

## Why Economic Growth Has Been Weak in Arab Countries: The Role of Exogenous Shocks, Economic Policy Failure and Institutional Deficiencies

#### Peter Nunnenkamp\*

#### Abstract

Few Arab countries have succeeded since the early 1990s to narrow the income gap to advanced industrial countries. The growth performance of most Arab countries has been weak by developing country standards, too. We discuss three factors that may help explain the generally poor, though highly diverse growth record in the region: exogenous shocks, policy failure and institutional deficiencies. We find that although country-specific shocks played a role, influences beyond the immediate control of Arab policymakers contribute surprisingly little to the explanation of Arab growth patterns. Economic policy failure in Arab countries appears to be a more important reason for poor growth. The region has partly fallen into line with the Washington Consensus. With few exceptions, however, Arab countries lag behind other developing countries when it comes to trimming the interventionist role of the state and integrating themselves into the global division of labor through trade and FDI. Overall, reforms did not go far enough and remained fragmentary even in Arab countries with a relatively favorable growth performance since the early 1990s. It has to be taken into account; however, that policy-related variables and economic growth depend on more deeply rooted institutional factors shaping the incentive structure of economic agents. Institutional development varies greatly between Arab countries, but, generally, is less advanced than the level of per-capita income would suggest. While the discovery of oil may result in higher growth for some time, the experience of several oil exporters in the region supports the proposition that the abundance of oil encourages rent-seeking and exerts a negative impact on economic growth via its deleterious impact on institutional development. The experience of countries like Mexico, having managed the transformation from an oil-dependent to a highly diversified economy with more advanced institutions, may show the way for Arab countries.

بيتر نيوننكامب

<sup>\*</sup> Research Director, Kiel Institute for World Economics, Germany, E-mail: nuunnenkamp@ifw..uni-kiel.de

### Introduction

Most developing countries have failed to catch up economically with advanced industrial countries in the process of globalization (Nunnenkamp, 2003a). Arab countries are no exception in this regard. Recent reports suggest that Arab countries have even underperformed by the standards of other developing countries. According to the World Bank (2003b), "the results on the ground, and especially growth, remained disappointing". Abed (2003) notes that growth of per-capita income has faltered in the Middle East and North Africa (MENA), compared with the rest of the developing world. Furthermore, according to various experts, the major responsibility for the poor economic growth performance rests with the Arab countries themselves. Frequently mentioned domestic policy failures include the strong and interventionist role of the state, poor integration into international trade and insufficient attractiveness to foreign direct investment (FDI).

This paper aims to assess the empirical relevance of these claims. Apart from economic policy failure, exogenous factors and institutional deficiencies are analyzed to determine the barriers to higher economic growth of Arab countries. The subsequent analysis covers 18 Arab countries, namely the 15 members of the Arab Planning Institute (API) plus Algeria, Morocco and Saudi Arabia.<sup>(1)</sup> Throughout the paper, a large group of other developing countries in Africa, Asia and Latin America, serves as the point of reference, in order to assess the *relative* position of Arab countries.

#### **Relative Growth Performance**

The evidence presented herewith supports the view that the economic performance of most Arab countries has been "disappointing" (Hoekman and Messerlin, 2002). Economic growth is measured by relating the per-capita income (in PPP terms – see Annex) of sample countries to the per-capita income of the United States (representing the group of advanced industrial countries) and by comparing this relative income measure between the years 1992 and 2001.

$$GNIUS^{i} = \frac{GNI01^{i}}{GNI01^{US}} : \frac{GNI92^{i}}{GNI92^{US}}$$

with i=sample countries.

Accordingly, GNIUS = 1 represents the dividing line between developing countries which caught up with the United States (GNIUS > 1) and those which fell further back (GNIUS < 1).

The growth performance of Arab countries is assessed for the relatively short period of 1992–2001. The rationale for this short period is to avoid biased results due to exceptional factors in the 1980s and at the beginning of the 1990s. The 1980s was excluded because of the peak and subsequent drop of oil prices.<sup>(2)</sup> Furthermore, countries such as Jordan and Lebanon suffered political and economic instability in the late 1980s, resulting in exchange-rate volatility and sharply declining per-capita incomes. Distortions may also result from the first Gulf War in 1991.

The choice of the observation period hardly affects the overall picture on the growth performance of Arab countries. In an earlier paper, it was observed that the income gap as compared to that of the United States widened in 1980–2000 for almost all Arab countries, with Egypt, Tunisia and Sudan having performed best (Nunnenkamp, 2003b). Figure 1 portrays a similar pattern for 1992–2001. Only four out of 15 Arab countries succeeded in narrowing, at least somewhat, the income gap with the United States (the three aforementioned countries plus Yemen).<sup>(3)</sup> For the majority of the Arab countries, growth performance proved to be weak not only relative to the United States, but also relative to the control group of other developing countries.

Four oil-rich Arab countries figure at the bottom of Figure 1, revealing a particularly poor growth performance.<sup>(4)</sup> Nevertheless, the growth patterns of Arab countries defy easy generalizations. Resource-poor Jordan ranks next to oil-rich Oman. Starting from a similar initial income of 10% of US income in 1992, Egypt clearly outperformed Syria. Bahrain fared considerably better than most other oil-dependent countries. Likewise, economic growth differed remarkably between neighboring countries such as Tunisia and Algeria, or Lebanon and Syria.

<sup>&</sup>lt;sup>(1)</sup> API members are: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Oman, Qatar, Sudan, Syria, Tunisia, United Arab Emirates and Yemen. Due to data constraints, however, the number of observations varies in the different steps of the analysis

 $<sup>^{(2)}</sup>$  The average crude price almost tripled in 1978–1980, and fell back to about its 1978- level in 1986 (IMF, 2002).

<sup>&</sup>lt;sup>(3)</sup> The relevant data are missing for Iraq, Libya and Qatar.

<sup>&</sup>lt;sup>(4)</sup> According to the MENA Development Report, per-capita income increased considerably in the United Arab Emirates since 1989 (World Bank 2003b). The data reported there are in stark contrast to the data drawn from the World Development Indicators (World Bank, 2003a).



Subsequent discussion addresses various propositions that may account for the generally poor growth performance of Arab countries, and the considerable diversity of growth patterns within this group.

#### **How Relevant Are Exogenous Factors?**

Before turning to what appears to be the predominant view in the literature, namely that Arab countries themselves are to blame for poor growth, some factors are highlighted which may be considered exogenous in the sense that they escape the immediate control of Arab policymakers.<sup>(5)</sup> Possible candidates are: geographical distance from world economic centers, terms-of-trade shocks, and forced compliance with policy conditionality, along the lines of the so-called Washington Consensus, attached to IMF and World Bank loans.



