

ECONOMIC
RESEARCH
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منتدى
البحوث
الاقتصادية

2008

working paper series

THE ROLE OF GOVERNANCE INSTITUTIONS
IN PRIVATE INVESTMENT DECISIONS:
THE CASE OF
MIDDLE EAST AND NORTH AFRICA

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Working Paper No. 384

The Role of Governance Institutions in Private Investment Decisions: The Case of Middle East and North Africa

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Working Paper 384

March 2008

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Abstract

This paper investigates the link between private investment decisions and various governance institutions in the form of corruption, quality of bureaucracy, judiciary, security of property rights, regulations and taxation, political stability, as well as political rights and civil liberties. This link is empirically tested for a panel of 32 countries by estimating a simultaneous model of private investment and governance institutions, where economic policy and other variables explain concurrently both variables. This empirical model also illustrates that economic reforms -- in the form of financial development and trade openness -- and human capital affect private investment decisions in two ways; directly, as well as through their positive impact on the quality of governance institutions. In MENA, deficient administration quality, political instability and low public accountability contributed significantly to the low investment decisions of the 1980s and the 1990s. Our empirical analysis also confirms that structural reforms constitute another challenge, if the region wants to catch up with more successful developing economies.

ملخص

تبحث هذه الورقة العلاقة بين قرارات الاستثمار الخاص والمؤسسات الحكومية المختلفة من حيث الفساد ونوعية البيروقراطية والقضاء وأمن حقوق الملكية والقوانين والضرائب والاستقرار السياسي وكذا الحقوق السياسية والحريات المدنية. تم اختبار هذه العلاقة تجريبيا على عينة مكونة من 32 دولة عن طريق نموذج متزامن للاستثمار الخاص والمؤسسات الحكومية حيث توضح السياسة الاقتصادية ومتغيرات أخرى كلا المتغيرين بشكل متزامن. ويوضح هذا النموذج التجريبي أيضا أن الإصلاحات الاقتصادية – متمثلة في التطوير المالي والانفتاح التجاري – ورأس المال البشري تؤثر على القرارات الاستثمارية على نحوين أحدهما مباشر والآخر من خلال تأثيرها الإيجابي على نوعية المؤسسات الحكومية. في منطقة الشرق الأوسط وشمال أفريقيا، كما أن ضعف الإدارة وعدم الاستقرار السياسي وضعف المسؤولية العامة كان لها تأثير ذو بال في انخفاض عدد القرارات الخاصة بالاستثمار في الثمانينيات والتسعينيات. ويؤكد تحليلنا التجريبي أيضا أن الإصلاحات الهيكلية تمثل تحديا آخر إن أرادت المنطقة أن تلحق بالاقتصاديات الأكثر نجاحا في الدول النامية.

1. Introduction

Governance institutions are part of the investment climate of a country. Because of the forward-looking nature of investment, entrepreneurs need a stable and secure environment to invest. "Good" governance institutions are viewed as reducing economic uncertainties and as promoting efficiency (North, 1981). In this respect, and as reported by the World Bank (2004), better political and governance institutions improve the investment climate by enhancing bureaucratic performances and predictability. This also reduces the cost of doing business. Better governance contributes as well to the effective delivery of public goods that are necessary for productive business. Cross-country correlations using broad proxies for investment climate quality suggest a positive link between the investment climate and private investment decisions (World Bank, 2004).

The MENA countries have, on average, been characterized by a clear deficit in governance institutions. This shortfall is particularly related to democratic institutions such as political rights, civil liberties, or freedom of the press. The quality of the administration has also been of some concern. These deficiencies have been reported as being responsible for the slow economic activity in MENA (El Badawi, 2002; and the World Bank, 2004). At the same time, private investment decisions have shown a stagnant trend. Although liberalization of economies and acceleration of reforms increased private investment throughout the world, MENA countries did not follow this movement. This has been the case for the last two decades (Aysan et al. 2006).

As a part of the reflection on the channel through which governance institutions may affect economic performance, one strand of the literature has recently reconsidered the role of economic policies in explaining cross-country economic achievements. Recent work on the role of both governance institutions and economic policies has found that governance is the dominant factor with little, if any, independent influence of policies¹. This result, however, stems from endogeneity and specification problems, as pointed out by Sachs (2003). In fact, economic policies are likely to affect the quality of governance institutions. There is, in particular, some evidence that greater openness to trade and stronger competition are conducive to better governance². Given these conditions, economic policies may explain economic performances through their impact on governance institutions. In the case of private investment, we show that both effects (i.e., direct and indirect) can be brought together if the model chosen is well specified. We estimate in particular a simultaneous model of private investment and of various forms of governance institutions, where economic policies concurrently explain both variables.

The paper also investigates what types of governance institutions are more detrimental to entrepreneurs' investment decisions. We introduce a large set of variables which are not typically used in the literature. Since these indicators are likely to be correlated, we process three aggregated indicators using the principal component analysis methodology. Based on the literature, we classify the governance institutions in the following categories: "Administrative Quality", (*QA*), "Public Accountability" (*PA*), and "Political Stability" (*PS*). We also generate a global indicator of governance (*GOV*) which summarizes these three aspects. In this paper, human development and economic policy variables have been similarly processed.

1 See in particular Rodrik, Subramanina and Trebbi (2002), and Easterly and Levine (2003).

2 For the positive spillover from trade openness on institutions see Berg and Krueger (2003), Islam and Montenegro (2002), and Wei (2000). For the role of domestic competition, see Ades and Di Tella (1999), Djankov and others (2001), and the World Bank (2002).

The paper also benefits from a newly constructed data set on private investment (Aysan et al., 2006). The International Finance Corporation (*IFC*) of the World Bank launched a project which addresses the private investments of various developing countries from 1970 to 1999. Studies using this disaggregated data on private investment show that private and public investment can have very different determinants (Aizenman and Marion, 1999). Building on the *IFC* series, our new data set covers 99 countries (60 for high quality data) over the period 1970-2002 (see *Annex A1* for the list of countries with high quality data).

The empirical approach relies on panel data (cross section-time series analysis) which is suitable - contrary to previous studies - to jointly assessing the impact of economic policies and governance institutions on private investments: the time series dimension captures the variability of policies through time and the cross section dimension covers the governance variables which tend to evolve slowly. The empirical model also allows for the simultaneous estimation of private investment and of governance institutions. This model is justified by the fact that - in addition to economic policies - changes in private investment can influence the quality of governance institutions³. Besides, this model of simultaneous equations allows other factors to affect private investment and the quality of governance concurrently.

The paper is organized as follows. The second section introduces the governance institutions which are detrimental for entrepreneurs to invest. The third section presents other determinants of private investment and of governance institutions. The fourth section summarizes some characteristics of governance data. The fifth section introduces the empirical model of private investment and of governance institutions. The sixth section presents the estimations of the two equations. The seventh section simulates how much MENA governance deficiencies explain the low of private investment in the region. The last section concludes.

2. Governance Institutions and Private Investment Decisions

The economic literature provides several classifications of governance institutions (see Kaufmann, Kraay and Mastruzzi, 2003 and the World Bank, 2004). Our choice of indicators has however been limited by the lack of annual data available for a large sample of countries over a relatively long period of time. This paper proposes to group the political and governance variables which are akin to affect individual investors' decision into three categories: "Administrative Quality" (*QA*), "Public Accountability" (*PA*), and "Political Stability" (*PS*, (see *Annex. 2* for more details on these indicators).

2.1. Quality of Administration (QA)

The "Quality of Administration" expresses the ability of government to provide investors with an investment-friendly and reliable environment. The "Quality of Administration" is defined by four indicators from the International Country Risk Guide (*ICRG, 1999*): (a) "Control over Corruption", (b) "Quality of Bureaucracy", (c) "Investment Profile", and (d) "Law and Order" (see definitions of variables in Appendix 2). These institutions promote investments by reducing the costs and risks of doing business.

