Fire in Cairo: Authoritarian-redistributive social contracts, structural change and the Arab spring

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Fire in Cairo: Contrat social autoritaire-redistributif, changement structurel et le « printemps arabe »

Résumé

Dans cet article, nous soutenons que le printemps arabe peut être compris comme une attaque contre le contrat social de l'après-indépendance qui a prévalu dans la plupart des pays du Moyen Orient et d'Afrique du Nord. Nous montrons que ce contrat social, caractérisé par la combinaison de niveaux élevés de redistribution et de faible responsabilisation politique et inclusion sociale peut expliquer (1) la lenteur de changement structurel par rapport au reste du monde et (2) l'économie politique spécifique qui ont déclenché le mécontentement social parmi les jeunes et les larges cohortes de travailleurs instruits, et finalement jeté les populations dans les rues. Plus précisément, il est démontré que l'autoritarisme réduit l'effet positif de la redistribution sur le changement structurel, cet effet étant plus fort encore lorsque l'endogénéité probable du contrat social à la structure économique est contrôlée. Nous décrivons également l'économie politique spécifique qui en empêchant la réforme du contrat social a favorisé la stabilité de l'équilibre de faible diversification / faible démocratie présenté par la plupart des économies des pays arabes.

Mots-clés : Contrat social, redistribution, régimes autoritaires, changement structurel, export diversification des exportations, sophistication des exportations, économie politique des réformes, Afrique du nord et Moyen-Orient, inégalités d'opportunités

Fire in Cairo: Authoritarian-redistributive social contracts, structural change and the Arab spring

Abstract

In this paper, we argue that the Arab spring can be understood as a violent criticism of and attack against the post-Independence social contract that prevailed in most Middle East and North African countries. We show that this social contract, characterized by the combination of high levels of redistribution and low political accountability and social inclusiveness may well explain (1) the slow pace of structural change relative to the rest of the world and (2) the specific political economy that have triggered social discontent among the young, and broad cohorts of educated workers, and eventually thrown populations onto the streets. More specifically, it is shown that authoritarianism reduces the positive effect of redistribution on structural change, with this adverse effect being even larger when the likely endogeneity of the social contract to the export structure is controlled for. We also describe the specific political economy that was conducive to the low democracy-low diversification equilibrium featured by most Arab economies.

Keywords: Social contract, redistribution, authoritarianism, structural change, export diversification, export sophistication, political economy, Middle East and North Africa, inequality of opportunities

JEL: I38, O14, O43, P16, P48

1. INTRODUCTION

Over recent years, the Middle East and North African (MENA) region has experienced an unprecedented wave of revolutionary protest and civil violence. Although social discontent has taken a variety of forms and occurred to a variety of degrees across the MENA countries[1], this paper argues that it may well have been motivated by a common feature, *i.e.* the lack of structural change experienced by most economies of the region during the second part of the 20th century (Diop et al., 2013). To explain why economic transformation did slow down after the 1960s, a variety of Cultural (Kuran, 2004; Pryor, 2007), geographical (Noland and Pack, 2007) and political (Weiffen, 2008; Platteau, 2012), institutional (World Bank, 2003, 2009; Noland and Pack, 2007; Aysan et al., 2007) distant causes have been put forward. Even though these analyses all point to crucial obstacles to long-term growth and structural transformation, they do not really explain why, after fifty years of calm, most of the MENA politico-economic equilibria were finally so abruptly rejected.

The present paper proposes and tests the assumption that the failure of MENA countries to sustain structural transformation, as well as to reform their political economy in a timely way, may well be explained by a single cause: their authoritarian-redistributive social contract. More specifically, we argue that in most MENA countries, the post-Independence social contract, generally described as a highly resistant mix of restricted political freedom and redistributive and interventionist state policies (Brumberg, 1990, 2003; Vitalis and Heydemann, 2000; Vanderwalle, 2003; Yousef, 2004), (1) had detrimental effects on structural change, thereby breeding social frustration and (2) has produced a political economy hostile to the institutional reforms that could have shifted the region's economies towards a more dynamic trend of growth and modernization.

In line with Benabou (2000), we define the social contract as the equilibrium level of inequality-redistribution that is chosen by a given society, with this equilibrium being embodied into the country-specific mix of allocative and redistributive policies operating through taxes, transfers and provision of public goods[2]. In the setting of middle income developing countries, inequality and redistribution not only concern income, but also socioeconomic opportunities like productive jobs or political participation[3]. The redistribution component of the social contract may therefore work as a key conditioning factor of the distribution of individual opportunities of access to modern jobs and positions via various channels.

By sustaining and stabilizing household income, redistribution may accelerate consumption shifts towards new sectors, therefore stimulating output diversification (Matsuyama, 2002). Under credit constraints and unequal access to human capital, redistribution may also spur structural change by lifting the financial constraint on the poorest section of the population in terms of investing in capital and education (Banerjee and Newman, 1993; Galor and Zeira, 1993; Aghion and Bolton, 1997; Bénabou, 2004).

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[1] The "Arab spring" has taken a variety of forms in the different countries that were shaken by it. Although incumbent rulers were violently overthrown in Egypt, Libya, and Tunisia, the Kingdoms of Jordan and Morocco witnessed more peaceful political demands for political liberalization (Zafar, 2013). Civil conflict also erupted in Syria, Bahrain and Yemen, with, however, very different impacts on medium-term socioeconomic stability.

[2] A broader definition of the social contract would include state market regulations, like price controls or licensing, designed to protect domestic consumers or producers. Even though over-regulation of the market is undeniably a central feature of MENA economies, it is only marginally introduced into our analysis, as a determinant of the output structure, but not as a key feature of the social contract.

[3] For a recent account of the central position of inequalities of opportunity in economic development see Roemer (2014) and Peragine et al. (2014).

Excessively redistributive inter-household transfers might nevertheless reduce disposable savings on high incomes or capital revenues and ensuing investment for structural change (Alesina and Rodrik, 1994; Persson and Tabellini, 1994). Although structural change may also be impacted by subsidies to producers, the theoretical effect is, however, highly conditional on a set of factors. Under favorable conditions relating to industry's learning potential and the degree of substitutability between domestic and foreign goods, subsidies to infant industries may increase the number of exporting industries (Clerides et al., 1998; Bernard and Jensen, 1999; Melitz, 2003, 2005). In developing countries, however, subsidies and administrative barriers are often used by governments to control economic resources and limit entry to the benefit of politically connected firms (Ades and di Tella, 1997; Djankov et al., 2002; Faccio, 2006)[4]. The political context is therefore a crucial conditioning factor of the subsidies' impact on investment and innovation (Rodrik, 2008; Robinson, 2009). Cuberes and Jerzmanowski (2009) have shown for example that administrative barriers to entry into the risky sectors tend to be higher in non-democratic situations, thereby slowing export diversification and sophistication. Accordingly, a similar level of subsidy tends to stimulate innovation by sustaining start-up firms and competition in a highly accountable setting whereas, in a weakly accountable one, it tends, on the contrary, to hinder investment in new products if state transfers are channeled to politically connected firms[5].

Although the level of government subsidies to households and firms and the nature of the political regime undoubtedly have a separate influence on the structure of consumption and production, the combined effect of these two components may well also influence the pace of structural change. Additionally, insofar as its enforcement generally relies on the stability of the socio-political equilibrium (Meltzer and Richard, 1982; Benabou, 2000), the social contract must be analyzed as articulating a country's redistributive and political features. The social contract will accordingly be characterized throughout the present paper as the combination of the level of redistribution, via state transfers and subsidies to the economy, and the degree of political authoritarianism, with the highest values of this multiplicative term corresponding to the more authoritarian-redistributive regimes.