<sup>a</sup>In % of gross national income (GNI) per capita (PPP) in the United States.

<sup>b</sup>Relative to GNI per capita (PPP) in the United States; see text for details; UAE: 1992–1998; Oman: 1992-2000. <sup>c</sup>Median.

Source: World Bank (2003a).

#### Figure 1. Economic development of Arab countries.

The hypothesis that distance from economic centers hinders growth at the periphery is firmly rooted in development economics. While earlier critics of the international economic system portrayed center-periphery relations in terms of intentional exploitation, more conventional economic analyses regard distance as a structural impediment to economic development at the periphery. According to the so-called gravity models, it is more difficult for remote economies to benefit from international trade and FDI. This is because economic transactions between the center and remote economies involve higher costs related to information, communication, monitoring and transportation (e.g., Fujita *et al.*,1999).

With few exceptions, however, Arab countries are not handicapped by large distance to world economic centers. Figure 2 shows the average distance in kilometers between the capitals of Arab countries on the one hand, and the capitals of Germany (as a proxy for the EU), Japan, and the United States, on the other hand. By this measure, Arab countries are located closer to world economic centers with an average distance of 7540 kilometers, than all developing

<sup>&</sup>lt;sup>(5)</sup> For a more detailed account of exogenous factors, see Nunnenkamp (2004a).

Journal of Development and Economic Policies	Volume 7 -No. 1 - December 2004
Peter Nunnenkamp	5

countries taken together (8810 kilometers). Moreover, the growth differences between Arab countries are in some conflict with the notion of distance-related barriers to economic development. Sudan and Yemen are shown in Figure 1 to have narrowed the income gap compared to advanced industrial countries, even though they are located furthest away from world economic centers. Economic catching up of Tunisia might have been helped by its relatively favorable location, but the same advantage did not prevent Algeria from falling back considerably. Across all Arab countries, the correlation between measure of distance and per-capita income growth in 1992–2001 turned out to be totally insignificant.

Similar to the concept of distance, terms-of-trade shocks do not provide a convincing explanation of the disappointing growth performance of Arab countries. This is not to ignore that several empirical studies support the view that declining (net barter) terms of trade are still an issue for developing countries. For example, the findings of Sapsford and Chen (1999) as well as Lutz (1999), in one way or another, point to the continuous relevance of the famous Prebisch/Singer hypothesis, according to which the terms of trade of developing countries whose exports traditionally consist mainly of primary commodities characterized by low income elasticity, are bound to deteriorate in the longer run.



.N.B. Average distance to Germany representing the EU, Japan and the United States in kilometers Source:http://www.macalester.edu/research/economics/page/haveman/trade.resources/data/gravity/dist.txt; http://www.indo.com/distance/index.html. (both accessed in January 2004).

## Figure 2. Distance from world economic centers of Arab countries compared to all developing countries.

The terms of trade of various Arab countries obviously depend on the development of oil prices in the first place. Figure 3 reveals the strong correlation between oil prices and the terms of trade if Arab countries were considered as a group. It also shows that Arab countries have been subject to much more volatile terms of trade since the early 1990s than other developing countries. Terms-of-trade volatility is considered by Sala-i-Martin and Subramanian (2003) to be one of the mechanisms through which economic growth of oil-rich countries may be impaired.<sup>(6)</sup> In the cross-country regressions of these authors, higher volatility tends to be correlated negatively with growth, but the coefficient is not consistently significant. In any case, for analytical as well as empirical reasons, terms of trade do not provide an exogenous reason for the weak growth of Arab countries reported above. The typical assumption that small countries are price-takers in international markets thus implying that the terms of trade are beyond their control, does not hold for oil-exporting countries. Several Arab countries are members of OPEC whose output decisions, at least occasionally, affect oil prices significantly.

<sup>&</sup>lt;sup>(6)</sup> Sala-i-Martin and Subramanian (2003) do not find any direct impact from natural resources such as oil to economic growth. Two other indirect mechanisms are discussed by these authors, namely the impact through overvalued real exchange rates (Dutch disease) and institutional deficiencies. Overvaluation turns out to be insignificant in the cross-country regressions. However, resource abundance in oil and minerals is shown to have a negative effect on growth by impairing institutional quality.



<sup>(a)</sup>1992=100; group averages of net barter terms of trade.
 <sup>(b)</sup>API members plus Algeria, Morocco and Saudi Arabia.
 Source: World Bank (2003a); IMF (2002).

#### Figure 3. Terms of trade: Arab countries compared to all developing countries, 1992–2000.

Empirically speaking, all Arab countries taken together, suffered terms-of-trade losses in 1993–1995 and in 1998. Subsequently however, rising oil prices resulted in terms-of-trade gains. Comparing 2000 (the latest year for which World Bank data are available) and 1992, Figure 4 indicates terms-of-trade gains for 12 out of 16 Arab countries. More surprisingly perhaps, two of the four exceptions, namely Egypt and Tunisia, performed relatively well in terms of growth (Figure 1). As a result, the change in the terms of trade, according to Figure 4, is negatively, though not significantly, correlated with the growth performance in 1992–2001 across Arab countries. It is only for Jordan and to a lesser extent, Mauritania, that terms-of-trade losses offer a reasonable explanation for falling further back economically.

In contrast to the more traditional arguments related to distance and terms of trade, one other factor beyond the control of developing countries has received much attention only recently. Globalization critics attribute widening income gaps between advanced industrial countries and developing economies to counterproductive policy recipes of the so-called Washington Consensus.<sup>(7)</sup> Prominent economists such as Easterly (2001) and Stiglitz (2002) have highlighted the flaws of policy conditionality that developing countries had to accept in the context of conventional stabilization and structural adjustment programs, designed and funded by Washington-based institutions, notably the IMF. By contrast, international financial institutions maintain that economic policy prescriptions were essentially correct and effective, and tend to blame the loan recipients for not having followed external advice or having implemented policy reforms at best partially.



N.B. Net barter terms of trade in 2000 divided by net barter terms of trade in 1992. Vertical line divides terms-of-trade gains (>1) from terms-of-trade losses (<1).

<sup>&</sup>lt;sup>(7)</sup> For a summary, see Williamson (1990) who also coined this term.

Source: World Bank (2003a).