Corruption often has adverse effects on economic activities. This fact is well documented and is often described as one of the major constraints facing enterprises in the developing world (see the World Bank 2005). In his cross-country analysis, Mauro (1995) shows that corruption reduces growth. Gupta, Davooli and Alonso-Terme (2002) stress that corruption exacerbates income inequality and poverty. Mo (2001) documents a causal chain of interest

³ See Altmann (2006), Lipset (1959), Glaeser et al. (2004), Azariadis and Lahiri (2002), Alesina et. al. (1996), Isham et. al. (2002).

for our work, linking corruption to low growth through reduced human and physical capital. In fact, for private investors, corruption increases investment and operation costs, as well as uncertainties about the timing and effects of the application of government regulations. Corruption raises also the investment and operational costs of public enterprises, which are detrimental to private investment through insufficient and low quality infrastructures (see Tanzi and Davooli, 1997). The same conclusions have been reached for the effects of bureaucratic quality on the economic activity (see Evans and Rauch, 2000).

The “Quality of Bureaucracy” index of ICRG summarizes the ability of the government to formulate and implement sound policies. Moreover, the “Quality of Bureaucracy” index indicates that “countries where the bureaucracy has the strength and expertise govern without drastic changes in policy or interruptions in government services. In these low-risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training”.

The “Investment Profile” is a measure of the “government’s attitude to inward investment as determined by the assessment of four sub-components: risk to operations, taxation, profit repatriation and labor costs”. Because investors are making long-term decisions, risks to operations and other uncertainties about future policies are detrimental to investment decisions. Taxation and labor costs have also a first order implication on costs, and therefore on decisions to invest. Although government regulations and taxation are reasonable and warranted in order to protect the general public and to generate revenues to finance the delivery of public services and infrastructures, overregulation and over-taxation deter investments by raising business start-up and operating costs.

In the “Law and Order” index, the law sub-component provides an “assessment of the strength and impartiality of the legal system”, while the order sub-component concerns the “popular observance of the law.” Although many aspects of the business environment affect investments, the security of property rights is the most important and the better documented issue. Because of the forward-looking nature of investment, investors need institutions that preserve the right of private property, ensure equitable and consistent rule of law in protecting this right, as well as effective incentives to respect and enforce it. A reliable judiciary, in particular, reduces transaction costs for businesses and sends positive signals to investors that rules of law will be equitably and consistently protected and enforced. On the empirical side, the issue of property rights and of rule of law has been widely covered by the literature, and the results of cross-country analysis are robust to various tests and specifications⁴.

2.2. Public Accountability (PA)

“Public Accountability” consists in two indicators: “Civil Liberties” and “Political Rights”. These indicators are estimated by Freedom House (FH).

Public accountability is part of the investment climate of an economy. Because fixed capital investments are generally irreversible, private investment decisions are highly sensitive to the perception of the credibility and tenacity of the political regime, as well as of policies⁵. An open and participatory political system provides stability of social institutions and ensures a broad public support to policies, which are in this case more sustainable in the long run. Public accountability is a guaranty of transparency and of better availability of information, which also help governments to build credibility. Public accountability provides access to

4 See Calderon and Chong, (2000), and Acemoglu, Johnson and Robinson (2001) in the context of growth; See North (1981), Knack and Keefer (1995), Calderon and Chong (2000), Easterly and Levine (2003), Rodrik, Subramanian, and Trebbi (2002), and Saleh (2004) in the context of investment.

5 See in particular Rodrik (1991) and Serven and Solimano (1993).

policymakers and can hold them responsible for failures in implementing policies. In particular, freedom of press, free political parties and open elections contribute to government's legitimacy and give voice to citizens in the decision-making process. On the empirical side, the literature on democratic participation has focused on the effects of transparency and accountability on growth, using data on civil liberties, political rights, and freedom of press from various sources. The empirical validation has, however, produced mitigated success⁶. The work of Pastor and Sung (1995) is one of the few to have been able to show a positive effect of various indicators of democratic institutions on private investment in the developing world.

2.3. Political Stability (PS)

“Political Stability” includes the following variables from ICRG (1999): “Government Stability”, “Internal Conflict”, “External Conflict” and “Ethnic Tensions” (see definition in Annex 2). Political instability increases the uncertainty in the economy and deters the risk-averse entrepreneurs to take action for profitable investment opportunities. Various authors have brought empirical evidence that various institutions associated with political instability hamper aggregate investment⁷.

All the governance indicators have been aggregated by using principal component analysis (PCA) to account for the multi-collinearity issue in using these potentially correlated variables in the same regression equation. In addition, we have generated a global indicator of governance (*GOV*) which summarizes the information contained in the three previous indicators (*QA*, *PA* and *PS*). Results of PCA are given in *Annex 3*.

3. Other Determinants of Private Investment

Developing countries do not operate in a competitive environment and face constraints that are not accounted for in the neoclassical model⁸. In this paper, we address some of these constraints. After having controlled for the quality of governance and for the traditional determinants of private investment – the expected aggregate demand (the accelerator) and the user cost of capital (Jorgenson, 1963) – we consider economic policy and human capital as part of the investment's decisions. We also consider these factors as improving the quality of governance institutions.

3.1. Structural Reforms

Among the most common constraints faced by developing countries is the deficit in economic reforms. This is the case of the MENA countries which have lagged behind other regions in terms of reforming their economy (Nabli and Végonzonès -Varoudakis, 2007). Structural reforms constitute an important determinant of the actual and future profitability of private investment. We have considered trade policy and financial development as part of our structural reforms index.

By providing more opportunities and incentives for the firms to invest, the financial development is an important part of private investment decisions. A developed financial system mobilizes and allocates resources to the enterprises. A developed financial system is also expected to be more efficient due to an increasing technological specialization, which

6 See De Haan and Siermann (1996), Prszeworski and Limongi (1993), Prszeworski et al. (2000).

7 See in particular Rodrik (1991), Alesina and Perotti (1996), Le (2004), Brunetti and Weder (1994). In the growth context see also Alesina et al. (1996), Svensson (1998), Olson et al. (2000).

8 See for example Greene and Villanueva (1991), Blejer and Khan (1984), and Serven (1997). See also Shafik (1992) on Egypt; Schmidt and Muller (1992) on Morocco, as well as Bisat, El-Erian, El-Gamal and Mongelli (1996), and Aysan et. al. (2007) on MENA.

leads to a better selection of projects and a more advanced diversification of risks. This allows the firms to finance more investment projects and increases the productivity of new investments (see Levine, 1997, for a synthesis). In addition, given the lack of well-functioning financial markets, the neoclassical assumption of the flexible accelerator model about the availability of credit supply by the banking sector cannot be taken for granted in developing countries. This discrepancy also occurs because of the public deficits and public debt, which can lead to financial repression and to eviction of private investment. On the empirical side, the impact of financial development on private investment is now well documented⁹. In his survey of investment functions in developing countries, Rama (1993) presents the positive effect of financial development on private investment in 21 of the 31 papers surveyed.

Trade reforms constitute another factor that can stimulate private investment decisions. Trade openness increases competitiveness and provides access to enlarged markets (Balassa, 1978; Feder, 1982). Trade openness can be at the origin of economies of scale and of productivity gains. In addition, trade openness influences the availability of external credit -- considering the general consensus on the role of tradable goods in providing positive externalities in the form of collateral for external financing (Caballero and Krishnamurthy, 2001).

All these factors create favorable conditions for the enterprises to invest. However, as mentioned in the introduction, economic reforms are also expected to affect private investment through their impact on the quality of governance institutions. There is, in particular, some evidence that greater openness to trade and stronger competition are conducive to governance improvement¹⁰. Opening up markets may help to weaken vested interests and reduce rents derived from prevailing economic and institutional arrangements. Trade openness may also lead to demands for governance institutions more suited to an increasingly varied and complex range of transactions (See IMF, 2003).

3.2. Human Capital

Human capital is part of the investment climate of an economy and is generally considered as a complementary factor of physical capital. Here, we have considered health and education as part of the human capital index. Human capital stimulates private capital formation by raising the profitability of investment. Human capital can also be at the origin of positive externalities¹¹. Because skilled workers are better in dealing with changes, a skilled work force is essential for firms to adopt new and more productive technologies¹². Besides, new technologies generally require significant organizational changes, which are handled better by a skilled workforce¹³. Human capital gives also the opportunity to the enterprises to expand or enter new markets.