The remainder of the paper is organized as follows. Section 2 describes the authoritarian-redistributive social contract as well as the resulting low diversification-low democracy features that are pervasive within the MENA region. Our core assumption that this authoritarian-redistributive social contract may have imposed a drag on structural transformation is empirically tested in Section 3. Section 4 then describes the specific political economy that has durably inhibited structural reforms in most MENA countries and underpinned the survival of the social contract over the long run. Section 5 concludes.

2. MENA AUTHORITARIAN-REDISTRIBUTIVE SOCIAL CONTRACTS AND THE STRUCTURAL CHANGE DEFICIT

In the wake of their Independence, MENA countries had to face strong socioeconomic inequalities: high concentration of land ownership, unequal access to economic resources and education, low literacy and health levels. Those initial conditions, combined with the then widespread diffusion of the welfare state model, called for the establishment of highly typical social contracts by which MENA populations traded restrictions in political freedom for socioeconomic security (Brumberg, 1990; Vitalis and Heydemann, 2000; Vanderwalle, 2003).

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[4] Aghion et al (2013) have shown that subsidies increased Chinese firms' total factor productivity only when they were allocated to competitive sectors and maintained competition.

[5] Abdel-Latif and Schmitz (2010) have, for example, documented the fact that policy-makers' upward accountability in Egypt increased the likelihood that they would engage in growth-enhancing alliances with the private sector, with positive effects in terms of investment in new activities.

Security provision was based on high levels of state intervention, generally via governmental monetary or asset transfers and strong market regulation, in the context of authoritarian political regimes (Yousef, 2004; Noland and Pack, 2007; Weiffen, 2008). These social contracts purported to promote modern citizenship through mechanisms of mass mobilization including political parties, trade unions or professional associations, as well as ensuring political control over these mechanisms (Yousef, 2004)[6].

The first dimension of MENA social contracts was therefore high redistribution. Table 1 shows that in 2006, MENA countries still exhibited the highest levels of transfers and subsidies (as a proportion of government expenditure) of all developing regions. On the one hand, subsidies have been strongly concentrated on politically connected firms, which have also benefitted on a long-term basis from other regulatory forms of state protection, with adverse effects on investment and innovation[7]. The privatization programs implemented during the 1980s in order to relax the control of the economy by authoritarian regimes actually transferred large amounts of public resources to newly privatized politically-connected companies (Acemoglu and Robinson, 2012), with these rents having a detrimental effect on the ability of those companies to innovate (Aysan et al., 2007). On the other hand, the large amounts of public transfers to households increased well-being, even for the poorest members of MENA populations (Yousef, 2004). Moreover, since massive resources were also invested in education during the first three decades of independence, a large proportion of the young adults who entered the labor force in the mid-1990s onwards were educated[8]. Insofar as the pattern of growth was not skill-intensive and the private sector was both undersized and non-competitive, this increased supply of educated workers however had to face dramatic shortages of job opportunities as early as the 1980s (World Bank, 2003; Noland and Pack, 2007; Malik and Awadallah, 2011)[9].

The second dimension of the MENA countries' post-Independence social contract is the remarkably low level of political accountability of their political economies (World Bank, 2003; Weiffen, 2008; Platteau, 2012). An indicator of Authoritarianism, which accounts for the extent of repression of political and economic freedom and rights by a weakly accountable government, has been computed as the inverse of the Polity IV democracy index[10]. In order to be more directly interpreted, the democracy index has been transformed into a non-democracy index by simply subtracting the democracy index to its maximum value of 10. A country with a score of democracy equals to 2 will end up with a score of authoritarianism equal to 8.

As shown in Table 1, in the mid-2000s, MENA countries still exhibited higher levels of authoritarianism than other middle-income countries. In most MENA countries, political authoritarianism translated into high regulation of the economy through red-tape, administrative controls and state-owned enterprises. The persistence of this control of the polity and economy by the state has been explained by the need to control oil resources

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[6] Since food consumption in Middle-East countries has always relied on imports, the second objective attached to the social contract was to insulate the poor from food price shocks via an extensive subsidy scheme (Zafar, 2013).

[7] The adverse effect of subsidies on private investment, as channeled by rent seeking and corruption, has been demonstrated and evidenced by Ades and Di Tella (1997) for Latin America.

[8] Yousef (2004) reports that individuals of 15 and over in the Middle East region average 5.3 years of schooling, which is far ahead of South Asia and Sub-Saharan Africa, and only one year behind East Asia and Latin America.

[9] Although they have all embarked on a pathway towards reduction of the birth rate, MENA countries have recorded a steep increase in their labor force over the 1990s and 2000s (+3.5 % per year on average) that is due to the dramatic reduction in mortality rates in the 1980s. As would be expected, such a steep population increase has considerably worsened the unemployment problem.

[10] The Polity IV democracy index ranges from 0 to 10 and covers three complementary dimensions of political regimes: the degree of competitiveness of political participation, the openness and competitiveness of executive recruitment, and the constraints on the chief executive.

(Weiffen, 2008; Yousef, 2004), the anti-liberal bias of inherited institutions (Kuran, 2004) or the interplay of statist preferences, mass politics and anticolonial struggles which generally led to the strong involvement of the military in politics (Vitalis and Heydemann, 2000). The countries (Algeria, Egypt, Jordan or Tunisia) that attempted to soften authoritarianism during the 1980s finally all returned to authoritarianism and military involvement in politics under the necessity to repress religious and political oppositions (Yousef, 2004; Platteau, 2011). Even though Tunisia and Egypt had tried to progressively open their political system during the 2000s (Joffé, 2011), most MENA countries remained autocracies with weak constraints imposed on the executive, high levels of political repression and pervasive economic and political corruption when the Arab spring hit the region.

Table 1: Sample's regional means (standard deviations) of the variables *transfers and subsidies* and *Authoritarianism* and *Social contract*

|	Redistribution[a]	Authoritarianism[b]	Redistribution*Authoritarianism[c]
All	37.97 (20.35)	4.29 (3.89)	38.39 (80.89)
MENA	32.72 (6.39)	6.90 (3.93)	200.20 (135.92)
MENA (with oil exporters)	30.76 (11.33)	8.11 (3.25)	222.67 (129.86)
Latin America	31.02 (15.06)	2.45 (2.13)	73.31 (73.96)
Sub-Saharan Africa	25.04 (13.77)	6.07 (3.39)	138.40 (121.16)
Asia	28.9 (20.33)	5.47 (3.82)	107.88 (94.16)
Central and Eastern Europe*	54.34 (11.98)	1.68 (2.36)	92.48 (148.68)
Oil exporters	35.87 (17.18)	7.46 (3.27)	226.59 (139.08)
OECD	61.78 (15.60)	.125 (.44)	6.60 (23.65)

*Russia and Ukraine are excluded. [a]: Transfers and subsidies as a share of government expense; [b]: Score ranging from 0 (full democracy) to +10 (full authoritarianism); [c]: The higher value, the more authoritarian-redistributive. Sources: World Bank Development Indicators

MENA countries have therefore articulated exceptionally high levels of redistribution and authoritarianism, with likely adverse effect on the potential of their economies to promote more diversified and sophisticated productions. Figure 1 which plots the normalized values of Table 1's subsidies and transfers against the normalized values of the Authoritarianism variable, shows that the combination of high redistribution and authoritarianism featured by the upper-right quadrant is highly characteristic of the MENA region, as well as of oil exporting countries.