#### Figure 4. Terms of trade of Arab countries: 2000 compared to 1992.

It has been argued elsewhere that both claims obscure the multi-faceted experience of developing countries (Nunnenkamp, 2003a; 2003b). Major elements of the Washington Consensus, including macroeconomic stabilization efforts as well as liberalization measures, proved less effective in promoting economic growth than hoped for by international financial institutions. However, none of the correlations between policy-related variables and the growth performance of developing countries supports the view that conventional policy prescriptions were detrimental to growth. At the same time, various developing countries may have refrained from fully implementing the Washington Consensus. However, most of them have clearly moved into this direction, by stabilizing their economies, liberalizing foreign trade and opening up to FDI.

Arab countries resemble other developing countries in that they have partly fallen into line with the Washington Consensus. The subsequent section will provide a detailed account of how Arab countries have adjusted their policies to the conventional wisdom of external advisers. In the present context, it is important to note that international financial institutions are hardly to blame for imposing ineffective, or even counterproductive, policy conditionality on Arab countries. The leverage of the IMF and the World Bank has remained fairly limited in most of these countries. Few Arab countries have drawn extensively on IMF and World Bank financing and therefore, subject to strict conditionality:

- Just four of the 18 countries have received IMF financing since 1993, i.e. Algeria, Jordan, Mauritania, and Yemen (IMF, 2002). IMF loans outstanding to Arab countries in mid-2002 accounted for 15% of the combined IMF quota of the 18 Arab countries, compared to 81% for all developing countries.<sup>(8)</sup>
- A few more Arab countries received financing from the World Bank Group.<sup>(9)</sup> Besides the four countries listed above, Egypt, Morocco, Sudan, and Tunisia reported considerable World Bank loans outstanding in 2001 (World Bank, 2003a). Yet, all Arab countries taken together, accounted for only 5.5% of outstanding World Bank loans extended to all developing countries.<sup>(10)</sup>

Apart from a few Arab countries having fallen under the sway of international financial institutions, countries that did rely on IMF and World Bank financing do not appear to have suffered from conditionality. On the contrary, all five top growth performers in Figure 1 belonged to the clients of international financial institutions, measured by their outstanding debt to the IMF and the World Bank in 2001/02. Three of the five Arab countries which fell back most significantly did not draw on IMF and World Bank financing (Algeria and Jordan representing the exceptions).

In summary, it appears that exogenous factors contribute surprisingly little to the explanation of the weak growth performance of Arab countries. This is not to ignore that the previous analysis does not capture country-specific exogenous shocks such as the negative impact of the Iraq embargo on neighboring Jordan. On the whole, however, domestic factors, seem to be more important for the region's growth performance.

## **Insufficient Policy Reforms**

Policy-related variables are highlighted to determine what Arab countries have already achieved in terms of policy reforms and where important bottlenecks to growth remain. Table 1 lists several variables reflecting the request of international financial institutions for macroeconomic stabilization, factor accumulation, trade liberalization and openness to FDI.<sup>11</sup> Macroeconomic stabilization efforts are captured by two variables: (a) annual average rates of inflation; and (b) government consumption expenditure in percent of GDP. Investment in physical and human capital is proxied by gross fixed capital formation in percent of GDP and average years of schooling, respectively. Trade-policy-related variables include the share of imports and exports in GDP as well as import tariff revenues in percent of import value.<sup>(12)</sup> Finally, openness to FDI is measured by FDI inflows and inward FDI stocks, both related to the host country's GDP.

<sup>&</sup>lt;sup>(8)</sup> Excluding the high quota of Saudi Arabia, the percentage for Arab countries rises to 27%.

<sup>&</sup>lt;sup>(9)</sup> Comprising the International Bank for Reconstruction and Development and the International Development Association (IDA).

<sup>&</sup>lt;sup>(10)</sup> Their share in GDP of all developing countries was about twice as high.

<sup>&</sup>lt;sup>(11)</sup> For detailed definitions of variables and statistical sources, see the Annex.

<sup>&</sup>lt;sup>(12)</sup> In Table 1, import tariff revenues are considered, rather than average tariff rates, as the *World Development Indicators* of the World Bank present comprehensive time series data only for the former variable.

# Table 1. Policy-related Variables:(a) Median for Arab Countries, Compared to Other<br/>Developing Countries

		untries <sup>(b)</sup>	Other DCs		
	1980–1983 <sup>(c)</sup>	1998–2001 <sup>(c)</sup>	1980–1983 <sup>(c)</sup>	1998–2001 <sup>(c)</sup>	
Inflation	8.5	1.6	12.8	5.5	
Government consumption	17.8	17.3	14.6	13.2	
Gross fixed capital formation	26.3	19.0	22.0	20.7	
Years of schooling <sup>(d)</sup>	2.9	5.5	3.4	5.1	
Imports	41.5	33.0	35.0	39.3	
Import tariff revenues	13.6	9.7 <sup>(e)</sup>	12.1	8.8 <sup>(e)</sup>	
Exports	38.8	36.6	23.2	30.7	
FDI inflows	1.0	1.2	0.5	2.7	
Inward FDI stocks <sup>(f)</sup>	1.0	12.9	4.9	30.0	

<sup>(a)</sup>For definition of variables and statistical sources, see Annex.

<sup>(b)</sup>Due to data constraints, the number of observations varies from eight in the case of import tariff revenues to 18 in the case of FDI stocks. The average number of observations is 11.

<sup>(c)</sup>Annual averages, unless stated otherwise.

 $^{(d)}$ 1980 and 2000, respectively.

<sup>(e)</sup>1997–2000.

(f)1980 and 2002, respectively.

Source: World Bank (2003a); Barro and Lee (2002); UNCTAD (2003).