Moreover, human capital entails better governance institutions. More educated people with higher life expectancy become more competent bureaucrats and -- in addition to better monitoring of the functioning of government officials -- demand for better quality of bureaucracy (Galor et al., 2005). In addition, educational attainment reduces the political instability by generating more avenues to reconcile the opposing parties. This idea constitutes one of the classical approaches in the literature to highlight the importance of education in bringing better governance institutions (Lipset, 1959). From the democratic

9 See for example, McKinnon (1973) and Shaw (1973).

10 For the positive spillover from trade openness on governance quality, see Berg and Krueger (2003), Islam and Montenegro (2002) and Wei (2000). For the role of domestic competition, see Ades and Di Tella (1999), Djankov and others (2001), and the World Bank (2002).

11 See Lucas (1988), Psacharopoulos (1988), and Mankiw, Romer and Weil (1992).

12 See in particular Acemoglu and Shimer (1999).

13 See Bresnahan, Brynjolfsson and Hitt (2002).

accountability point of view, a more educated society is more likely to be enfranchised in terms of civil rights and liberties (Acemoglu and Robinson, 2001). These considerations justify that human capital also appears as an explanatory factor of private investment through its impact on the quality of governance institutions.

Although educational attainment has improved in the majority of developing countries, many firms still rate inadequate skills and education of workers as severe obstacles to their operations¹⁴. This is the case of the MENA region, where progress is still needed in order for the region to catch up with South East Asia and Latin America¹⁵. To meet this challenge and as pointed out by the World Bank (2004), MENA countries have to gear up their educational system both to improve basic education and to equip the labor force with skills appropriate for enterprises to invest efficiently.

4. Some Considerations about the Data on Governance Institutions

The data usually used in governance are produced by independent private firms who provide consulting services to international investors such as the International Country Risk Guide (*ICRG*), the Heritage Foundation (*HF*), the Freedom House (*FH*) or the Fraser Institute (*FI*). To a certain extent, these indices provide very similar information on various aspects of governance. These data sets have certain common features. First of all, they can be considered to be subjective. They measure the perceptions of governance quality rather its actual quality. They also measure outcomes rather than actual rules (Glaeser et al., 2004). Finally, given that governance institutions do not change easily in theory, institutional indices are supposed to be rather persistent, even though they are relatively volatile in existing data sets.

All these factors appear contrary to using governance indices commonly used in the literature. In fact, these characteristics are very useful in determining investor perceptions on the quality of governance at the time of their investment. Indeed, what we are more concerned about is not the actual governance quality per se, but its perception by the private sector since our ultimate aim is to identify the determinants of private investment. This paper strongly shows that, in addition to the conventional determinants of private investment, governance institutions – whether perceived or real – are detrimental to investors' decision to invest. Hence, we allow the possibility that perceived institutions differ from the actual institutions. It is quite possible that in our framework, even though quality of actual governance is not high, private investors tend to perceive that their investment projects are protected by good institutions or vice versa.

To illustrate this idea, it can be noticed that following economic crises, governance indices of crises-hit countries can vary enormously. It is hard to believe that institutions change drastically in a short period of time, but it is reasonable to argue that perceptions of governance institutions in the eyes of beholders, i.e., investors, are altered through the crises. Investors modify their expectations from the institutions when new information is revealed in a crises-hit economy.

One explanation for these drastic upheavals in governance indices of crises-hit countries is that investors definitely have incomplete and asymmetric information on the quality of governance institutions in the economy. During normal times, when business runs as usual, information on the quality of governance is not observed. However, with the advent of crises or new information, governance institutions face with a real examination. Hence, the manner in which countries handle new conditions can influence the perception of governance by

14 See the World Bank (2005).

15 See Nabli and Véganzonès -Varoudakis (2007).

private investors. This information also accumulates over time and provides a basis for long-term perceptions of governance quality throughout the countries.

The advanced countries of today have built their investor-friendly and persistent governance institutions over long periods of time, after successfully passing certain historical tests. However, in the short term, investors make their judgments on the quality of governance based on a numerous factors. These factors certainly include some historical episodes experienced by the country which can provide insight into the future potential performance of existing governance institutions. Debt repudiation or the state's appropriation of private property in the past, for example, definitely is taken into account in assessing the quality of country governance by entrepreneurs. However, in addition to this type of backward looking behavior, entrepreneurs' perception of the quality of governance is also shaped by existing and anticipated conditions in the future. In this regard, we argue that existing indices measuring the quality of governance capture investors' concerns about the institutions quite well.

5. A Model of Private Investment Decisions and Governance Institutions

The empirical model aims at jointly explaining the share of private investment and the various measures of governance institutions, namely "Quality of Administration" (QA), "Public Accountability" (PA), "Political Stability" (PS). as well as the global indicator of governance (GOV). These endogenous variables are simultaneously determined by influencing each other. In order to account for this reverse causality, we establish a system of equations to estimate the share of private investment in GDP (PI) and quality of governance institutions (QI) simultaneously. In the private investment equation, lower quality of governance institutions is expected to reduce the private investment. In the governance equation, private investment enters on the right side with an expected positive sign. Other factors that affect both private investment and governance institutions are also taken into consideration.

This system of equations is estimated using three stage least squares by controlling other determinants of endogenous variables. Since endogenous variables appear as regressors in other equations, they have to be instrumented out using exclusion restrictions. Initially, 3SLS regressions are run separately for QA, PS and PA. To complete the analysis, we have then substituted in this system of equation the aggregate indicator of governance (*GOV*), which is calculated as the principal component analysis of all the initial indicators and which provides a summary of the three measures of governance.

The model estimated is the following:

$$PI_{it} = \alpha_0 + \alpha_1 QI_{it} + \alpha_2 X_{1i} + \varepsilon_{1it} \quad (1)$$

$$QI_{it} = \gamma_0 + \beta_1 PI_{it} + \beta_2 X_{2i} + \varepsilon_{2it} \quad (2)$$

Where

PI_{it} is the share of private investment in GDP

QI_{it} represents the various indexes of governance (*QA*, *PA*, *PS* and *GOV*)

X_{1i} and X_{2i} are the other control variables in private investment (*PI*) and governance (*QI*) equations respectively

ε_{1it} and ε_{2it} are the error terms of each equations. i indicates the country and t represents the time of the variable.

The determinants of private investment in the neoclassical flexible accelerator model include the expected aggregate demand (the accelerator) and the user cost of capital. Hence, the private investment equation in our specification incorporates real interest rate (*Realr*) to capture the user cost of capital. It also accounts for the GDP growth rate in last year (*grow*) to control for the accelerator effect. These two variables are excluded from the governance equation (*QI*) in order to identify the system.

On the other hand, both of the equations take into account the GDP per capita, as well as the variations in structural reform (*SR*) and human capital (*H*). Structural reforms are characterized with trade policy (*TP*) and financial development. Financial development is proxied by the private credit by banks and other depository institutions (*Pcr*). Trade policy is constructed as the commercial openness (calculated by aggregating the export and import in total GDP) from which we have subtracted the exports of oil and mining products, as well as the “natural trade openness” constructed by Frankel and Romer (1999). The trade policy and financial development variables form the structural reform indicators after implementing the principal component analysis (see *Annex 3* for results of PCA). Structural reform is expected to stimulate private investment, as well as the institutional change for the better.

Human capital (*H*) is expressed with life expectancy at birth, and average years of primary, secondary and higher schooling in the total population over 15 years old. These variables are also aggregated with principal component analysis. Human capital is widely considered to enhance the private investment and to lead to better governance institutions. Therefore, human capital variable is expected to have positive coefficients in both of the equations.

In the investment equation, GDP per capita is controlled to account for the neoclassical Solow growth model. Countries with lower GDP per capita are expected to gradually catch up with the more developed counterparts by having more capital investment over time. Moreover, GDP per capita accounts for possible externalities, such as greater market size on demand and supply of good and services, and finally on private investment. GDP per capita in governance equations represents the idea that more developed countries can afford to have better governance institutions (Azariadis and Lahiri 2002). Hence, a positive relationship is expected between GDP per capita and governance quality.