Meanwhile, MENA productive features have significantly lagged behind those of the other developing regions. Table 2 shows that over the period 1984-2011, MENA export have grown more slowly than everywhere, except in Sub-Saharan Africa. Equally, the levels of export sophistication (as measured by the Expy index) and diversification (as measured by the number of exports with revealed comparative advantage) were lower in MENA countries than in the rest of the developing world, except Sub-Saharan Africa again[11].

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[11] The combined share of medium- and high-tech products increased by only 23% over 1990-2004 in the five biggest MENA economies (Egypt, Jordan, Lebanon, Morocco, Tunisia), against 48% for the new EU members, 50% for East and South-East Asian economies and 34% for Latin America (Diop et al., 2013).

Figure 1: Transfers and subsidies against Authoritarianism for 2006
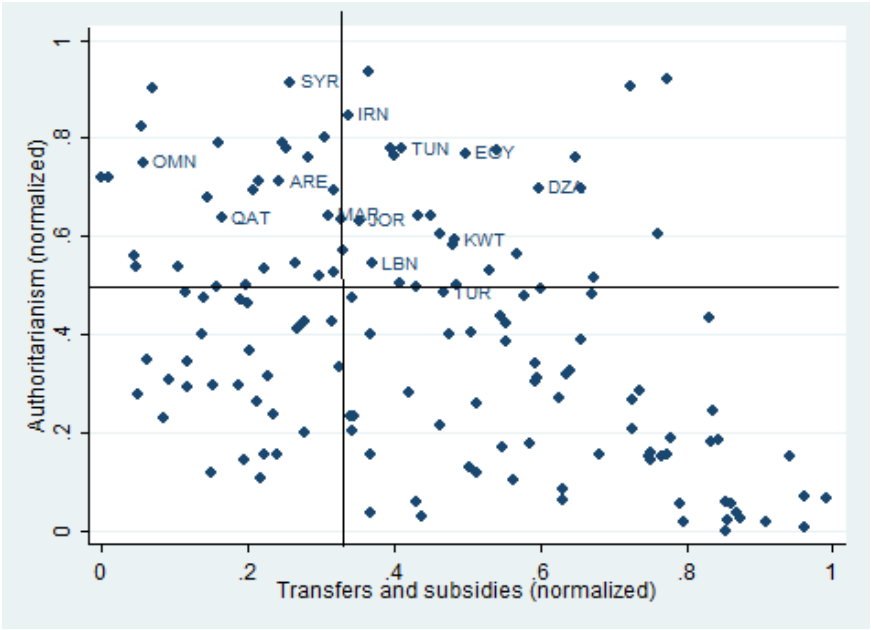
Notes: MENA countries and Iran are labeled by their country names, while all other countries are indicated by circular markers. The x-axis plots the normalized value of transfers and subsidies (as a share of government expanses) for 2006. The y-axis plots the normalized Authoritarianism index (See the text for details). Lines indicating the median values of the x- and y-axis variables are included.

MENA countries' exports remain strongly concentrated in resource-based, downstream, capital-intensive activities, such as refined gas, fertilizers or plastics for hydrocarbon-rich countries, and in low and slowly-growing value-added goods in the case of non-oil exporters (Dasgupta et al., 2008)[12]. MENA industries are also less integrated into global value chains than those in Asia or Eastern and Central Europe, with FDI only marginally absorbing skilled workers because it is concentrated on natural resources (Sadik and Bolbol, 2000) and its growth effect is restrained by the slow pace of export discoveries (Nicet-Chenaf and Rougier, 2011). Since the late seventies, economic transformation has therefore been slower in MENA than in Asian or Central and Eastern European countries, with adverse effect on the pace of economic growth (Nicet-Chenaf and Rougier, 2014). Table 2 shows that, since the 1980s, MENA growth has mostly been extensive (essentially been driven by high rates of capital accumulation and government expenditure), much akin to what has been observed in Latin America and Sub-Saharan Africa but contrasting with developing Asia or Central and Eastern

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[12] However, not all MENA economies are equal with respect to diversification. Oil-rich countries such as those in the Gulf and Libya, Iran and Algeria have highly concentrated exports, whereas labor-abundant countries such as Egypt, Morocco, Turkey, Lebanon or Jordan exhibit lower concentration indexes than other countries with the same mean income level. All non-oil-exporting MENA countries diversified their production during the post-Independence Statist period. Morocco and Tunisia were already fairly diversified by the mid-1980s, and they have continued to diversify their exports from that date onwards albeit more slowly than other middle-income countries. Whereas Central American and Asian economies like El Salvador, Guatemala, the Dominican Republic or Indonesia increased their diversification by a factor of 0.5 over the period 1988-2006, Egypt, Morocco and Turkey only attained a 30% reduction of their concentration index, and Algeria or Tunisia around 20%. [Author's calculation on the basis of entropy of exports (Theil) indexes from Cadot et al. (2009)].

European economies. While total factor productivity (TFP) increased in all other developing regions, even reaching a 2.5% annual growth peak in China, it actually decreased in the MENA region[13].

Table 2: World regions annual averages for selected macroeconomic indicators (1984-2011)

	GDP growth (in %)	TFP growth (in %)	Investment (% of GDP)	Government expenditure (% of GDP)	Export growth (Const. price)	Exort Sophistication 2006 (Expy)	Export Diversification 2006 (Number of exports with RCA)
World	3.57	0.70	22.77	n.a.	6.25	0.43	0.35
Advanced economies	2.64	0.40	21.56	40.54	5.82	0.69	0.60
Developing economies	4.25	1.10	23.78	28.06	7.45	0.38	0.30
Developing Asia	7.69	1.60	33.29	21.85	11.39	0.37	0.40
Latin America	3.17	0.00	20.47	29.88	6.19	0.35	0.29
Sub-Saharan Africa	3.70	0.20	18.57	27.28	3.75	0.21	0.15
Central and Eastern Europe	2.93	0.70	22.71	39.77	7.16	0.52	0.49
Middle East and North Africa	3.81	-0.10	24.03	31.74	3.96	0.30*	0.23

Sources: IMF World economic Outlook database, except for TFP growth (The Conference Board Total Economy Database, January 2012, http://www.conference-board.org/data/economydatabase/), Felipe et al. (2010) for sophistication and diversification indicators. * Since Expy is overvalued for oil exporting countries, they are excluded from the average sophistication indicator.

Across the MENA region, the quasi-stagnation of Total Factor Productivity (TFP) and the slow development of sophistication in production and exports have provoked a persistent misallocation of educated workers (Malik and Awadalla, 2011)[14]. Inevitably, such a situation has spurred discontent from poor and lower middle classes, experiencing growing dissatisfaction and frustration with respect to the false promises of socioeconomic modernization that had been pushed forward by the post-Independence social contract (Malik and Awadalla, 2011; Campante and Chor, 2012). Moreover, while political repression worked as a sociopolitical stabilizer for many decades, it finally turned into an additional source of frustration, which was soon to trigger protests and riots (Rubin, 2014).

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[13] Micro-level evidence points to the same deficit of structural change since the average TFP level of MENA firms is reported to be only 45% of the average TFP level of Brazilian or South African companies (World Bank, 2009).