#### What is the unit of measurement of this table - %?

The question may be asked as to how these variables developed over time. If most countries had refused to implement the Washington Consensus, economic stability indicators could have deteriorated; investment in physical and human capital could have declined; and countries probably would not have opened up to trade and FDI. However, evidence suggests that the economic policies pursued by Arab countries were in accordance with the Washington Consensus, at least in some respects:

- Compared to the median for other developing countries, inflation in Arab countries was already fairly low in the early 1980s. Inflation was further reduced to a very low median in recent years.<sup>(13)</sup>
- In contrast, government consumption, as a share of GDP, was higher in Arab countries than in other developing countries. Moreover, Arab countries curtailed government consumption only slightly. This tends to support the critique of Hoekman and Messerlin (2002) that "most of the governments in the Middle East and North Africa have made scant headway in reducing the interventionist role of the state in the economy." <sup>(14)</sup>
- The evidence on factor accumulation is mixed. The share of gross fixed capital formation in GDP declined considerably in Arab countries. On the other hand, human capital formation, proxied by average years of schooling, improved more pronouncedly for Arab countries than for other developing countries. Nevertheless, Hoekman and Messerlin (2002) reckon that education in the MENA region lags behind the rest of the world. Eken, *et al.* (2003) point out that education systems in some MENA countries remain ineffective, with high dropout and repetition rates offsetting high enrollment rates, even though government spending on education is relatively high.<sup>(15)</sup>
- Trade-related indicators are in line with the reasoning of Hoekman and Zarrouk (2000): "Virtually all Arab countries ... have undertaken major steps to implement tariff and fiscal reforms and to dismantle quantitative import restrictions. Notwithstanding these efforts, the pace of integration into the world economy achieved by the region has been slow" (see also Abed 2003). Import tariff revenues dropped below 10% of import value for Arab countries as well as other developing countries. Recent WTO data on average applied import tariffs,

<sup>&</sup>lt;sup>(13)</sup> Significant improvements in macroeconomic policies in the MENA region are stressed by Hoekman and Messerlin (2002).

<sup>&</sup>lt;sup>(14)</sup> For similar statements, see World Bank (2003b), Abed (2003) and Bennett (2003). Gardner (2003) argues that a large share of government employment impaired labor productivity growth in several Arab countries.

<sup>&</sup>lt;sup>(15)</sup> See also Gardner (2003) on low returns on MENA countries' investment in education.

Journal of Development and Economic Policies

Peter Nunnenkamp

Volume 7 -No. 1 - December 2004 9

underscore that tariff barriers are only slightly higher in Arab countries than in other developing countries.<sup>(16)</sup> Nevertheless, Arab countries differ remarkably from other developing countries in that the import share in GDP, and to a lesser extent also the export share, declined. This may be, at least partly, because of high transaction costs associated with international trade, resulting from inefficiencies in customs clearance procedures, administrative red tape, and deficient transportation and telecommunication services in many Arab countries (World Bank, 2003b).<sup>(17)</sup>

• The ratio of inward FDI stocks to GDP soared in both country groups, which is consistent with the worldwide trend towards the liberalization of FDI regulations reported by UNCTAD (2002). However, the median of this ratio for Arab countries remained substantially below the median for other developing countries. This is consistent with the observation of Nabli and De Kleine (2000), who found FDI flows to Arab countries to be relatively small and concentrated in a limited number of sectors.<sup>(18)</sup>

Taken together, evidence points to partial reforms along the lines of the Washington Consensus in Arab countries especially the failure to develop closer links with the global economy through FDI as well as through trade in services and goods other than oil may have prevented a more positive growth impact of reforms (Hoekman and Messerlin, 2002). At the same time, the group averages reported so far, disguise considerable differences within the group of Arab countries.

Table 2 ranks Arab countries for which the relevant data are available, according to macroeconomic conditions, factor accumulation and integration into world markets. The ranking underscores that Arab countries, with few exceptions, lag behind other developing countries in terms of: (a) reducing the role of the state, and (b) integrating themselves into the global division of labor through exports and FDI.<sup>(19)</sup> Furthermore, the country-specific evidence is consistent with the view that policy reforms remained fragmentary almost everywhere. Even the top growth performers among Arab countries are below the median for other developing countries in some respects as shown in Table 2.

	Inflation, 1998–2001	Government consumption, 1998–2001	Gross fixed capital formation, 1998–2001	Years of schooling, 2000	Import tariffs, latest year	Change of export share in GDP, 1998–2001 vis-à-vis 1980–1983	FDI inflows, 1998–2001	FDI stocks, 2002
	Saudi Arabia (-0.8)	Sudan (5.1)	Tunisia (25.7)	Jordan (6.9)	Kuwait (3.6)	Syria (20.0)	Jordan (4.1)	Bahrain (72.9)
	Bahrain (-0.8)	Egypt (10.5)	Algeria (24.3)	Kuwait (6.2)	Qatar (4.2)	Morocco (10.4)	Sudan (3.7)	Tunisia (66.4)
Better than median <sup>(b)</sup>	Syria (-0.7)	Syria (10.8)	Jordan (24.0)	Bahrain (6.1)	Sudan (5.4)	Tunisia (6.0)	Morocco (2.9)	
u <sup>®</sup>	Morocco (1.5)		Morocco (23.5)	Syria (5.8)	Lebanon (5.4)		Tunisia (2.8)	
dia	Jordan (1.5)		Mauritania (23.4)	Egypt (5.5)	Oman (5.7)			
ett me	Kuwait (1.7)			Algeria (5.4)	Bahrain (7.8)			
m -	Qatar (2.0)				Mauritania (10.9)			
	Algeria (3.0)							
	Egypt (3.1)							
	Sudan (16.6)	Tunisia (15.7)	Syria (20.4)	Tunisia (5.0)	Saudi Arabia (12.0)	Jordan (4.2)	Lebanon <sup>(c)</sup> (1.4)	Morocco (26.9)
		Mauritania (15.7)	Saudi Arabia (19.0)	Iraq (4.0)	Yemen (12.8)	Sudan (0.7)	Algeria (1.3)	Jordan (26.0)
		Algeria (16.1)	Egypt (18.3)	Sudan (2.1)	Jordan (14.7)	Algeria (0.7)	Syria (1.2)	Egypt (24.1)
		Morocco (18.6)	Bahrain (13.6)		Libya (17.0)	Mauritania (-3.2)	Egypt (1.1)	Sudan (19.4)
9		Bahrain (19.4)	Sudan (13.0)		Algeria (19.2)	Egypt (-12.6)	Mauritania (1.0)	Qatar (14.7)
iar		Libya (23.0)	Kuwait (12.5)		Syria (19.6)	Kuwait (-13.6)	Oman (0.4)	Saudi Arabia (13.4)
per		Jordan (24.1)	Libya (11.7)		Egypt (19.9)	Saudi Arabia (-22.8)	Kuwait (0.1)	Yemen (13.3)
Worse than median <sup>(b)</sup>		Saudi Arabia (26.7)			Morocco (33.7)	Libya (-28.5)	Yemen <sup>©</sup> (-2.6)	Oman (12.6)
hai		Kuwait (27.0)			Tunisia (33.9)	Bahrain (-41.6)		Mauritania (11.3)
et								Algeria (10.5)
DIS								Syria (9.6)
Ř								Lebanon (9.4)
11								UAE (2.0)
11								Kuwait (1.1)
11								Iraq (neg.)
								Libya (neg.)