Oil export as a percentage of total merchandise export also enters into both equations. The typical natural curse hypothesis is taken into account by incorporating this variable into the investment equation. When a country relies more on natural resources extraction in its exports, there can be less incentive to invest for other products. This result, for example, may stem from the increase in the cost of labor (Rodriguez and Sachs, 1999). This variable also has an implication for the quality of governance institutions. Countries with less reliance on natural resources are expected to form better governance institutions. The natural resource-abounded countries do not need to mobilize the society to enhance aggregate income. The ruling class can control the economy by collaborating with a small number of people in the society. Therefore, the production structure of the country does not generate good governance institutions in favor of the society (Ross 2001, Bellin, 2001). Under these circumstances, the elite is also less inclined to provide better governance by considering the future effects of today’s enfranchisements (Acemoglu and Robinson, 2001) and engage in more rent-seeking activities¹⁶. Hence, the share of oil export in merchandise export is expected to reduce the quality of governance institutions.

16 Aysan (2006) points out that this variable captures the “rentier effect”. He notes that “it is easier for the elite to control and capture the rents from ‘point source’ resources. Resource rents are generally high in oil production. Around 80 percent of oil income is considered to be resource rent (Gylfason, 2001), while such rents are much lower for other types of products in industry or in agriculture. A small work force is required to extract oil resources. Most of the time, oil is extracted by foreign firms with sophisticated technical skills (Isham

The tenure of the system (*TenSyst*) from Keefer et al. (2001) reports the number of years that an administrative system -- regardless of whether autocratic or democratic -- lasts in the country. The underlying idea to include this variable in the governance equation is to account for the fact that institutions settle over time. The longer the time passes with the existing system, the better institutions are established. *TenSyst*. However, is excluded from the investment equation to identify the system of equations. This exclusion restriction is quite reasonable considering that *TenSyst* has a direct impact on the governance institutions whereas its influence on private investment is more likely to be realized through its effect on these institutions.

A regional dummy for the Middle Eastern and North African countries (*MENA*) appears as a right hand side variable in both of the equations. One of our primary purposes is to understand the position of MENA countries among the other countries and to see whether MENA substantially diverges from the rest of the world in terms of private investment and of governance performance.

6. Estimating the Model

Equations (1) and (2) have been estimated on an unbalanced panel of 32 developing countries over 1980-2002 using the three stages least square estimations technique (*3SLS*). Four sets of regressions have been conducted, each one with a different indicator of governance. Table 1 presents the estimation's results of equations (1) and (2) when "Quality of Administration", "Political Stability", "Public Accountability" and "Governance" are taken into consideration respectively.

6.1 Administrative Quality

Estimation results produce quite interesting conclusions (see Table 1). One of the most interesting outcomes concerns the Quality of Administration index which gives a positive and significant coefficient at the 5 percent level in the investment equation (1). This result confirms that a low level of corruption, a good quality of bureaucracy, a clear security of property rights, a reasonable risk to operations, a sound taxation and regulation as well as better law and order are of first importance for the enterprises' decisions to invest. This result makes a real contribution to the empirical literature on governance by validating, over a relatively long period of time, the role of a large set of governance variables on private economic performance.

This result is robust to the introduction of other explanatory variables. This is the case of structural reforms and human capital. The roles of these variables in explaining cross-country economic achievement has recently been questioned (Easterly and Levine, 2003). Our regression results indicate a significant impact of these variables on private investment decisions. Hence, our estimations stress that, although the quality of governance constitutes a major factor in the private sector decisions, the role of economic policies cannot be disregarded. Our result also confirms that firms in developing countries face constraints that are not accounted for in more developed economies, and that deficiencies in trade policy, financial development and education have a long-term impact on private investment decisions and growth.

et al, 2002). As a result, the ruling elite can exclude the majority of the population in extracting oil reserves. In other words, there exists no incentive on the part of the elite to incorporate the society into increasing aggregate production. Given the lack of economic preconditions, the citizens cannot generate pressure for increased literacy and political influence. This lack of political influence further feeds the vicious cycle by not effectively and peacefully revealing public interest and preferences."

The regressions also validate the neoclassical theory of the firm in the case of developing countries. The accelerator variable has the expected positive sign which implies that anticipations of economic growth induce more investment. Similarly, the interest rate appears to exert a negative and significant effect on private investment which is consistent with the user cost of capital theory. Both variables are highly significant, indicating that at the final stage, supply and demand considerations constitute major factors for the entrepreneurs to undertake a new investment project. However, our model fails to verify the Solow hypothesis of decreasing return to scale of physical capital accumulation. The coefficient of the GDP per capita variable, although negative, is not significant.

Estimation of equation (1) also confirms the natural curse hypothesis. The coefficient of the oil export variable as a percentage of total merchandise export is significant and negative. Identically, the regional dummy for MENA countries exhibits a negative coefficient. MENA countries seem to be diverging from the rest of the world in terms of private investment which is the key determinant of long-term growth. However, this dummy variable is not significant at the conventional levels. This result is likely to stem from the oil export variable in the system which significantly reduces the private investment.

Results of the “Administrative Quality” equation (Table 1, column 2) reveal the positive impact of several factors. This is the case of the GDP per capita which means that more developed countries entail better governance institutions. Also, private investment helps improve the administrative quality significantly at a 5 percent level. This last result justifies the use of the 3SLSQ estimation technique in order to address – among other things – the two ways causality. Tenure of system also predicts better administrative quality at less than 1% significance level.

The estimations do not validate, however, the negative impact of the share of oil export in merchandise export. This result contradicts the fact that countries with less reliance on natural resources form better governance institutions. More importantly, structural reforms and human capital do not appear to immediately improve the administrative quality. However, when estimating the system by eliminating private investment from equation (2), structural reforms appears to be positive and highly significant, other results being unchanged¹⁷ (see Table 1, column 4). This result seems to be due to the fact that the structural reforms index is correlated with private investment. Hence, the positive impact of private investment on administrative quality appears to be mainly due to the structural reforms which stimulate firms’ decisions to invest. This result confirms that, in addition to the direct link highlighted previously, economic reforms affect private investment through their impact on institutional quality. This two channel causality brings new empirical evidences on the link between institutions and private economic activity.

6.2 Political Stability

When “Political Stability” is taken into consideration (columns 5 and 6, Table 1), this factor also appears to have a significant and positive impact on the firms’ decisions to invest. This conclusion is in line with the findings of various authors which have been able to show – using various indicators of political stability – that a sound and stable political environment provides enterprises with more predictable conditions to invest.

This new set of estimations validates as well most of the conclusions drawn previously with a few exceptions. Structural reforms and human capital are still validated as important factors for private investment decisions. This time, however, they play their roles indirectly only, through improving political stability. This conclusion constitutes quite interesting empirical evidence. Structural reforms, by leading to better economic performances, lower the

¹⁷ Oil export also becomes significant in “Administrative Quality” equation at a 10 percent level.

discontent of the population and produce a more stable political environment. Education goes in the same direction. Another small difference can be seen in the MENA dummy variable, which is now significant in both equations, though at the 10 percent level: MENA countries under- perform in private investment while appearing to be better in reaching more stable political systems. This finding is quite understandable considering that MENA countries display high government stability which is one of the main components in aggregate political stability indicator. Other conclusions such as the neoclassical investment model and the natural curve hypothesis in equation (1) of private investment, the positive impact of the tenure of the system and the better political stability of richer countries in equation (2) of institutional quality, hold in the case of the “Political Stability” index.

6.3 Public Accountability

Results, when “Public Accountability” measures the quality of institutions, are quite different (see columns 7 and 8 of Table 1). This time, the estimations fail to find strong evidence that “Public Accountability” is detrimental for private investment. Although some empirical evidence can be found in the literature (see in particular Pastor and Sung, 1995), this result may be explained by the unresolved debate on the potential role of democratic institutions on growth (Glaeser et al., 2004), as well as by some deficiencies in the specification of our model. For the comparison purposes in this paper, we have estimated the same model for each of our indicators of governance. Hence, our results are likely to stem from the fact that the underlying mechanisms to shape the Public Accountability are different from the mechanisms of Administrative Quality and Political Stability.

The estimations, however, still validate that structural reforms encourage private investment decisions. The link appears to be only direct: the coefficient of the structural reform indicator in the institutional quality equation [equation (2)] is insignificant. As for “Political Stability”, education and health of the population entail private investment by participating in the democratization process of the country. An interesting result also concerns the MENA dummy variable in “Public Accountability” equation which coefficient is now significant and negative. This finding confirms the deficit in democratic institutions of the MENA region, as already stressed by several authors (see in particular the World Bank, 2004). Moreover, another result shows that richer countries exhibit better democratic institutions and natural resources exporters perform low private investment. The initial results for real interest rate, economic growth and tenure of system remain unaltered as well.