[14] Other developing regions, especially in Asia, did record similar problems of educated worker unemployment in the past. According to Wood (1994: 212), "Korea and Taiwan both greatly raised their literacy rates in the 1950s prior to the rapid expansion of labour-intensive exports in the 1960s", and this expansion of secondary and higher education was even so rapid that "educated unemployment" began to appear by the end of the 1960s. During the 1970s and 1980s, East Asian economies could offset the decreasing returns resulting from extensive capital accumulation by reallocating labour and capital towards new and more productive industries (Kim and Lau, 1994; Young, 1995; Nelson and Pack, 1999). By rapidly upgrading and diversifying their manufacturing sector, however, Asian countries succeeded in reducing skilled labour misallocation.

3. THE MENA AUTHORITARIAN-REDISTRIBUTIVE SOCIAL CONTRACT AND STRUCTURAL CHANGE: AN EMPIRICAL TEST

In order to test our assumption that the specific nature of the authoritarian-redistributive social contract prevailing in MENA countries has hindered structural change, a parsimonious model was estimated for a cross-section of developed and developing countries[15]. Before presenting our results, we explain our empirical approach and present the data used.

(a) Identification strategy

Our main goal is to understand the productive impact of the particular authoritarian redistributive social contract, which is characteristic of the MENA countries. Due to obvious sample size problems, we could not directly estimate this productive effect by restricting the sample to the MENA countries. Moreover, since there are slight differences between the MENA countries' social contracts, the latter cannot be reduced to a simple regional characteristic that would be introduced in a model of structural change. We have therefore chosen to assess the social contract by a continuous variable combining the levels of authoritarianism and redistribution simply computed as Authoritarianism*Redistribution multiplicative term and to estimate the structural change effect of it. This multiplicative term is designed to assess the way the structural change effect of redistribution might be conditioned by the political regime, or to put it differently, the extent to which more authoritarian political regime might alter the productive effect of redistribution. The magnitude of our social contract multiplicative term increases when both redistribution and authoritarianism increase, with maximum values taken by the countries that could be classified as being Authoritarian-Redistributive. Figure 1 showed that, since most of the MENA countries are located in that upper-right quadrant of this figure, they will also exhibit higher values of the multiplicative term than the rest of the sample. Figure 2 illustrates the adverse contemporary statistical association between the authoritarian-redistributive nature of the social contract and current export diversification (2A), current export sophistication (2B) and potential export diversification (2C).

The estimated model is given by the Equation 1 below:

(1) Structural change$_i$ = α + θ Redistribution$_i$ + ρ Authoritarianism$_i$ + ϕ Redistribution*Authoritarianism$_i$ + ∂ Controls$_i$ + μ_i

The coefficient of the social contract multiplicative term therefore tests whether more authoritarian-redistributive social contracts have a detrimental effect on structural change. This will be the case if the expected positive effect of redistribution on structural change ($\theta > 0$ in Equation 1) is reduced for more authoritarian political economies ($\phi < 0$).

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[15] The 84 countries included in OLS and IV regressions (the MENA countries of our sample are reported in bold) are: Albania, **Algeria**, Argentina, Armenia, Australia, Austria, Bangladesh, Belgium, Bolivia, Brazil, Bulgaria, Canada, Chile, China, Colombia, Congo (Rep. of), Costa Rica, Cote d'Ivoire, Croatia, Czech Republic, Denmark, Dominican Republic, Ecuador, **Egypt**, El Salvador, Finland, France, Germany, Ghana, Greece, Guatemala, Honduras, Hong Kong (S.A.R.), Hungary, India, Indonesia, **Iran (Islamic Rep.)**, Ireland, **Israel**, Italy, Jamaica, Japan, **Jordan**, Kenya, Korea (Rep. of), **Kuwait**, Latvia, **Lebanon**, Lithuania, Malaysia, Moldova, **Morocco**, Netherlands, New Zealand, Nicaragua, Norway, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, **Qatar**, Romania, Russian Federation, Senegal, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sri Lanka, Sweden, Switzerland, **Syrian Arab Republic**, Tanzania, Thailand, Togo, **Tunisia**, **Turkey**, Ukraine, **United Arab emirates**, United Kingdom, Uruguay, Zambia (Rep. of).

Figure 2: Structural change (Theil, Expy and Open forest) against the social contract multiplicative term (Transfers and subsidies*Authoritarianism) with fitted lines
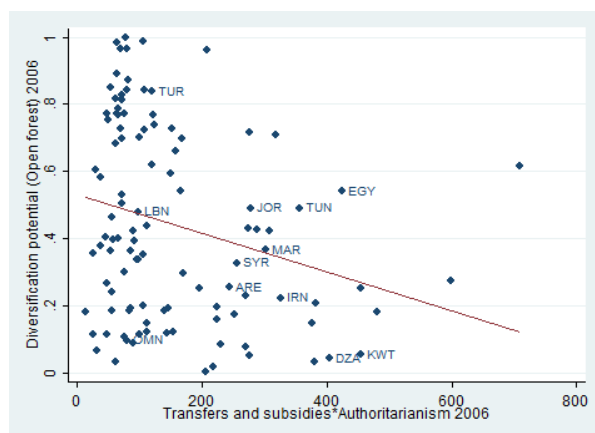
A: Export concentration (Theil) 2006
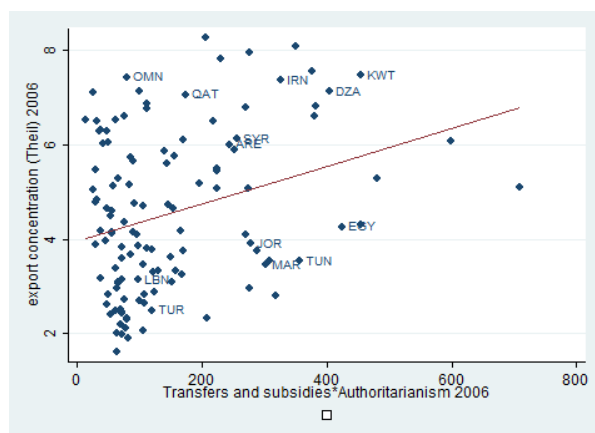
B: Export sophistication (Expy) 2006
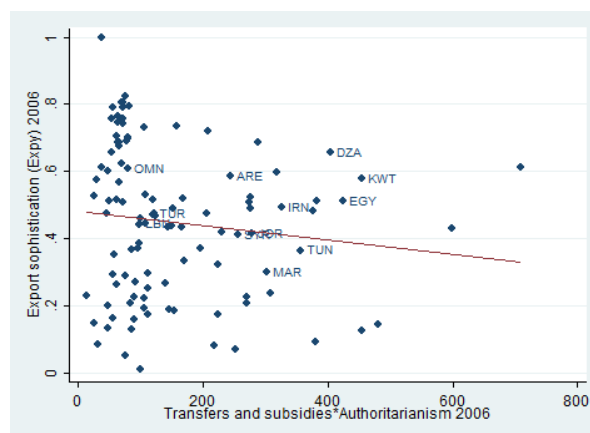
C: Diversification potential (Open forest) 2006

Source: Data on transfers and subsidies from World Bank World Development Indicators; data on Authoritarianism computed from Polity IV; data on structural change from Cadot et al. (2009) (Theil index) and Felipe et al. (2010) (Expy and Open forest). Fitted line is reported in red.
Notes: MENA countries are labeled by their country names, while all other countries are indicated by circular markers. The x-axis plots the multiplicative term Transfers and subsidies*Authoritarianism for 2006. As for the y-axis, Panel A plots Theil t index, Panel B plots the Expy index for 2006 and Panel C plots the Open forest index. All structural change variables are levels for 2006.