# Table 2. Ranking of Arab Countries According to<br/>Policy-Related Variables

<sup>&</sup>lt;sup>(16)</sup> The median of import tariffs applied by 16 Arab countries amounts to 12.4%, compared to 10.9% for other developing countries (WTO, 2003: Appendix Table II.B.4). Yet, Hoekman and Messerlin (2002) argue that many countries in the MENA region maintain relatively high trade barriers in the form of tariffs.

 $<sup>^{(17)}</sup>$  For recent survey results on barriers to trade and investment in the MENA region, see Zarrouk (2002). According to Abed (2003), "for the MENA region as a whole, overall trade restrictiveness (as measured by an index developed by the IMF) is double the developing country average."

<sup>&</sup>lt;sup>(18)</sup> Likewise, Hoekman and Messerlin (2002) as well as Abed (2003) point to the limited magnitude of FDI flows to the MENA region.

<sup>(19)</sup> In an earlier paper, the author argues that insufficient human capital formation is most likely to have hindered economic growth in various Arab countries (Nunnenkamp, 2003b). This may still be true, even though average years of schooling increased considerably in several Arab countries since 1980. This conventional proxy of human capital formation captures neither the quality of schooling nor the importance of vocational training.

<sup>(a)</sup>For Arab countries not listed, the relevant data are not available. For definition of variables and statistical sources, see Annex. <sup>(b)</sup>The median serving as the dividing line is for the sample of all other developing countries. <sup>©</sup>1997–2000

Source: World Bank (2003a); Barro and Lee (2002); WTO (2003); UNCTAD (2003).

- Sudan's growth performance may have been supported by its favorable ranking in terms of government consumption, import tariffs and FDI inflows. However, considering Sudan's poor record in other dimensions, notably its weak factor accumulation, it is highly questionable whether the growth path is sustainable once the stimulus of recent oil discoveries fades. In the period under consideration, weak incentives for the accumulation of physical and human capital may be attributed for the long-lasting civil war in Sudan.
- Egypt succeeded in reducing its inflation and government spending, and more than doubled average years of schooling since 1980. On the other hand, the country ranks poorly, even by Arab standards, with regard to import protection and export performance. Furthermore, economic growth in Egypt may prove difficult to sustain, considering that the country's position with regard to gross fixed capital formation and FDI inflows deteriorated significantly in recent years (Nunnenkamp, 2003b).
- Tunisia is in a favorable position in several dimensions, but applies the highest import tariffs among Arab countries.<sup>(20)</sup>

The particularly poor growth performance of some Arab countries may reasonably be attributed to policyrelated bottlenecks. Saudi Arabia represents a case in point. Reform efforts began only in 1999, and progressed slowly (World Bank, 2003). Except on inflation, Saudi Arabia consistently ranks below the median for other developing countries in Table 2. Yet, the relation between policy-related variables and economic growth remains elusive. For example, Jordan and Algeria suffered similar income losses according to Figure 1, although Jordan is considered an "early, intensive, and steady reformer" by the World Bank (2003b) and performed better than Algeria in almost all dimensions as shown in Table 2. There may be various reasons why policy reforms turned out to be less effective than hoped for by Arab policymakers (as well as the proponents of the Washington Consensus, in general). As noted before, country-specific shocks, either positive (e.g., oil discoveries in Sudan) or negative (e.g., the embargo against neighboring Iraq in Jordan), have played a role. But the correlation of policy-related variables with economic growth may also be blurred by the fragmentary nature of reforms.

The latter proposition is often referred to by international financial institutions. The World Bank (2003b) argues that "halfhearted attempts at trade reform in the absence of deeper domestic investment climate reforms fail to create much positive impact", and concludes that the MENA region needs to deepen and accelerate reforms. In a similar vein, Abed (2003) considers reforms that "did not achieve a necessary critical mass or did not go deep enough" to be responsible for the limited growth impact. The problem with this proposition is that it cannot be tested in the context of Arab countries, none of which has fully implemented the Washington Consensus. It is in some conflict with this proposition, however, that the correlation with economic growth differs considerably between the policy-related variables discussed before when a large sample of developing countries, including the group of Arab countries, is considered (Nunnenkamp, 2003b). For example, domestic factor accumulation was strongly correlated with growth, whereas the relation between FDI and growth turned out to be highly ambiguous. The latter finding puts into question the current euphoria about FDI as a stimulus to growth.<sup>(21)</sup> Furthermore, the relation between openness to trade and FDI on the one hand, and growth on the other hand, weakens considerably if the calculation were based on a subsample of developing countries with relatively low per-capita income (Nunnenkamp, 2003a). Several Arab countries belong to this group, e.g., Mauritania, Sudan and Yemen. Domestic factor accumulation appears to be more important than opening up to FDI in countries with low per-capita income. Even in more advanced countries, certain types of FDI are unlikely to deliver significant growth effects. FDI aiming at the exploitation of natural resources in oil-exporting Arab countries provides a case in point. This type of FDI often results in foreign-dominated enclaves so that host economies hardly benefit from growth-enhancing spillovers.

All these suggest that the effectiveness of particular economic policy reforms depends on country-specific conditions. This does not invalidate, but qualifies the World Bank's call for a broader reform agenda and the generalized assertion that much faster growth would be available if Arab countries went "beyond the shallow at-the-border trade policy reforms" and tackled "deep-seated barriers to trade and investment" (World Bank, 2003b).

<sup>(20)</sup> Tunisia reveals the limitations of the proxy of human capital formation. Average years of schooling are shown in Table 2 to be substantially lower in Tunisia than in Jordan. According to survey results presented by the World Economic Forum (2003), however, the quality of public schools and the quality of math and science education are rated to be clearly superior in Tunisia.

<sup>&</sup>lt;sup>(21)</sup> For literature review and new findings on the link between FDI and economic growth in developing countries, see Nunnenkamp (2004b).

## **Institutional Deficiencies**

Recent research invites another explanation for the ambiguous relation between conventional policy reforms and economic growth. Easterly and Levine (2002) advocate that "bad policies are only symptoms of longer-run institutional factors, and correcting the policies without correcting the institutions will bring little long-run benefit." Likewise, Acemoglu (2003) stresses the role of institutions as a *fundamental* cause of divergent economic fortunes, whereas policy-related variables such as investments and education are considered only *proximate* causes. According to Rodrik and Subramanian (2003), the primacy of institutions implies that "conditionality on policies [as required by the IMF and the World Bank] is often ineffective."