6.4 Governance

The last set of estimations concerns the aggregate indicator of governance (GOV). Results validate most of the findings obtained before, which confirms the robustness of previous estimations (see columns (9) to (12) of Table 1). The aggregate indicator of governance displays a positive and significant coefficient, which validates the importance of governance for the firm’s decisions to invest. Structural reforms are still highly significant in enhancing the private investment. The effects of human capital work indirectly through affecting aggregate governance. Overall, MENA countries under-perform in terms of governance. This result indicates the need for institutional reform in the MENA region, especially considering the positive and persistent role of governance institutions in private investment. An interesting point, also, can be seen in the fact that since Public Accountability is included in the aggregate indicator of governance¹⁸, this factor now actively participates in the firm’s decisions to invest. Even though this result has to be considered with caution, it can be seen as another evidence for the literature on the positive role of democratic institutions in the economic performance of the countries.

18 PA contributes significantly and with the right sign to GOV (see the results of the PCA in Annex 3).

7. Are Governance Institutions Responsible for Low Private Investment in MENA?

To assess the contribution of factors to private investment in MENA, we compare performance of the MENA region in “Administrative Quality”, “Political Stability” and “Public Accountability” – as well as in structural reforms and human capital – to the ones of the more advanced developing economies of our sample, namely the East Asian economies. Using the model estimated previously, we simulate which level of private investment MENA could have achieved if the region had experienced the same economic policies and political and governance institutions as East Asia. This comparison has been done for two time periods – the 1980s and the 1990s respectively – which reveal quite different characteristics. For the calculations, we use the last set of estimations which summarize the effects of the three sub component of governance (see Table 1, columns 9 and 10).

We first calculate the coefficients of the initial variables entering into the composite governance indicator. The calculation is based on the estimated coefficients of the aggregate indicator in the regression (*Gov*, Table 1 column 9), as well as on the weights of each principal component in the aggregate indicator combined with the loading of the initial variables in each principal component (*Annex 3*)¹⁹. Coefficients of the initial variables are presented in *Annex 4* and contributions appear in Tables 2 and 3. The contribution of the Administration Quality has been calculated by aggregating the contributions of its four sub-components²⁰. Same thing has been done for Political Stability²¹, Public Accountability²², Structural Reform²³ and Human Capital²⁴ as well.

A first set of conclusions concerns the weaknesses of MENA institutions during the 1980s (see Table 2). Insufficient “Administrative Quality” compared to East Asia has cost to the region 1 percent of private investment to GDP on average per year. These deficiencies have also concerned “Political Stability” which cost has been slightly lower (0.7 per cent of GDP). Private investment could have reached on average 14.2 per cent of GDP (compared to 11.9 per cent observed) if MENA had benefited from the same quality of administration and political stability as East Asia.

In the 1990s, the gap with East Asia has noticeably reduced and improvement of the “Administrative Quality” and “Political Stability” notably helped investment’s decisions, which deficit has only been of 0.2 points of GDP on average per year (see Table 2). This result is in line with the findings of other studies, which acknowledge in the region an improvement in the quality of the administration during the late 1990s (see in particular the World Bank, 2004)²⁵. However, MENA region has not improved its “Public Accountability” as much as the East Asia throughout the 1990s. In this regard, MENA region could have increased its private investment to GDP ratio by 0.7 percent on average per year (0.4 percent in the 1980s). This finding can be linked to the significant deficit of MENA in terms of democratic institutions (see World Bank, 2004). This aspect gives to the region a significant scope for improving private investment performances in the future.

19 See for example, Nagaraj et al (2000) for more details on the methodology.

20 These sub-components are corruption, bureaucracy quality, investment friendly profile of administration and law and order (see section 2).

21 Political Stability has been proxied by aggregating the following indicators: government stability, internal and external conflicts, and ethnic tensions.

22 Public Accountability has been calculated by using civil liberties and political rights.

23 The Structural Reform indicator contains trade policy and financial development

24 Human Capital is defined from life expectancy, and years of primary, secondary and tertiary education

25 The same studies note, however, that the smaller gap with East Asia is also partly due to a less significant improvement in the quality of institutions in this region.

Institutional deficiencies have not been the only reason of the low private investment performances in MENA region. Deficit in structural reforms constitutes another major explanatory factor over the whole period, but more importantly during the 1990s. The low trade openness of the region compared to East Asia and the insufficient development of the financial system have reduced private sector investment projects by 3.7 points of GDP in average per year (1.2 during the 1980s). The ratio of private investment could have reached 16.4 percent of GDP during the 1990s (compared to 11.6 observed) and 15.4 percent in the 1980s, if both factors (structural reforms and governance institutions) had been improved to a similar level as in East Asia (see Table 2).

Interesting conclusions emerge also in analyzing a more precise diagnostic of the weaknesses of the political and governance institutions in MENA. In the 1980s, weaknesses involve the four sub components of “Quality of Administration”: corruption and law and order are two important aspects, but the limitations due to the low bureaucratic quality, risks to operations, regulations, taxations, and cost of labor have also been of some concern (see Table 3). Our findings are in line with the conclusions of the literature on the role of corruption, as well as of rules of law and property rights in reducing the costs and risks of doing business. Besides, our results unravel new empirical evidences on the subject of regulation and taxation and on their impact on the business environment.

On the side of “Political Stability”, the main shortcomings of the region during the 1980s have come from the perception of internal and external conflict which cost to private investment 0.34 and 0.50 points of GDP respectively (see Table 3). This finding confirms that institutions associated with political instability have a disruptive effect on aggregate investment. This result also adds to the literature by giving specific evidence on which factors are more costly for private investment decisions. In the case of the MENA region, the external and internal conflicts and, to a lower extent, ethnic tensions have increased the uncertainty in the economy and prevent the creation of a friendly business environment. Finally, on “Public Accountability”, concerns about civil liberties and political rights explain both quite well the deficiencies in democratic institutions on both sub periods.

Another striking feature of this new set of calculations relates to the critical concern about trade policy and financial development. In the MENA, trade policy deficiencies have reduced private investment decisions by respectively 1 and 1.9 per cent of GDP on average per year during the two sub-periods. Likewise, a better financial system (such as in the East Asian economies) would have stimulated firms’ decisions to invest by 1.9 points of GDP yearly during the 1990s (see Table 3). These results have to be related to the deficit of the region in these two fields of activity (Nabli and Véqanzonès-Varoudakis, 2007). These findings reveal that structural reforms represent another important question that MENA governments have to address if the region wants to catch up with more successful developing economies.

8. Countries Experiences

Given that countries in MENA region have distinct characteristics in terms of governance institutions, it is a useful exercise to investigate each country separately. Hence, in this section, we particularly focus on the MENA countries and analyze how each specific governance institutions affect private investment.

Egypt: In Egypt, private investment shows particular low records during the 1990s (See Table 4). Egypt appears to have not improved its governance institutions much, as opposed to other MENA countries in our sample. The main reason for the lack of institutional reform stems from public accountability, other aspects of public governance having noticeably improved. In the 1980s, corruption appears to be the most important

contributing factor for lack of institutional reform. Whereas, most important public governance indicators shift to political rights and liberties in the 1990s (see Table 5). More importantly, private investment in the 1990s primarily suffers from a lack of structural reforms which costs yearly 4.2 points of GDP (compared to 1.3 points in the 1980s, see Table 4).

Iran: In Iran, private investment performed poorly in the 1980s, but potential for improvement is also big in the 1990s. Major obstacles have been the low quality of public governance and the insufficient level of structural reforms. The lack of structural reforms have been felt more in the 1990s, while deficiencies in public governance had been more prominent in the 1980s. Iran could have improved its private investment to GDP ratio by 4.2 and 1.6 percents in the 1980s and 1990s respectively, if it had reached the same level of institutional quality of East Asian countries (see Table 4). Moreover, the major factor contributing to weak public governance in Iran has been changed from political instability to public accountability in the 1990s. Bureaucratic quality and internal and external conflicts have been of major concern throughout the 1980s. Lack of political rights and civil liberties attract more attention in the 1990s (see Table 5). In the 1990s, however, the deficit of structural reforms has been the most harmful factor to private investment decision, with a cost of 5.9 point of GDP.