Our left-hand side variable, *i.e.* structural change is characterized by the two dimensions that are frequently used to describe an economy's productive structure: the export diversification which is assessed, as in Imbs and Wacziarg (2003), by a concentration index (here a *Theil index* of export), and the export sophistication level which is assessed by the *Expy*, computed by assigning to each active line of exports of a country's export set the average income level of the countries exporting it (Hausmann et al., 2007). A third indicator, the *Open Forest*, an average of the value of products that are not yet produced, measured by their *PRODY* (average GDP per capita of the countries exporting it), weighted by their relative proximity in the product space (Hausmann and Klinger, 2006; Hausmann et al., 2008), assesses how far the products still not exported are from the current export basket. These three indicators therefore respectively measure the current level of diversification, the

current level of sophistication and the potential for more sophisticated diversification[16]. As for the social contract variables, the political component, assessed by the variable Authoritarianism, was presented in Section 2. As for the Redistribution term, it is measured by the proportion of subsidies and transfers in government expenditure (World Bank Development Indicators) accounting for the intensity of government redistributive transfers to the economy. Since our left-hand and right-hand-side variables refer to structural features that do not suffer from significant short-term fluctuations, they have not been averaged and are all measured for the year 2006[17].

After the baseline Equation 1 is estimated, we test for the sensibility of our results to the inclusion of additional controls in Equation 1 in the next section (5.2). We then address possible endogeneity issues (5.3) and test the robustness of our result to alternative specifications (5.4).

(b) Baseline results

To begin with, *Transfers and Subsidies* as well as *Authoritarianism* were independently introduced into the baseline estimation of each structural change indicator, without controlling for additional determinants of structural change. The results reported in the columns 1, 2 and 3 of Table 3 show that a higher level of transfers and subsidies (as a % of government expenses) tends to have a positive impact on sophistication as well as on current and potential diversification. As for authoritarianism, although its increase reduces current and potential export diversification, it has no effect on sophistication.

Table 3: Baseline OLS estimates: All structural change indicators 2006

	Concentration (Theil)		Sophistication (Expy)		Diversification potential (Open forest)	
	(1)	(1')	(2)	(2')	(3)	(3')
Authoritarianism	,156***	,013	-,005	,018	-,021***	.008
	(.034)	(.068)	(.005)	(.011)	(.006)	(.012)
Transfers and subsidies	-.037***	-.048***	.006***	.008**	-.008***	-.010***
	(.006)	(.008)	(.001)	(.001)	(.001)	(.001)
T&S*Authoritarian.	-	.004**	-	-.0006**	-	-.0008***
		(.002)		(-.0003)		(-.0002)
Constant	5.49***	6.01***	.194***	.110***	.158***	.055
	(.363)	(.415)	(.056)	(.066)	(.062)	(.071)
Adjust R²	.47	.49	.38	.38	.57	.59
Observations	121	121	107	107	107	107

***, **, *: respectively significant at 1%, 5% and 10% confidence

OLS estimations of Equation (2) with the interactive term for the social contract are reported in Table 3. Columns 3.4 to 3.6 show that although the high redistribution associated with low democracy, a pattern akin to the authoritarian-redistributive social contract, reduces sophistication, as well as present and future diversification. Our estimations show that although the overall structural change effect of redistribution on the production structure remains positive for the whole sample, it is significantly reduced by more authoritarianism. The assumption that the authoritarian-redistributive social contract featured by most MENA

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[16] The Theil Index of export is taken from Cadot et al. (2009); the two remaining indicators are taken from Felipe et al. (2010).

[17] Moreover, the time dimension of the transfers and subsidies indicator is limited to the 2000's for most of our sample countries.

countries may have hindered structural change is thus supported by our estimation. Table 3 however shows that direct adverse structural change effect of weakly democratic regimes vanishes when the interactive term for the social contract is introduced. This suggests that the absence of democracy deters structural transformation essentially by reducing or weeding out the potential of state transfers to accelerate it.

This result confirms the hypothesis stated in Section 3 that transfers, *per se*, are not detrimental to export sophistication; rather, it is their association with the political component of the MENA social contract that delivers potentially bad outcomes. Symmetrically, the redistributive component, which is, *per se*, favorable to structural change, becomes detrimental when combined with the low levels of voice and accountability. In order to trigger structural transformation, a reform of the MENA social contract could proceed firstly by reforming the political component towards increased inclusiveness and political accountability, rather than by dismantling the redistributive component. These findings therefore point to a possible sequencing of reforms for MENA countries, first political and then economic, that could bring higher social returns by means of economic transformation.

Table 4: Baseline OLS estimations and IV estimations (2SLS) with controls: All structural change indicators 2006

	Concentration (Theil)		Sophistication (Expy)		Diversification potential (Open forest)	
	OLS (1)	2SLS 2nd stage (2)	OLS (3)	2SLS 2nd stage (4)	OLS (5)	2SLS 2nd stage (6)
Authoritarianism	-.1887**	-4.562	.0186	1.063*	.0290	.4926
	(.095)	(3.271)	(.0144)	(.579)	(.0170)	(.5625)
Transfers and Subsidies	-.0475***	-.0623***	.0055***	.0065***	.0106***	.0136***
	(.0085)	(.0135)	(.0013)	(.0024)	(.0015)	(.004)
T&S*Authoritarian	.0047**	.0136*	-.0008**	-.0028**	-.0009**	-.0017
	(.0024)	(.0077)	(.0003)	(.0013)	(.0004)	(.0013)
Oil rent dummy	.1630***	.2734	.1184**	.2864**	-.1258**	.0019
	(.351)	(.7438)	(.0534)	(.1325)	(.0631)	(.1287)
KOF restrictions	.0037	.0212*	.0027***	.0001	.0004	-.0012
	(.0068)	(.0121)	(.0010)	(.0021)	(.0012)	(.0021)
Secondary school	.0437	.1731	.0084	.0016	-.0230	-.0486**
	(.0881)	(.1199)	(.0134)	(.0212)	(.0157)	(.0206)
Formal competition	-.0789	.0364	-.0094	-.0323	-.0152	-.0266
	(.1238)	(.1664)	(.0189)	(.0294)	(.0222)	(.0285)
Power loss	.0255**	.0088	-.0044***	-.0011	-.0057***	-.0035
	(.0100)	(.0158)	(.0015)	(.0027)	(.0018)	(.0027)
Constant	5.253***	4.455***	.0876	.1909	.1722	.2072
	(.610)	(.9797)	(.0936)	(.1783)	(.1105)	(.1732)
R²	.56	.44	.51	.23	.58	.55
Observations	84	84	84	84	84	84
Endog. test Wu-Hausman		4.201 (p = .009)		1.612 (p = .196)		3.570 (p = .012)
Sargan test overid. restrictions		.059 (p = .975)		.320 (p = .852)		1.529 (p = .465)

Notes: ***, **, *: respectively significant at 1%, 5% and 10% confidence. Instruments for the IV estimations are ethnic fractionalization, French colonization, population in 1400, European descent and French colonization*European descent.

At this point, the robustness of our main result must however be tested against the introduction of additional controls that may be correlated with the components of the social contract while potentially explaining structural change. First, the two main dimensions of structural change, export diversification and sophistication, require that entrepreneurs invest in new activities in order to discover new types of productions (Hausman and Rodrik, 2003).