In order to identify institutional deficiencies that may have hindered economic growth in Arab countries, the widely used data presented by Kaufmann, *et al.* (2002) may be referred to. This source comprises six indicators, all of which range from -2.5 to 2.5 (with higher values indicating better institutions): voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. These factors are supposed to shape the incentive structure of economic agents. Hence, they are likely to affect policymaking, factor accumulation and, eventually, economic growth.

Nunnenkamp (2003b) shows that it would be unreasonable indeed to assume that policy-related variables are truly exogenous growth determinants. Some of these variables are significantly correlated with institutional factors for a large sample of developing countries. Measuring institutional development with the average of the six indicators listed above, better institutions are associated, for example, with higher investment in physical and human capital as well as more open trade and FDI policies. The rule of law, i.e., the protection of persons and property, the availability of independent judges and effective contract enforcement, appears to be most important for physical capital formation. Average number of years of schooling is correlated most strongly with effective control of corruption and the rule of law. If corruption is pervasive, opening up to trade and attracting FDI inflows seem less likely. In addition, institutional development turns out to be crucially important for developing countries to catch up economically to advanced industrial countries. The growth performance improves most significantly when developing countries adhere to the rule of law. Other institutional factors that are shown to be relevant for growth include the control of corruption and government effectiveness.

At a cursory look, the institutional underpinnings for sustainable economic growth appear to be relatively favorable in Arab countries. Table 3 shows that the median of the overall measure of institutional development is less negative (i.e., more favorable) for Arab countries than for the control group of other developing countries. A similar picture emerges for all individual indicators, except voice and accountability.<sup>(22)</sup> Arab countries compare most favorably with other developing countries with respect to the rule of law, whereas the median of regulatory quality and control of corruption is only slightly above developing country standards. However, the comparison with the control group of other developing countries in Table 3 obscures that: (a) institutional development varies tremendously between Arab countries; and (b) institutional development lags behind economic development in most Arab countries.

The large variation of institutional development is reflected in that all indicator values for the three Arab countries which rank most unfavorably (bottom three in Table 3) are worse than -1. On the other hand, the indicator values for the three best-rated Arab countries (top three) are clearly positive, except for voice and accountability. In other words, institutional development in the Arab group ranges over much of the spectrum of the index of Kaufmann, *et al.* (2002). Apart from Iraq representing the taillight in almost all institutional dimensions, it is for Sudan that institutional deficiencies are shown to be most severe in Table 3. The composition of the top three varies more across institutional dimensions than the composition of the bottom three. Overall, institutional development is reported to be most advanced in Tunisia, Qatar and Oman.<sup>(23)</sup>

Tunisia clearly stands out when institutional development is controlled for per-capita income. The regression line in Figure 5 represents the normal pattern of institutional development across a large number of developing countries, considering that a higher per-capita income is typically associated with better institutions. The observation that institutions in Tunisia are significantly more advanced than the normal pattern would suggest, helps explain this country's favorable growth performance. A similar argument may be made about Egypt, albeit to a lesser extent. By

<sup>&</sup>lt;sup>(22)</sup> This exception is consistent with the finding in the Arab Human Development Report that the region performs poorly when it comes to civil and political freedoms (UNDP, 2002).

<sup>&</sup>lt;sup>(23)</sup> Note that Tunisia does not belong to the top three when the assessment of overall institutional development is based on data for 1997/98, instead of 2000/01. Tunisia's institutional progress in recent years was most pronounced with regard to control of corruption and government effectiveness (Kaufmann, et al., 2002).

Journal of Development and Economic Policies	Volume 7 -No. 1 - December 2004
Peter Nunnenkamp	12

contrast, institutional development in Sudan is clearly sub-standard, even when this country's low per-capita income is taken into account.



<sup>(a)</sup>Normal pattern identified by regressing institutional development against per-capita income for all developing countries (131).
 <sup>(b)</sup>Average of six institutional indicators; data for 2000/01.
 <sup>(c)</sup>Gross national income (GNI) per capita (PPP) in 2000 (UAE:1998).
 Source: Kaufmann, *et al.* (2002); World Bank (2003a).

#### Figure 5. Position of Arab countries in the normal pattern of institutional development.

Figure 5 also reveals that almost all Arab countries whose per-capita income, relative to the per-capita of the United States, declined by at least 10% in 1992–2001, a fall below the normal pattern of institutional development. Especially for Algeria, Saudi Arabia and the United Arab Emirates, which fell back most severely since 1992, the evidence suggests that economic growth was hindered by insufficient institutional development. The experience of these three oil-exporting countries is consistent with the finding of Sala-i-Martin and Subramanian (2003) that the so-called natural resource curse is largely because some natural resources, including oil, encourage rent-seeking and exert a negative impact on economic growth via their deleterious impact on institutional development.<sup>(24)</sup> This is not to ignore that relatively advanced institutions failed to compensate for country-specific exogenous shocks as in Jordan.

Finally, one may get some clues as to the sustainability of growth by plotting institutional development against the growth performance of a large number of developing countries, and identifying the position of Arab countries in this relationship. As demonstrated in Figure 6, better institutions went along with higher economic growth in 1992–2001 across all developing countries. Against this backdrop, about half of the Arab group has performed worse than their institutional development would have suggested. For the United Arab Emirates and to a lesser extent, also for Oman, the large deviation from the normal pattern may be at least partly because their growth performance had to be based on a shorter period of observation (see Figure 1). The unfavorable position of Saudi Arabia is in line with this country's poor ranking with respect to economic policy-related variables and its characterization as a late reformer. Jordan and Morocco, which are more advanced institutionally and belong to the group of early reformers (World Bank 2003b), tend to have better growth prospects in the absence of negative exogenous shocks in the future.

<sup>&</sup>lt;sup>(24)</sup> Note that almost all oil-exporting Arab countries have considerably less advanced institutions than their per-capita income would suggest. See also World Bank (2003b) and Eifert, et al. (2003) on oil-related rents and the ensuing reorientation of economic incentives towards competition for access to oil revenues and away from productive activities.