Morocco: As for other MENA countries, Morocco lack of structural reforms has been more pronounced in the 1990s and its cost for private investment has been of 3.6 points of GDP (compared to 1.9 point in the 1980s). In the 1980s, public governance deficiencies have mainly concerned the low quality of administration -- which cost 0.9 points of GDP to the private investment ratio -- and more precisely corruption. Morocco, however, has improved its public governance quite significantly in the 1990s (see Table 4) and seems to have alleviated corruption quite well (see Table 5).

Tunisia: Tunisia performances in terms of private investment, structural reforms and public governance have been the best of our sample of MENA countries. In the 1990s, similar to other MENA countries, Tunisia has done better in term of quality of public governance. Tunisia has especially improved its administrative quality and political stability, whereas the deficiency in public accountability remains almost the same (see Table 4). In fact, in both decades, Tunisia has suffered from a lack of political rights (see Table 5).

9. Conclusion

This paper highlights the role of governance institutions in private investment decisions. This link has been empirically validated by estimating a model of private investment and political and governance quality for a panel of 32 developing countries over the 1980s and the 1990s. Our estimations verify that a low level of corruption, a good quality of bureaucracy, a reliable judiciary, a strong security of property rights, a reasonable risk to operations, as well as a sound taxation and regulation contribute significantly to the firms' decision to invest. Our estimations also corroborate that "Political Stability" and "Public Accountability", by providing a sound and predictable environment to the enterprises, participate in a friendly business environment. These results add significantly to the literature on governance by validating the role of a large set of institutional variables on private economic performances over a relatively long period of time.

Our findings are robust to the introduction of other explanatory variables: structural reforms – in the form of trade openness and financial development – and human capital in particular. We therefore confirm that -- contrary to recent works which approach political and governance institutions as the dominant factors with little independent influence of economic policies (Rodrick, Subramanina, and Trebbi, 2002; and Easterly and Levine, 2003). – economic policies and political and governance institutions both participate in the firms' decisions to invest. These finding illustrate that firms in developing countries also face constraints that are not accounted for in more developed economies. Besides, our results show that structural reforms and human capital also contribute to the firms' decisions to invest by improving the quality of governance. These conclusions can be considered as an important contribution to the empirical literature on governance.

In MENA, improved governance institutions would greatly stimulate private investment decisions. This is the case for all components of governance, with special attention to civil liberties and political rights, corruption and bureaucratic quality, conflicts and ethnic tensions. By reforming substantially their governance institutions (i.e., by increasing by one standard deviation all components of governance during the 1980s and the 1990s), MENA countries could have boosted private investment by 3.4 to 3.5 percent of GDP. This result makes of governance a key variable for improving the investment climate in the region.

Governance deficiencies, however, are not the only issues that MENA could address to encourage private investment in the region. Reforming the economy constitutes another powerful instrument that would also stimulate firms' investment decisions. A more developed financial system would have permitted the private sector to implement more investment projects. One standard deviation increase during the 1980s and the 1990s would have raised the private investment ratio by 1.2 to 1.7 percent of GDP. Similarly, a more open trade policy would have stimulated private investment decisions by 1 to 1.3 percent of GDP during the same period. This makes of structural reforms an important issue that MENA governments also have to address if the region wants to catch up with more successful developing economies.

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Table 1: Estimation Results

	Endogenous Variables		Endogenous Variables		Endogenous Variables		Endogenous Variables		Endogenous Variables		Endogenous Variables	
	Priv Inv (1)	QA (2)	Priv Inv (3)	QA (4)	Priv Inv (5)	PS (6)	Priv Inv (7)	PA (8)	Priv Inv (9)	GOV (10)	Priv Inv (11)	GOV (12)
Explanatory Variables												
QA	1.99 (1.98)**		2.07 (2.06)**									
PS					3.51 (1.67)*							
PA							4.43 (1.6)					
GOV									2.25 (1.99)**		2.26 (2.00)**	
Private Investment		0.1 (2.16)**				-0.065 (1.61)		-0.08 (1.53)		0.014 (0.66)7		
Structural Reforms	1.64 (4.73)***		1.64 (4.75)***		1.07 -1.45		3.27 (4.86)***		1.98 (8.06)***		1.98 (8.07)***	
Human Capital	0.62 (2.82)***	0.11 (1.04)	0.57 (2.63)***	0.31 (9.37)***	-0.1 (0.2)	0.5 (4.86)**	-0.05 (0.10)	-0.05 (1.53)	0.36 (1.4)	0.1 (1.2)	0.35 (1.36)	0.13 -1.46
Oil	-0.03 (2.66)***	-0.02 (0.46)	-0.03 (-2.91)***	0.04 -1.08	-0.05 (-2.86)***	0.25 (5.21)***	-0.05 (-2.90)***	0.21 (3.49)***	-0.035 (-2.97)***	0.124 (3.27)*	-0.038 (-3.14)***	0.133 (4.36)***
Exports		0.0003 (0.11)		-0.003 (1.65)*		0 (0.10)		-0.001 (0.19)		0 (0.13)		-0.001 (-0.49)
GDP per Capita	0 (-0.28)		0 (-0.01)		0 (-0.42)		-0.01 (-1.12)		0 (-0.84)		0 (-0.81)	
MENA Dummy	-1.2 (1.21)	0.0001 (3.54)***	-1.1 (1.11)	0.0001 (4.1)***	-2.3 (1.75)*	0.0002 (4.04)***	3.72 (1.11)	0 (6.56)***	-0.34 (0.31)	0.0003 (8.72)***	-0.32 (0.29)	0.0003 (8.84)***
		0.15 (0.84)		0.06 (0.38)		0.34 (1.84)*		-1.14 (4.91)***		-0.28 (1.91)**		-0.29 (2.09)**

Table 1: Estimation Results – Continued.

Rear	-0.02 (2.06)**	-0.036 (3.39)**	-0.05 (2.53)**	-0.05 (3.13)***	-0.037 (2.87)***	-0.035 (3.21)***						
Growth	0.22 (3.29)***	0.2 (2.88)**	0.22 (3.09)***	0.29 (3.04)***	0.22 (3.53)***	0.21 (3.58)***						
Ten Syst	0.02 (4.36)***	0.017 (6.19)***	0.013 (3.71)***	0.11 (2.54)***	-0.015 (5.75)***	-0.016 (6.44)***						
Constant	11.8 (16.95)***	-1.53 (3.20)***	11.8 (16.92)***	-0.52 (6.52)***	14 (7.48)***	-0.2 (0.4)	11.1 (16.34)***	-0.73 (1.19)	12.2 (15.55)***	-0.82 (2.14)	12.2 (15.61)***	-0.66 (9.39)
Numb obs	349	349	349	349	349	349	349	349	349	349	349	349

Notes: (*) indicates significance at 10 %; (**) indicates significance at 5 %; (***) indicates significance at 1 %. See sources of data in footnote¹

¹ Sources of data are as follows: the private investment series have been processed from various national and international sources (International Finance Corporation (IFC), World Development Indicators (WDI), Life Data Base (LDB), see section 4.1 for more details). The “Administrative Quality” and “Political Stability” indexes use ICRG (1999) data. The components of the “Public Accountability” indicator come from Freedom House (2002). The “Structural Reforms” index uses data from WDI, but the oil export series entering the trade policy indicator comes from the United Nations. In the “Human Capital” indicator, the numbers of years of schooling are from Barro and Lee (1994) and from Barro (2000a and b), and the life expectancy series is from WDI. All aggregated indicators have been generated after implementing the PCA methodology (see Annex 3 for more details). Interest rates (Rear) have been calculated from IFS and TenSyst comes from Keefer et al. (2001). All other data are from WDI.