Such risky investment draws on the existence of infrastructures like power and roads, of skilled labor and potential entrepreneurs, as well as on the price incentives to be delivered by markets and policy determinants like the competition regime and the degree of access to foreign trade and capital[18]. Second, and perhaps more importantly, high reliance on oil revenues is simultaneously conducive to more authoritarian-redistributive social contracts and to more concentrated export structures. Accordingly, controls for those different dimensions were introduced in Equation 1: (1) an *Oil* dummy taking the value 1 for the countries whose oil revenues account for more than 10% of their GDP, and 0 otherwise (World Bank WDI); (2) *Schooling*, a variable measuring the average years of secondary schooling in 2005 from Barro and Lee (2012); (3) *KOF restrictions*, a variable assessing the restrictions on international trade and capital entry measured by the 2006 value of the index[19] computed by Dreher et al. (2008); *Formal competition*, a variable measuring the existence and stringency of competition laws on goods markets[20] taken from Voigt (2009); and (4) *Power loss*, a control for the quality of infrastructures by the World Bank's Power loss indicator. As shown by columns 1, 3 and 5 of Table 4, the addition of these four controls to the baseline regressions of Table 3, does not modify the estimated coefficient of the social contract.

(c) Endogeneity issues

At this stage, two sources of regressors' endogeneity can be suspected. First, our parsimonious specification certainly leaves certain determinant factors of export diversification and sophistication uncontrolled. Second, the social contract may be only partially exogenous to the productive structure, with the coefficient for the MENA social contract being accordingly biased when estimated by OLS. Lack of diversification and sophistication could well explain why countries established redistributive flows to limit their population's vulnerability to external shocks. In that case, high concentration and low sophistication would cause high redistribution. Although the other component of our social contract interactive term, government accountability, might be less affected by the export structure, the literature on the curse of natural resources has shown that a highly concentrated export structure (especially on point source natural resources like oil or minerals) may promote the establishment and survival of weakly accountable authoritarian *rentier* states[21] or, at least, decrease the quality of political governance[22]. We therefore also treated Authoritarianism as a likely endogenous variable.

Four historical instruments have been used: First, *Ethnic fractionalization* (Alesina et al., 2003) is a relevant instrument for redistribution since the latter tends to increase with the

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[18] For two exhaustive empirical studies of the determinants of export diversification, see Cadot et al. (2011b) and Agosin et al. (2012).

[19] The index refers to restrictions on trade and capital using hidden import barriers, mean tariff rates, taxes on international trade (as a share of current revenue) and an index of capital controls. Given a certain level of trade, a country with higher revenues from tariffs is less globalized. See Dreher (2006) and Dreher et al. (2008) for further details. Website: http://globalization.kof.ethz.ch/.

[20] The Formal competition index is has higher values (1) if competition policy is mentioned in the constitution; (2) if a specific law safeguarding and promoting competition is in place; (3) the longer that law has already been in place; (4) the fewer the number of other goals – beyond competition – that are mentioned in the currently valid competition law, and (5) the higher the number of practices that are explicitly forbidden according to the currently valid competition law. See Voigt (2009) for further details.

[21] See Ross (2013a) for a recent survey of this literature.

[22] See Robinson et al (2006) for a theoretical explanation of the adverse effect of natural resource abundance on democracy. The empirical evidence is mixed: Tsui (2011) finds support for the adverse effect of natural resource on democracy, whereas Wacziarg (2012) does not find any significant effect. A statistical meta-analysis of 29 studies and 246 empirical estimates by Ahmadov (2013) nevertheless concludes that oil has a negative, non-trivial, and robust effect on democracy.

degree of social conflict (Alesina and Rodrik, 1994, Rodrik, 1999). Furthermore, although ethnic and religious fractionalization is a reinforcing factor for social conflicts, it is not determined by the structure of the economy. Second, since it is likely that French and British colonial rule had different influences on the current social preference for redistribution[23], a dummy taking value 1 when the country was under French colonial rule and 0 otherwise (Acemoglu et al., 2001) is used as an additional instrument for redistribution. Third, the *population in 1400* (Nunn, 2008) accounts for the fact that the political economies that were established early in time and have been able to survive political regime changes across centuries, have tended to perpetuated across time a pattern of authoritarian and centralized governmental intervention in socioeconomic affairs (North et al., 2009). These ancient states are a possible instrument for current levels of authoritarianism and can be identified by their population being already dense in 1400 (Bockstette et al., 2002; Chanda and Puterman, 2007). Fourth, the *share of the colonial population with European descent*, taken from Easterly and Levine (2013), is also used as an instrument for current authoritarianism since, as argued these authors, it explains the quality of current political governance, without being affected by current levels of structural transformation. Ultimately, as is common in the literature, the interactive term, combining the two allegedly endogenous redistribution and political components of the social contract, is itself instrumented by the multiplicative term of the best instrument of each of its two components.

The assumption of an overall endogeneity of the model's regressors was first tested, with the Wu-Hausman test reported in the lower panel of Table 4 showing that the exogeneity of regressors could not be rejected, except for the model explaining export sophistication. This test does not, however, allow us to conclude that the two terms transfers and subsidies and authoritarianism are not individually endogenous to the export structure. IV estimations have therefore been conducted to check whether our main result holds when the likely endogeneity of the social contract, and of each of its two components, is accounted for. Columns 2, 4 and 6 of Table 4 report the results of the IV estimations with *Transfers and subsidies*, *Authoritarianism* and the *Social contract* interactive being all treated as endogenous. They show that the impact of the MENA social contract on export sophistication (Expy), as well as on effective (Theil index of export) diversification, keeps the same sign and remains significant, when the possibility that the redistributive component of the social contract or both the redistributive and political components are endogenous to the economic structure is controlled for. The authoritarian social contract keeps its adverse impact on the diversification potential (open forest), albeit it is no longer significant at conventional levels, of risks.

It is worth remarking that the magnitude of the impact of a more authoritarian-redistributive social contract on export diversification and sophistication significantly increases when endogeneity is controlled for. Simple computations of the estimated parameters reported in Table 4 show that whereas a one standard deviation increase of authoritarianism hardly undermines the adverse impact of redistribution on export concentration (Theil index) (from a -.048% export concentration fall to $-.048 + .004*.068 = -.047\%$) in the case of OLS estimations, it significantly reduces it (from a -.0623% export concentration fall to $-.0623 + .0136*3.27 = -.0180\%$) in the case of IV estimations. As for export sophistication, the same statement can be made. Whereas a one standard deviation increase of authoritarianism hardly affect the positive impact of redistribution on export sophistication (Expy index) (from a -.0055% export concentration change to .0055 - .0008

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[23] Haggard and Kaufman (2008) explain that although globalization and democratization have pushed Asian, Latin American and East European countries to reform their institutional systems towards more social and economic flexibility, the pathways of their welfare systems have been fundamentally influenced by historical legacies from the colonial (or socialist in the case of East European countries) and post-independence eras.

$*.144 = -.0054\%$) in the case of OLS estimations, it significantly reduces it (from a .0065% export concentration fall to $-.0065 - .0028 *.579 = -.0049\%$) in the case of IV estimations.

OLS estimations therefore tend to underestimate the negative impact more authoritarian-redistributive social contracts have on structural change. This observation suggests that the adverse effect of authoritarian redistributive social contracts on structural change may be offset by a possible reciprocal adverse effect of structural change on the social contract, with lower levels of export diversification and sophistication reinforcing the authoritarian-redistributive features of the social contract. Before this intuition is discussed in the Section 5 below, the robustness of our results has to be tested against other possible biases.