#### Table 3. Institutional Development: Arab Countries and Other Developing Countries

	Arab countries (18)			Other developing countries
	Median	Top3 <sup>(b)</sup>	Bottom 3 <sup>(b)</sup>	(Median)
Voice and accountability	-0.62	J, K, Mo (-0.02)	I, Su, Sy (-1.62)	-0.14
Political stability	0.04	Q, U, O (1.16)	Su, I, A (-1.62)	-0.21
Government effectiveness	0.05	T, O, Q (0.99)	I, Su, Li (-1.29)	-0.35
Regulatory quality	0.01	T, B, J (0.78)	I, Li, A (-1.74)	-0.02
Rule of law	0.20	U, K, O (1.09)	I, Y, Su (-1.27)	-0.40
Control of corruption	-0.26	T, K, Q (0.67)	Su, I, Ma(-1.12)	-0.43
Average of six indicators	-0.07	T, Q, O (0.61)	I, Su, Li (-1.35)	-0.34

<sup>(a)</sup>Indicator values range from -2.5 to 2.5, with higher values corresponding to better institutional development. <sup>(b)</sup>In descending order, average indicator value in parentheses. Abbreviations as follows: A = Algeria, B = Bahrain; I = Iraq, J = Jordan, K = Kuwait, Li = Libya, Ma = Mauritania, Mo = Morocco, O = Oman, Q = Qatar, Su = Sudan, Sy = Syria, T = Tunisia, U = United Arab Emirates. Y = Yemen.

Source: Kaufmann, et al. (2002).

The countries above the regression line in Figure 6 have "overperformed" in the light of their institutional development. This adds to concerns about the sustainability of growth in Yemen and, even more so, in Sudan. Among the top growth performers in 1992–2001, it is only for Tunisia that relatively advanced institutions, together with the country's favorable ranking with regard to various economic policy-related variables, tend to support sustainable growth. Egypt and Lebanon are in an intermediate position.



<sup>(a)</sup>Economic growth in 1992-2001; institutional development measured by the average of six institutional indicators. For detailed definition of variables, see Annex.

<sup>(b)</sup>Regression based on evidence for a large sample of 129 developing countries, including Arab countries. Source: World Bank (2003a); Kaufmann, et al. (2002).

#### Figure 6. Institutional development and economic growth: The position of Arab countries among all developing countries.

### **Summary and Conclusions**

Few Arab countries have succeeded since the early 1990s to narrow the income gap with advanced industrial countries. Also, the growth performance of most Arab countries has been weak by developing country standards. Three factors may help explain the generally poor, though highly diverse growth record in the region, to wit: (a) exogenous shocks; (b) policy failure; and (c) institutional deficiencies.

Country-specific shocks played a role, notably for relatively high growth in Sudan and the poor performance of Jordan. On the whole, however, influences beyond the immediate control of Arab policymakers contribute surprisingly little to the explanation of Arab growth patterns. Countries in this region are not handicapped by a large distance to world economic centers. The relation between terms-of-trade developments and economic growth is found to be extremely weak. As a matter of fact, Egypt and Tunisia belonged to the best growth performers even if they suffered terms-of-trade losses in contrast to most other Arab countries. Moreover, the IMF and the World Bank are hardly to blame for imposing ineffective, or even counterproductive, policy conditionality on Arab countries, if only because the leverage of international financial institutions remained limited in the region.

Economic policy failure in Arab countries appears to be an important reason for poor growth. The region has partly fallen into line with the Washington Consensus. With few exceptions, however, Arab countries lag behind other developing countries when it comes to trimming the interventionist role of the state and integrating themselves into the global division of labor through trade and FDI. Delayed, and at best, partial reforms, as in Saudi Arabia, help explain why this country represents the taillight in terms of growth.

The relation between macroeconomic conditions, factor accumulation, trade and FDI liberalization on the one hand, and economic growth on the other hand, remains elusive. Arguably, this is because reforms did not go far enough and remained fragmentary even in Arab countries with a relatively favorable growth performance since the early 1990s. Also, it may not be ruled out that some elements of the Washington Consensus were less effective than widely expected, in promoting growth. For example, developing country experience suggests that positive growth effects of FDI cannot be taken for granted. The enclave character of FDI in some Arab countries is rather unlikely to spur per-capita income growth.

These findings have important implications for economic policymakers in Arab countries. The World Bank (2003b) may be right to argue that "the region now needs to deepen and accelerate its reforms". Rather than applying standard recipes to all Arab countries, however, country-specific conditions deserve closer attention when designing economic policy reforms. In Arab countries with low per-capita income, domestic resource mobilization appears to be more important than attracting FDI. Even in more advanced countries such as Egypt and Tunisia, continued efforts towards human capital formation seem the key to sustainable growth.

Moreover, it has to be taken into account that policy-related variables and economic growth depend on more deeply rooted institutional factors shaping the incentive structure of economic agents. Institutional development varies greatly between Arab countries, and generally, is less advanced than the level of per-capita income would suggest. While the discovery of oil may result in higher growth for some time, as in Sudan, the experience of several oil exporters in the region supports the proposition that the abundance of oil encourages rent-seeking and exerts a negative impact on economic growth via its deleterious impact on institutional development.

The finding that institutional deficiencies hindered growth in the past implies that economic policy reforms along the lines of the Washington Consensus, are not sufficient to improve the future growth performance of Arab countries. At present, it is only for Tunisia that relatively advanced institutions, together with the country's reputation as an "early, intensive and steady reformer" (World Bank 2003b), tend to sustain the process of economic catching up. The call for institutional reforms mainly applies to resource-rich countries such as Algeria, Saudi Arabia and Sudan, notwithstanding their different growth performance in the past. It seems to be exactly here that institutional deficiencies are most difficult to tackle. Yet, the natural resource curse can be overcome. The experience of countries like Mexico, having managed the transformation from an oil-dependent to a highly diversified economy with more advanced institutions, may show the way for Arab countries.

## References

Abed, G.T. 2003 . Unfulfilled promise: Why the Middle East and North African Region has lagged in growth and globalization. *Finance and Development* 40 (1): 10–14.

Acemoglu, D. 2003. <u>Root causes: A historical approach to assessing the role of institutions in economic development</u>. *Finance and Development* 40 (2): 27–30.

Barro, R.J. and J.W. Lee. 2002. <u>International Data on Educational Attainment</u>. Via Internet: http://www.worldbank.org/research/growth/ddbarle2.htm.

Bennett, A. 2003. Failed legacies: Escaping the ghosts of central planning. Finance and Development 40 (1): 22–25.

Easterly, W. 2001. <u>The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics</u>. Cambridge, Mass.: MIT Press.

Easterly, W., and R. Levine. 2002. <u>Tropics, germs, and crops: How endowments influence economic development.</u> <u>National Bureau of Economic Research</u>, NBER Working Papers 9106, Cambridge, MA.

Eifert, B., A. Gelb, and N.B. Tallroth. 2003. <u>Managing oil wealth: The political economy of oil-exporting countries –</u> <u>Why some of them have done so poorly</u>. *Finance and Development* 40 (1): 40–44.