Table 2: Private Investment to GDP

Increase with Improvement in								
% GDP	Priv Invest (actual)	Structural Reforms	GOV	QA	PA	PS	Total Contributions	Priv Invest (potential)
1980	11.9	1.2	2.2				3.4	15.3
1990	11.6	3.7	0.9	1	0.4	0.7	4.6	16.2
				0.3	0.7	-0.1		

Source: Authors' calculations

Table 3 Private Investment to GDP: (Increase with an Improvement in)

	corrup	bur	inves	law	pol	civ	gov	int	ext	ethn	trade	priv				
contr	QA	tion	qual	prof	ord	PA	rights	lib	PS	stab	confl	confl	tens	SR	pol	cred
% PIB																
1980s	<u>1.0</u>	0.29	0.19	0.24	0.32	<u>0.4</u>	0.24	0.21	<u>0.7</u>	0.02	0.34	0.50	-0.12	<u>1.2</u>	<u>1.0</u>	<u>0.3</u>
1990s	<u>0.3</u>	0.07	0.23	-0.04	0.01	<u>0.7</u>	0.39	0.33	<u>-0.1</u>	-0.05	0.04	0.08	-0.16	<u>3.7</u>	<u>1.9</u>	<u>1.9</u>

Source: Authors' calculations

Table 4: Private Investment to GDP: Increase with Improvement in

1980	Priv Invest (actual)	Structural Reforms	GOV	QA	PA	PS	Total Contributions	Priv Invest (potential)
% GDP								
Egypt	<u>12.6</u>	1.3	1.7				<u>3.0</u>	<u>15.6</u>
				1.2	0.2	0.4		
Iran	<u>9.6</u>	2.7	4.2				<u>6.9</u>	<u>16.5</u>
				1.4	0.9	1.8		
Morocco	<u>12.1</u>	1.9	1.6				<u>3.5</u>	<u>15.6</u>
				0.9	0.1	0.5		
Tunisia	<u>13.6</u>	-1.2	1.6				<u>0.4</u>	<u>14.0</u>
				0.7	0.5	0.3		
MENA	<u>11.9</u>	1.2	2.2				<u>3.4</u>	<u>15.3</u>
				1	0.4	0.7		
1990	Priv Invest (actual)	Structural Reforms	GOV	QA	PA	PS	Total Contributions	Priv Invest (potential)
% GDP								
Egypt	<u>8.9</u>	4.2	1.7				<u>5.9</u>	<u>14.8</u>
				0.6	0.9	0.01		
Iran	<u>12.7</u>	5.9	1.6				<u>7.5</u>	<u>20.2</u>
				0.2	1.2	0.04		
Morocco	<u>10.1</u>	3.6	0.4				<u>4.0</u>	<u>14.1</u>
				0.1	0.2	-0.13		
Tunisia	<u>14.9</u>	1.2	0.6				<u>1.8</u>	<u>16.7</u>
				0.2	0.6	-0.32		
MENA	<u>11.6</u>	3.7	0.9				<u>4.6</u>	<u>16.2</u>
				0.3	0.7	-0.01		

Source: Authors' calculations

Table 5: Private Investment to GDP: Increase with improvement in:

1980s	corrup	tion	bur	inves	law	pol	civ	gov	int	ext	ethn	trade	priv				
contr																	
%PIB	<u>QA</u>		tion	qual	prof	ord	<u>PA</u>	rights	lib	<u>PS</u>	stab	confl	confl	tens	<u>SR</u>	pol	cred
Egypt	<u>1.2</u>	0.6	0.17	0.3	0.18	<u>0.2</u>	0.21	0.03	<u>0.4</u>	0	0.26	0.22	-0.1	<u>1.3</u>	0.5	0.7	
Iran	<u>1.4</u>	0.1	0.6	0.2	0.41	<u>0.9</u>	0.41	0.53	<u>1.8</u>	0.07	0.6	0.97	0.12	<u>2.7</u>	2.5	0.2	
Morocco	<u>0.9</u>	0.4	-0.1	0.2	0.34	<u>0.1</u>	-0.1	0.14	<u>0.5</u>	-0.1	0.3	0.36	-0.08	<u>1.9</u>	0.7	1.2	
Tunisia	<u>0.7</u>	0.1	0.09	0.2	0.34	<u>0.5</u>	0.37	0.14	<u>0.3</u>	0.05	0.22	0.44	-0.41	<u>-1</u>	0.1	-0.8	
MENA	<u>1</u>	0.3	0.19	0.2	0.32	<u>0.4</u>	0.24	0.21	<u>0.7</u>	0.02	0.34	0.5	-0.12	<u>1.2</u>	<u>1</u>	<u>0.3</u>	

1990s	corrup	tion	bur	inves	law	pol	civ	gov	int	ext	ethn	trade	priv				
contr																	
%PIB	<u>QA</u>		tion	qual	prof	ord	<u>PA</u>	rights	lib	<u>PS</u>	stab	confl	confl	tens	SR	pol	cred
Egypt	<u>0.6</u>	0.2	0.25	-0.1	0.17	<u>0.9</u>	0.41	0.45	<u>0.0</u>	-0.1	0.21	0.04	-0.19	4.2	2.1	2.2	
Iran	<u>0.2</u>	-0.2	0.15	0.2	0.03	<u>1.2</u>	0.51	0.68	<u>0.0</u>	-0	0.04	0.17	-0.15	5.9	3.1	2.8	
Morocco	<u>0.1</u>	0.1	0.25	-0.1	-0.15	<u>0.2</u>	0.18	0.06	<u>-0.1</u>	-0.1	0.01	0.09	-0.13	3.6	1.7	2	
Tunisia	<u>0.2</u>	0.1	0.25	-0.2	0.01	<u>0.6</u>	0.44	0.13	<u>-0.3</u>	-0.1	0.12	0.01	-0.16	1.3	0.7	0.5	
MENA	<u>0.3</u>	0.1	0.23	-0	0.01	<u>0.7</u>	0.39	0.33	<u>-0.1</u>	-0.1	0.04	0.08	-0.16	3.8	<u>1.9</u>	<u>1.9</u>	

Source: Authors' calculations

Annex 1

List of Countries with High Quality Private Investment Data (60 countries)

List of Countries included in the regressions *(32 countries)

LA	AFR	ECA	EAP	MENA
Argentina	Kenya*	Lithuania	Malaysia*	Egypt, Arab Rep.*
Belize	Malawi*	Bulgaria	Cambodia	Iran, Islamic Rep.
Bolivia*	Mauritius*	Croatia	China*	Morocco*
Brazil*	Benin*	Estonia	Indonesia*	Tunisia*
Chile*	Comoros	Moldova	Philippines*	
Colombia*	Cote d'Ivoire	Poland*	Thailand*	
Costa Rica*	Ethiopia	Romania		Turkey*
Ecuador*	Guinea-Bissau	Serbia and Montenegro		
El Salvador	Namibia	Uzbekistan	SA	
Guatemala*	Papua New Guinea*	Yugoslavia (FR)	Bangladesh*	
Guyana	Seychelles		India*	
Honduras*	South Africa*	CRB	Pakistan*	
Mexico		Barbados*		
Panama		Dominican Rep.		
Paraguay*		Haiti		
Peru*		St Lucia		
Uruguay*		St. Vincent and the Grenadines		
Venezuela*		Trinidad & Tobago*		

(*) Due to missing data for some explanatory variables, only countries marked with an * are included in the final regressions

Annex 2

Definition of the Governance Indicators

Quality of Administration (QA)

The Quality of Administration index is composed of four indicators from ICRG defined in the following manner:

1. **Control over Corruption** “is a measure of corruption within the political system. Such corruption is a threat to foreign investment for several reasons: it distorts the economic and financial environment; it reduces the efficiency of government and business by enabling people to assume positions of power through patronage rather than ability, and, last but not least, introduces an inherent instability into the political process”.
2. **Quality of Bureaucracy** indicates that “countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these low-risk countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions.”
3. **Investment Profile** “is a measure of the government’s attitude to inward investment as determined by an assessment of four sub-components: the risk to operations, taxation, repatriation and labor costs”.
4. **Law and Order** “are assessed separately. The Law sub-component is an assessment of the strength and impartiality of the legal system, while the Order sub-component is an assessment of popular observance of the law.”

Public Accountability (PA)

The second set of candidates measures the “Public Accountability”. This index includes two indicators from Freedom House (FH): “Civil Liberties” and “Political Rights”.