(d) Other robustness tests

First, in order to disambiguate the interpretation of our interactive term for authoritarian-redistributive social contract, our core result's robustness was also tested by substituting to the Authoritarian, Redistribution and their multiplicative term a dummy taking the value 1 for the countries of the upper-right quadrant of Figure 2, i.e. countries combining values of the two components of the social contract variable above the sample median value, and 0 otherwise. In the Table 4 OLS estimations, the two components of the social contract, transfers and subsidies and authoritarianism as well as their multiplicative term, were replaced by this dummy accounting for authoritarian-redistributive social contracts. The negative and significant estimated coefficient found for this dichotomous term confirms that the most authoritarian social contract have a significantly adverse effect on export sophistication as well as on current and potential export diversification, thereby supporting the result found on continuous variables.

Second, a critical issue raised by cross-sectional econometrics is that unobserved country-level factors cannot be controlled by fixed or random effects as it is the case with panel econometrics. In this context, we need to test the robustness of our main result to the inclusion of additional controls that concern our Authoritarian redistributive countries and may possibly be unobserved third variables correlated to the social contract. The inclusion of a MENA dummy helps testing whether the effect of MENA social contracts could be due to other unobserved characteristics common to MENA countries. Likewise, dummies for other regions (Sub-Saharan Africa, Latin America, Central and Eastern Europe and Asia) were also tested. Former British colonization, charactering most MENA countries of our sample, has been added to control for the inherited legal or cultural unobserved characteristics that could have driven our main result. The same argument holds for the Muslim religion for which a dummy was introduced to test the robustness of the estimated effect of MENA social contracts. Since they are potential determinants of limited structural change (Malik and Temple, 2009), geographical features like the % of tropical land or of coastal borders were also tested. The one by one inclusion of each one of these country characteristics in our Table 4 augmented model leaves our main result unchanged.

4. DISCUSSION: SLOW STRUCTURAL CHANGE AND THE POLITICAL ECONOMY OF ABSENT REFORMS

In the previous section, we presented evidence supporting the assumption that the enduring authoritarian-redistributive social contract to be observed across MENA economies had a significant and robust adverse effect on export sophistication, as well as on effective and potential diversification. In the present section, it is first argued that the persistent absence of social contract reform has prompted the formation of a low diversification-low democracy equilibrium in the MENA economies. Then, it is explained that the slowness of structural

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change has blocked any evolution of the typical authoritarian-redistributive social contract by promoting the formation of an anti-reformist political economy.

Although significant political and economic reforms would certainly have prompted private sector development and redistributed economic opportunities to larger shares of the MENA population (World Bank, 2009), they have been either absent or too narrow in their scope and depth. The "Asian-style" virtuous cumulative process by which economic performance increase the legitimacy of the social contract, with the latter providing, in turn, adequate private investment incentives, was never observed for MENA. On the contrary, most countries of the MENA region have featured a low democracy-low diversification equilibrium implying high entry barriers maintained in the long run, in spite of their detrimental effects on structural change, with such bad policies persisting because non-democratic rulers can be weakly committed to economic development without being ousted (Cuberes and Jerzmanowski, 2009). The task of escaping this trap is uneasy since, in the context of a weakly diversified and industrialized economy, high regulation and low democracy tend to mutually self-reinforce. Since the opportunity cost of political repression is higher in more capital-intensive and industrialized economy (Acemoglu and Robinson, 2006), a more diversified economy shows higher probabilities of democratic change than a less diversified one[24]. Since in non-democratic regimes, the level of entry regulation chosen by government is likely to be strongly influenced by corrupt firms (Aghion et al., 2008), high regulation and low democracy tend to be self-sustaining in highly natural resource-dependent and weakly diversified settings. Both economic reforms and democratic change may therefore have been deterred by MENA countries' structural features.

The combination of slow structural change and low democracy is not singular to MENA however. Although they could be observed in other parts of the developing world like contemporary Africa, Latin America up to the 1990s and even East Asia in the 1960s, some of the countries in these regions have succeeded in reforming their social contract while their economies remained poorly diversified. Why not MENA countries?

Since each social contract is enshrined in the culture and socio-political history of the nation concerned, embodying dominant social preferences and norms of social justice, they are generally highly stable over time (Alston et al., 2013). By provoking intra- and inter-sectoral labor shifts, however, structural change redistributes economic opportunities within the population, between men and women, rural and urban or older and younger individuals (Ray, 2010). Such modifications of the distribution of socioeconomic opportunity have a conditioning effect, in turn, on the stability of the social contract. The individual and collective perceptions of what is socially fair or unfair are modified in relation to the gap between the socioeconomic aspirations and the opportunities effectively delivered by the economic system. As long as the social contract is fully supportive of the development strategy, successful economic outcomes help to legitimize it in the eyes of the population. The social contract will, on the contrary, be contested and reformed if a majority of the population experience dissatisfaction with effective opportunities delivered by it (Ray, 2010)[25].

Quite paradoxically, although they turned into a real drag on the potential for private-sector development and high-productivity job creation during the 1980s (World Bank, 2009; Malik and Awadallah, 2011), neither the authoritarian nor the redistributive components of the MENA post-war social contract were significantly reformed (Yousef, 2004). MENA populations have long considered that the redistributive component of the post-Independence

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[24] The vast natural resource curse literature has also documented that democracy can rarely be sustained in a weakly diversified predominantly agrarian or resource-based economy (Auty, 2001; Melhum et al., 2006; Ross, 2013b).

[25] See Haggard and Kaufman (2008) for an historical comparative study of the Asian, Eastern European and Latin American social contract reforms.

social contract was non-negotiable, with economic liberalization having to be preceded by political liberalization to be socially acceptable. Although confronted with increasing discontent and growing claims for reforms to the system, MENA rulers have nevertheless continuously rejected political liberalization, notably by arguing that economic progress was a *sine qua non* condition for such liberalization (World Bank, 2004; Yousef, 2004). In almost all MENA countries, authoritarian political governance and paternalist modes of social relations have kept on restraining the collective expression of socioeconomic discontent, with religious and left-wing oppositions being repressed[26] to limit political attacks against the social contract and its underlying political equilibrium (Yousef, 2004, Platteau, 2012). Since they had low confidence in public policies and institutions, economic agents in the MENA region became increasingly reluctant to make irreversible investments, with adverse aggregate consequences on structural change and growth (Noland, 2004: 8). A succession of partial reforms and reversal of reforms even reinforced the authoritarian-redistributive features of the social contract and worsened its detrimental effects on structural transformation.

In fact, the slowness of structural change has contributed to the establishment of a singular political economy over the MENA region (World Bank, 2009) that blocked reforms of the social contract. On the supply side of the political economy of reforms, the soft budget constraint on government spending, allowed by the flows of oil and natural resources revenues, as well as by migrant remittances and foreign aid, has supported the redistributive logic of most MENA political economies over several decades (Yousef, 2004). Moreover, insofar as reforming welfare programs would have led to a massive opposition from a population endowed with limited market opportunities, the political risks of reforming has remained remarkably high. Since patron-client relationships are generally tied to redistributive systems in non-democratic settings (North et al., 2009), reforming welfare programs would have imposed a high political cost on the incumbent rulers who might have lost control over rent distribution. On the demand side, claims for change first appeared in the population of educated underemployed workers whose opportunity costs of revolt had been lowered by the paucity of structural change to such a dramatic extent that they could not do anything other than riot (Campante and Chor, 2012). Meanwhile, the private sector has only made limited claims for faster change and reform, mostly because the redistributive-interventionist social contract had generated political and economic benefits for a limited number of powerful companies that could resist both political and economic reforms thanks to their political connections (Yousef, 2004). In that context, the high uncertainty attached to both the lack of response to changed incentives and the possible obstruction to reforms by entrenched vested interests certainly raised the political cost of actions for incumbent governments (Noland and Pack, 2004). Every reform that could erode the rents channeled to the political groups supporting the regime, like the promotion of a competitive private sector or trade reforms, was thus postponed or only partially undertaken (Noland, 2004:8). As a result, the economic gains from selective policy reforms kept on being polarized on connected firms, benefiting from strong and established ties with governments, with detrimental effects on entry rate and innovation[27].