Eken, S., D.A. Robalino and G. Schieber. 2003. Living better: Improving human development indicators in MENA will require different approaches to health, education and social protection. *Finance and Development* 40 (1): 15–17.

Fujita, M., P.R. Krugman, and A.J. Venables. 1999. <u>The Spatial Economy: Cities, Regions, and International Trade</u>. Cambridge, Mass.: MIT Press.

Gardner, E. 2003. Wanted: More jobs. Finance and Development 40 (1): 18-21.

Hoekman, B. and P. Messerlin. 2002. <u>Harnessing Trade for Development and Growth in the Middle East</u>. Report by the Council on Foreign Relations, Study Group on Middle East Trade Options. New York.

and J. Zarrouk, eds. 2000. <u>Catching Up with the Competition: Trade Opportunities and Challenges for</u> <u>Arab Countries</u>. Ann Arbor: University of Michigan Press.

IMF. 2002. International Financial Statistics Yearbook. Washington, D.C.

Kaufmann, D., A. Kraay and P. Zoido-Lobatón. 2002. <u>Governance matters, II: Updated Indicators for 2000-01</u>. World Bank, Policy Research Working Paper WPS 2772. Washington, D.C.

Lutz, M.G. 1999. <u>Commodity terms of trade and individual countries' net barter terms of trade: Is there an empirical relationship</u>? *Journal of International Development* 11 (6): 859–870.

Nabli, M.K. and A.I. De Kleine. 2000. <u>Managing global integration in the Middle East and North Africa</u>. In *Trade Policy Developments in the Middle East and North Africa*. Edited by B. Hoekman and H. Kheir-El-Din. The World Bank, Washington, D.C.

Nunnenkamp, P. 2003a. <u>Wachstumsdivergenz zwischen Entwicklungsländern: Hat die Entwicklungsökonomie versagt</u>? *Zeitschrift für Wirtschaftspolitik* 52 (2): 227–253.

. 2003b. Economic policy, institutional development, and income growth: How Arab countries compared with other developing countries. Institute for World Economics, Kiel Working Papers 1183. Kiel.

. 2004a. <u>Systemic factors and economic development in islamic countries</u>. Paper for the Islam Program of the Center for Strategic and International Studies (CSIS), Washington, D.C. (Forthcoming).

. 2004b. <u>To what extent can foreign direct investment help achieve international development goals</u>? *The World Economy*. (Forthcoming).

Rodrik, D. and A. Subramanian. 2003. <u>The primacy of institutions (and what this does and does not mean)</u>. *Finance and Development* 40 (2): 31–34.

Sala-i-Martin, X. and A. Subramanian. 2003. <u>Addressing the natural resource curse: An illustration from Nigeria</u>. International Monetary Fund, IMF Working Paper WP/03/139. Washington, D.C.

Sapsford, D. and J.R. Chen. 1999. <u>Introduction: The Prebisch-Singer Thesis: A Thesis for the New Millennium</u>? Journal of International Development 11 (6): 843–849.

Stiglitz, J. 2002 . Globalization and Its Discontents. London: Allen Lane/Penguin Books.

UNCTAD. 2002. World Investment Report 2002. United Nations, New York.

. 2003. World Investment Report 2003. United Nations, New York.

UNDP (United Nations Development Program). 2002. Arab Human Development Report. United Nations, New York.

Williamson, J. 1990. <u>What Washington means by policy reform</u>. In Latin American Adjustment: How Much Has Happened? Edited by J. Williamson. Institute for International Economics, Washington, D.C.

World Bank. 2003a. World Development Indicators. (CD-ROM). Washington, D.C.

. 2003b. <u>Trade, investment, and development in the Middle East and North Africa: Engaging with the world</u>. MENA Development Report, Washington, D.C.

World Economic Forum. 2003. The Global Competitiveness Report 2002-2003. Oxford: Oxford University Press.

WTO. 2003. World Trade Report 2003. Geneva.

Zarrouk, J. 2002. <u>A survey of barriers to trade and investment in the MENA Region</u>. In Harnessing Trade for Development and Growth in the Middle East. Report by the Council on Foreign Relations, Study Group on Middle East Trade Options. New York.

17

## Annex

18

## **Definition of Variables and Data Sources**

Variables	Definition/Source
Distance	Average distance in kilometers to the capitals of Germany, Japan and the United States; via Internet: <a href="http://www.macalester.edu/research/economics/PAGE/HAVEMAN/Trade">http://www.macalester.edu/research/economics/PAGE/HAVEMAN/Trade</a> . Resources/Data/Gravity/dist.txt;> <a href="http://www.indo.com/distance/index.html">http://www.macalester.edu/research/economics/PAGE/HAVEMAN/Trade</a> .
Economic growth (GNIUS)	Per-capita income (PPP) of country i (relative to per-capita income of the United States) in 2001, divided by per-capita income (PPP) of country i (relative to per-capita income of the United States) in 1992; World Bank (2003a)
Exports	Exports of country i in % of its GDP, 1998–2001; World Bank (2003a)
FDI inflows	Inflow of FDI in % of the host country's GDP, 1998–2001; World Bank (2003a)
Government consumption	Government consumption expenditure in % of the country's GDP, 1998–2001; World Bank (2003a)
Gross fixed capital formation	Gross fixed capital formation in % of the country's GDP, 1998–2001; World Bank (2003a)
Imports	Imports of country i in % of its GDP, 1998–2001; World Bank (2003a)
Import tariffs	Simple average of MFN statutory applied tariffs for all products, latest year; WTO (2003)
Import tariff revenues	Import tariff revenues in % of import value, 1997–2000; World Bank (2003a)
Inflation	Annual average change in consumer prices in %, 1998–2001; World Bank (2003a)
Institutional development	<ul> <li>Average of six indicators on institutional development in 2000/01:</li> <li>voice and accountability</li> <li>political stability and absence of violence</li> <li>government effectiveness</li> <li>regulatory quality</li> <li>rule of law</li> <li>control of corruption;</li> <li>indicators range from -2.5 to 2.5, with higher values indicating better institutional development; Kaufmann et al. (2002)</li> </ul>
Inward FDI stocks	Stock of inward FDI in % of the host country's GDP, 2002; UNCTAD (2003)
Per-capita income	Gross national income per capita in PPP terms, in current international US\$, 1992; World Bank (2003a)
Terms of trade	Export prices divided by import prices, 1992–2000 (1992 = 100); World Bank (2003a)
Years of schooling	Average years of schooling of the population aged 15 and over; Barro and Lee (2002)