	[0.07]	[0.27]
Common lang.	0.65***	0.70***	1.26***	0.67***	0.73***	1.20***
	[0.03]	[0.03]	[0.18]	[0.03]	[0.03]	[0.17]
Colony	0.85***	0.78***	-0.36	0.91***	0.82***	-0.01
	[0.08]	[0.08]	[0.46]	[0.08]	[0.08]	[0.44]
Landlocked	0.11***	-0.03		0.21***	0.04	
	[0.03]	[0.03]		[0.03]	[0.03]	
Remoteness	7,107.56***	6,392.65***	9,566.50***	6,986.89***	6,115.01***	6,981.87***
	[268.91]	[269.07]	[2,173.23]	[267.90]	[267.22]	[2,125.85]
Constant	7.24***	7.73***	20.48***	7.05***	7.64***	21.88***
	[0.16]	[0.16]	[0.93]	[0.16]	[0.16]	[0.91]
Partner FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	52129	52129	4599	51791	51791	4545
R-squared	0.677	0.680	0.614	0.673	0.679	0.584

Notes: Aggregate non-oil exports are equal to total exports minus exports in HS 2-digit sectors 26 and 27. Exports do not include re-exports. Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A8: Correlates of Trade Shares in GDP

Ln(exp as % of GDP)	(1) Income	(2) L-lock	(3) Pop.	(4) Protect.	(5) Rents	(6) Conflict	(7) LPI
Ln(GDPpc)	0.19***	0.20***	0.18***	0.18***	0.18***	0.18***	0.15**
	[0.03]	[0.03]	[0.03]	[0.04]	[0.04]	[0.04]	[0.06]
Landlocked		0.09	0.08	0.09	0.11	0.10	0.05
		[0.10]	[0.10]	[0.10]	[0.10]	[0.10]	[0.11]
Ln(Population)			-0.08***	-0.09***	-0.09***	-0.08***	-0.11***
			[0.02]	[0.02]	[0.02]	[0.03]	[0.04]
Average tariff				-0.01	-0.00	-0.00	-0.00
				[0.01]	[0.01]	[0.01]	[0.01]
Ln(Rents)					-0.00	-0.00	-0.01
					[0.01]	[0.01]	[0.01]
Nr. of conflicts						-0.00	-0.00
						[0.00]	[0.00]
LPI index							0.05
							[0.13]
MENA	0.13	0.15	0.18	0.19	0.21	0.21	0.21
	[0.15]	[0.15]	[0.14]	[0.14]	[0.15]	[0.15]	[0.16]
Constant	3.30***	3.27***	3.46***	3.52***	3.49***	3.49***	3.49***
	[0.07]	[0.08]	[0.09]	[0.15]	[0.15]	[0.16]	[0.31]
Observations	173	173	173	170	165	165	141
R-squared	0.208	0.211	0.283	0.294	0.299	0.300	0.312

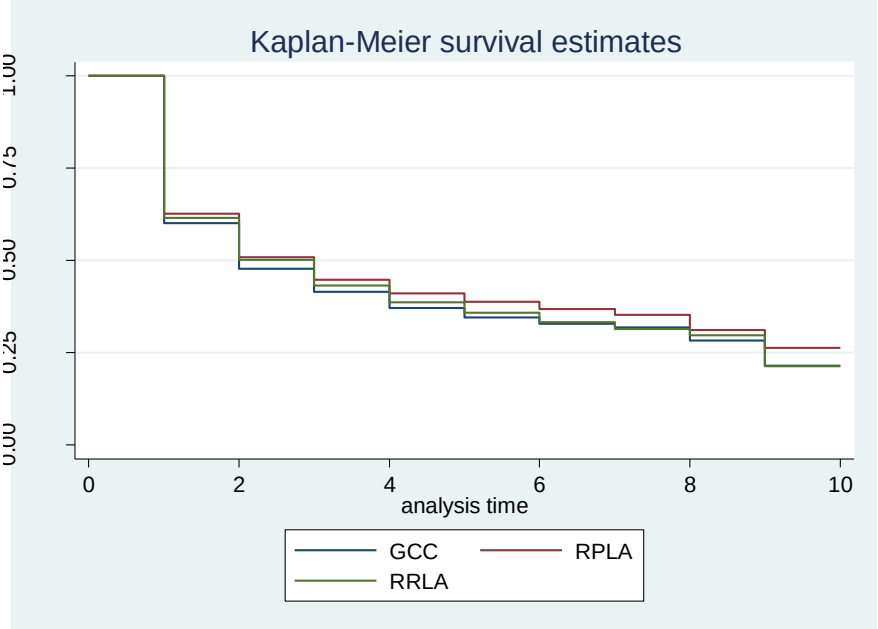
Note: The results are estimated in cross-section regressions for year 2005. Average tariff is a simple average of applied tariffs to the world by country. Rents is the share of total rents in GDP (2004). Total number of conflicts by country is calculated over the period 1980-2005. Conflicts are counted yearly. Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Table A9: Effects of Time-to-export Components

Ln(Aggregate non-oil exports)	(1) All	(2) All	(3) All	(4) All	(5) MENA	(6) MENA	(7) MENA	(8) MENA
Ln(GDP)	1.29***	1.32***	1.36***	1.25***	0.80***	0.64***	0.98***	0.53***
	[0.01]	[0.01]	[0.01]	[0.01]	[0.04]	[0.04]	[0.04]	[0.05]
Ln(Pop.)	-0.05***	-0.08***	-0.12***	-0.01	-0.19***	-0.05*	-0.21***	-0.05
	[0.01]	[0.01]	[0.01]	[0.01]	[0.03]	[0.03]	[0.03]	[0.03]
Ln(Distance)	-1.53***	-1.52***	-1.51***	-1.54***	-1.95***	-1.90***	-1.95***	-1.93***
	[0.02]	[0.02]	[0.02]	[0.02]	[0.09]	[0.08]	[0.09]	[0.08]
Documents	-0.04***			-0.04***	-0.03***			-0.05***
	[0.00]			[0.00]	[0.01]			[0.01]
Customs & ports		-0.07***		-0.05***		-0.21***		-0.21***
		[0.00]		[0.00]		[0.02]		[0.02]
Transit time			-0.03***	-0.01***			-0.12***	-0.11***
			[0.00]	[0.00]			[0.02]	[0.02]
Contiguity	1.05***	1.00***	1.03***	1.03***	-0.34	-0.31	-0.38	-0.34
	[0.07]	[0.07]	[0.07]	[0.07]	[0.26]	[0.26]	[0.26]	[0.26]
Partner FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	51133	51133	51133	51133	4808	4808	4808	4808
R-squared	0.677	0.676	0.674	0.679	0.596	0.609	0.598	0.614

Notes: Aggregate non-oil exports are equal to total exports minus exports in HS 2-digit sectors 26 (oil) and 27 (ores and minerals). All exports are gross exports. Regressions are run on countries for which the disaggregation of export times is possible. Other control variables included in the regression are common language, colony, landlocked and remoteness. The estimates for unreported control variables are always statistically significant with the expected sign. Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.

Figure A3: Kaplan-Meier Survival estimates by MENA groups



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