This confirms that the main problem of MENA economies is probably as much the insufficient private sector response to policy changes as the mere lack of reforms (Noland and Pack, 2004). This lack of enthusiasm for investing has been reinforced by the cumulative political uncertainty bred by the idiosyncratic confrontation of political inertia and the rising oppositions to the entrenched regimes that were raised by low economic opportunities

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[26] It was the case in Algeria, Egypt, Jordan or Tunisia during the 1980s and early 1990s.

[27] In the case of Egypt, Acemoglu and Robinson (2012: 396) have emphasized that thirty-two politically connected business families could influence the privatization process during the 1990s so that it essentially benefited their vested interests and contributed to an increase in economic polarization.

(Noland, 2004: 9; Nabli et al., 2008; Rubin, 2012). In sharp contrast with South Korea or Taiwan prior to their political liberalization, MENA authoritarian regimes lacked the broad-based legitimacy that a shared economic prosperity could have brought about. Moreover, the prevalence of top-down reforms and the persistence of authoritarianism finally hindered the emergence of a renewed consensus around a redefinition of the social contract and created social frustration by marking a real regression after the few political openings episodes that were experimented during the 1980s and early 1990s (Yousef, 2004). In most MENA countries, the willingness for change, on both the demand and supply sides, has therefore been so weak during the whole post-Independence era that peaceful reforms shifting the politico-economic equilibrium had become impossible. The Arab spring therefore was unescapable.

5. CONCLUSION

In this paper, we have provided robust evidence that the social contract to be specifically observed in the MENA region had detrimental effects on structural transformation and economic modernization. Undoubtedly, however, the slowness of structural transformation did, in turn, strengthen the prevailing social contract, notably by favoring the establishment of an anti-reformist politico-economic equilibrium. The MENA structural change deficit can therefore be considered as a symptom of the persistent absence of social contract reform. As a consequence of the growing gap between the socioeconomic expectations of an increasingly educated population and real socioeconomic opportunities, and in the absence of any willingness to significantly reform by entrenched elites and political groups, relative frustration never stopped snowballing during the last two decades, with the opportunity cost of revolt decreasing sufficiently to provoke massive street protests (Campante and Chor, 2012). Failure of the social contract to support socioeconomic progress has probably nurtured the massive call for a political transition, as highlighted by the fact that Tunisian and Egyptian revolutionaries have all pointed to the corrupt nature of state-business and administration-citizens relationships. It is worth remarking that the main features of this authoritarian-redistributive model can be observed, to some extent, for both the oil-exporting and labor-exporting countries of the region.

Equally, our findings point to the social contract as one of the possible explanations of the middle income trap. According to the estimations by Felipe (2012), nine out of the 30 countries in the middle-income trap in 2010 were located in the Middle East and North Africa (MENA), eleven were Latin American and only two were Asian. Four of the nine MENA countries, Egypt, Tunisia, Yemen and Syria, have undergone severe political upheaval over the most recent period. Various explanations have been advanced to explain why countries fall into the middle-income trap: rising wages, declining competitiveness, slow structural change compared to rising skills and expectations, high inequality, a weak private sector, difficulties in shifting from an accumulation-based to an innovation-based growth pattern and various institutional inadequacies.

Ultimately, the comparison of our OLS and 2SLS results suggests that the adverse effect of authoritarian redistributive social contracts on structural change may be offset by a possible reciprocal adverse effect of structural change on the social contract, with lower levels of export diversification and sophistication reinforcing the authoritarian-redistributive features of the social contract. This reverse causation is discussed and a low-diversification – low democracy stable political equilibrium is described in the specific case of MENA countries. Moreover, we describe the singular MENA political economy of absent reforms that may be characterized by a *status quo* between the policy-making institutions, lacking commitment to and credibility in reforming, and the weak demand for reform by a private sector that does not

see itself as an agent of change. Our findings point, however, to a possible sequencing of reforms for MENA countries, first political and then economic, that could bring higher social returns by means of economic transformation.

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Appendix

Table A1: Variables definition and sources

Variable labels	Description	Sources
Transfers and subsidies	Subsidies, grants, and other social benefits include all unrequited, non-repayable transfers on current account to private and public enterprises; grants to foreign governments, international organizations, and other government units; and social security, social assistance benefits, and employer social benefits in cash and in kind. In % of total government expenses in 2006	World Bank Development Indicators; International Monetary Fund, Government Finance Statistics Yearbook and data files.
Authoritarianism	Computed as 10 - Polity IV democracy index. Ranges from 0 full democracy to 10 full authoritarianism in 2006	Polity IV
Trade restrictions	Composite index reflecting restrictions on trade and capital using hidden import barriers, mean tariff rates, taxes on international trade (as a share of current revenue) and an index of capital controls	KOF indicators, Dreher et al. (2008)
Effective competition policy	Composite index reflecting competition policy existence, age and constraining intensity in 2005	Voigt (2009)
Power loss	Electric power transmission and distribution losses (% of output) in 2006	World Bank Development Indicators
Secondary education	Average years of secondary schooling in 2006	Barro and Lee (2010)
Export concentration	Theil index in 2006	Cadot et al. (2009)
Export sophistication	Expy in 2006	Felipe et al. (2006)
Export diversification potential	Open forest in 2006	Felipe et al. (2006)
Ethnic fractionalization	Index of ethnic fractionalization	Alesina et al. (2003)
French colonization	Dummy taking value 1 when the country was under French colonial rule and 0 otherwise	Acemoglu et al. (2001)
British colonization	Dummy taking value 1 when the country was under British colonial rule and 0 otherwise	Acemoglu et al. (2001)
Size of population in 1400	Number of inhabitants	Nunn (2008); McEvedy and Jones (1978)
Share of the population with European descent	European share of the population during the early stages of Colonization (in % of the country's population)	Easterly (2012)
Oil rents	Dummy taking value 1 for the countries whose oil export rents amount more than 10% of the GDP and 0 otherwise (2006)	World Bank Development Indicators
Tropical	% Land area in geographical tropics	Gallup et al. (2009) ; Center for International Development

Table A1: Variables definition and sources (continued)

Variable label	Description	Sources
Nearest Coast	Mean distance to nearest coastline (km)	Gallup et al. (2009) ; Center for International Development
Muslim	Dummy taking value 1 when the country's majoritarian religion is Islam and 0 otherwise	Author's computation
MENA	Dummy taking value 1 when the country is in MENA and 0 otherwise	Author's computation
Latin America	Dummy taking value 1 when the country is in Latin America and 0 otherwise	Author's computation
Central and Eastern Europe	Dummy taking value 1 when the country is in CEE and 0 otherwise	Author's computation
Sub-Saharan Africa	Dummy taking value 1 when the country is in Sub-Saharan Africa and 0 otherwise	Author's computation

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