The “Civil Liberties” index mainly addresses the following questions:

- Are there free and independent media, literature and other forms of cultural expressions?
- Is there open public discussion and free private discussion?
- Is there freedom of assembly and demonstration?
- Is there freedom of political or quasi-political organization?
- Are citizens equal under the law, do they have access to an independent and nondiscriminatory judiciary, and are they respected by the security forces?
- Is there protection from unjustified imprisonment, exile or torture whether by groups that support or oppose the regime?
- Is there freedom from war or insurgency situations?
- Are there free trade unions and peasant organizations or the equivalent, and is there effective collective bargaining?
- Are there free professional and other private organizations?
- Are there free businesses or cooperatives?
- Are there free religious institutions, and free private and public religious expression?

- Is there personal and social freedom, which include aspects such as gender equality, property rights, freedom of movements, choice of residence, and choice of marriage and size of family?
- Is there equality of opportunity –which includes freedom from exploitation by or dependency on landlords, employers, union leaders, bureaucrats, or any other type of denigrating obstacle – to a share of legitimate economic gains?
- Is there freedom from extreme government indifference and corruption?

The “Political Rights” index addresses the following questions:

- Is the head of the state, head of government, or other chief authority elected through free and fair elections?
- Are the legislative representatives elected through free and fair elections?
- Are there faire electoral laws?
- Are the voters able to endow their freely elected representatives with real power?
- Do the people have the right to freely organize into different political parties or other competitive political groupings of their choice, and is the system open to the rise and fall of those competing parties or groupings?
- Is there a significant opposition vote, a de facto opposition power, and a realistic possibility for the opposition to increase its support or gain power through elections?
- Are the people free from domination by the military, foreign powers, totalitarian parties, religious hierarchies, economic oligarchies, or any other powerful groups?
- Do cultural ethnic, religious, and other minority groups have reasonable self-determination, self-government, autonomy, or participation through informal consensus in the decision-making process?
- For traditional monarchies which have no parties or electoral process, does the system provide for consultation with the people to encourage discussion of policy, and to allow the right to petitions the rules?

Political Stability (PS)

The political stability index includes the following variables from ICRG:

Government Stability “is a measure both of the government’s ability to carry out its declared program(s), and its ability to stay in office. This will depend on the type of governance, the cohesion of the government and governing party or parties, the closeness of the next election, the government’s command of the legislature, popular approval of government policies, and so on.”

Internal Conflict “is an assessment of political violence in the country and its actual or potential impact on governance. The highest rating is given to those countries where there is no armed opposition to the government and the government does not indulge in arbitrary violence, direct or indirect, against its own people. The lowest rating is given to a country embroiled in an ongoing civil war.”

External Conflict “is an assessment both of the risk to the incumbent government and to inward investment. It ranges from trade restrictions and embargoes, whether imposed by a single country, a group of countries, or the international community as a whole, through geopolitical disputes, armed threats, exchanges of fire on borders, border incursions, foreign-supported insurgency, and full-scale warfare.”

Ethnic Tensions “measures the degree of tension within a country attributable to racial, nationality, or language divisions. Lower ratings are given to countries where racial and

nationality tensions are high because opposing groups are intolerant and unwilling to compromise. Higher ratings are given to countries where tensions are minimal, even though such differences may still exist.”

Annex 3:

Principal Component Analysis

Table A3.1: The Administrative Quality Indicator

Component	Eigenvalue	Cumulative R ²
P1	2.23	0.56
P2	0.83	0.76
P3	0.51	0.89
P4	0.43	1

Loadings	P1	P2	P3	P4
Corruption	0.49	-0.57	0.06	0.65
Bureaucracy Quality	0.54	-0.08	0.64	-0.54
Investment profile	0.41	0.81	0.08	0.40
Law and Order	0.54	-0.02	-0.76	-0.36

$$QA = P1*(0.5577/0.7640) + P2*(0.2063/0.7640)$$

Table A3.2: The Political Stability Indicator

Component	Eigenvalue	Cumulative R ²
P1	2.24	0.56
P2	0.70	0.74
P3	0.69	0.91
P4	0.36	1.00

Loadings	P1	P2	P3	P4
Government Stability	0.45	0.65	0.57	0.22
Internal Conflicts	0.58	-0.06	-0.08	-0.81
External Conflicts	0.48	0.18	-0.75	0.41
Ethnic Tensions	0.47	-0.73	0.33	0.36

$$PS = P1*(0.5604/0.7356) + P2*0.1752/0.7356)$$

Table A3.3: The Public Accountability Indicator

Component	Eigenvalue	Cumulative R ²
P1	1.88	0.94
P2	0.12	1

Loadings	P1	P2
<i>Political Rights</i>	0.71	0.71
<i>Civil Liberties</i>	0.71	-0.71

PA = P1

Table A3.4: The Governance Indicator

Component	Eigenvalue	Cumulative R2
P1	3.94	0.39
P2	1.64	0.56
P3	1.2	0.68
P4	0.91	0.77
P5	0.69	0.84
P6	0.47	0.89
P7	0.43	0.93
P8	0.33	0.96
P9	0.26	0.99
P10	0.13	1

Loadings	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Corruption	0.25	-0.15	0.61	0.19	0.00	0.53	0.46	0.06	-0.05	0.03
Bureaucracy Quality	0.30	-0.13	0.35	0.51	-0.10	-0.68	-0.13	0.12	-0.10	0.03
Investment profile	0.33	-0.03	-0.43	0.40	0.11	0.02	0.31	-0.63	0.18	-0.08
Law and Order	0.37	-0.31	0.13	-0.12	0.06	0.20	-0.58	-0.05	0.59	-0.05
Political Rights	0.26	0.63	0.08	0.07	0.06	0.09	-0.15	0.11	-0.06	-0.69
Civil Liberties	0.26	0.63	0.04	0.03	0.07	0.08	-0.13	-0.01	0.06	0.71
Government Stability	0.31	-0.20	-0.52	0.24	0.16	0.21	0.01	0.67	-0.16	0.06
Internal Conflicts	0.41	-0.18	-0.03	-0.30	-0.16	0.10	-0.27	-0.31	-0.71	0.03
External Conflicts	0.33	0.07	-0.14	-0.33	-0.73	-0.15	0.34	0.16	0.26	-0.02
Ethnic Tensions	0.31	-0.04	0.08	-0.52	0.61	-0.36	0.34	0.07	0.06	-0.02

$$\text{GOV} = \text{P1} * (0.3937 / 0.7696) + \text{P2} * (0.1641 / 0.7696) + \text{P3} * (0.1204 / 0.7696) + \text{P4} * (0.0915 / 0.7696)$$

Table A3.5: The Structural Reform Indicator

Component	Eigenvalue	Cumulative R ²
P1	1.49	0.75
P2	0.59	1

Loadings	P1	P2
Trade Policy	0.71	0.71
Private Credit	0.71	-0.71

SR = P1

Table A3.6: The Human Capital Indicator

Component	Eigenvalue	Cumulative R ²
P1	3.14	0.78
P2	0.38	0.88
P3	0.31	0.96
P4	0.18	1

Loadings	P1	P2	P3	P4
Life Expectancy	0.52	-0.33	0.03	-0.79
H1	0.50	-0.41	0.55	0.53
H2	0.50	-0.05	-0.80	0.32
H3	0.48	0.85	0.23	-0.03

H = P1

Annex 4

A4.Short-Term Coefficients of the Disaggregated Indicators (1)

Index	Variables	Short-Term	Coefficients
		Standardized	Level
		Variables	Variables
GOV	Corruption	0.49	0.45
	Bureaucracy Quality	0.54	0.52
	Investment Profile*	0.32	0.15
	Law and Order	0.29	0.23
	Political Rights	0.64	0.32
	Civil Liberties	0.63	0.39
	Government Stability	0.14	0.06
	Internal Conflict	0.29	0.11
	External Conflict	0.27	0.12
	Ethnic Tensions	0.22	0.15
SR	Trade Policy	1.40	0.05
	Private Credit	1.40	0.07

Source: Authors' calculations.

Notes: (1) Impact is calculated using the estimated coefficient of the aggregated indicators (GOV and SR, see equation (9), Table (1)), as well as the weights of each principal component in the aggregate indicators, combined with the loading of the initial variables in each principal component (see Annex 3).