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**IS THE “DUBAI MODEL” A NEW PARADIGM FOR GROWTH AND
INVESTMENT STRATEGIES FOR OIL-BASED ECONOMIES?**

CASE STUDY EURASIA

DRAFT

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IS THE "DUBAI MODEL" A NEW PARADIGM FOR GROWTH AND INVESTMENT STRATEGIES FOR OIL-BASED ECONOMIES?

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INTRODUCTION

Inward and outward investment flow patterns of Middle East oil-rich economies are beginning to shift as governments are feeling a renewed sense of urgency in trying to reverse decades of economic and related social failure (Askari & Jaber, 1999). Oil depletion coupled with low savings and non-productive investments yielding little economic diversification has resulted in no real establishment of global or regional comparative advantage in sectors other than oil and gas (Sala-i-Martin & Artadi, 2003). This is particularly true of the oil-rich Persian Gulf economies.¹

More recently, non-traditional growth strategies are being employed in the Middle East, especially in some Persian Gulf countries, for example the United Arab Emirates (UAE).² They are non traditional in the regional sense and not the economic sense, i.e. foreign ownership of private property, repatriation of capital. These countries are beginning to demonstrate a unique economic vision that attempts to diversify their economy and establish global competitive advantage.³ The UAE in general, and Dubai in particular, have gone to great lengths and expense in an effort to develop international trade and finance free zones, allowing foreign ownership of private property, focusing on higher education for both men and women, and encouraging foreign private capital to invest via both FDI and portfolio capital with controlling interests (over 51% ownership; World Bank, 2000). Some might argue that this strategy is late and still somewhat haphazardly being implemented, and the country's results on innovation and R&D (Arab Competitiveness Report, 2007) call for public and private investments. The UAE, nonetheless, is leading the regional pack in terms of creating sustainable comparative advantage and sustainable economic growth for themselves using non-traditional techniques.⁴ Their end objective being a steady stream of private capital flowing⁵ into the UAE's targeted sectors⁶ to sustain a reasonably high living standard well after their oil

¹ The Arab World Competitiveness Report 2007, World Economic Forum

http://www.weforum.org/pdf/Global_Competitiveness_Reports/Reports/chapterone.pdf

² Fasano, U. With open economy and sound policies, U.A.E. has turned oil "curse" into a blessing. IMF Survey: 31(19) <http://www.imf.org/external/pubs/ft/survey/2002/102102.pdf>

³ Fasano, U., Iqbal, Z. 2003. GCC Countries: From Oil Dependence to Diversification. IMF <http://www.imf.org/external/pubs/ft/med/2003/eng/fasano/index.htm#5>

⁴ Non-oil growth has averaged 10.6% annually over the past five years, the fastest expansion in the Gulf region, according to the IMF database.

<http://www.imf.org/external/pubs/ft/reo/2007/mcd/eng/mreo1007.pdf>

⁵ Attracting Foreign Direct Investment: What needs to be done? Dubai Strategy Forum

[http://www.dubaistrategy.com/program\(b1\).htm](http://www.dubaistrategy.com/program(b1).htm)

⁶ "Old and New" sectors. The former includes petroleum, oil refining, petrochemicals, fertilisers, construction, steel and aluminium industries, whilst the latter includes information communications and technology (ICT), media, tourism, aviation, portfolio asset management and healthcare, among others."

and gas reserves are depleted and no longer serve as the lure to foreign private investment. We refer to this non-traditional growth strategy as the “Dubai Model.”⁷

‘Dubai Model’s essential tenant is that “build it and they will come.” The model has some basic characteristics and objectives. The goal is to rapidly develop specific non-oil sectors and attract sustainable foreign investment. This is currently being achieved by pouring massive quantities of money at the problems that were created by 30 plus years of economic mismanagement. This is done by massive amounts of physical construction and the use of name branding to get an instant credibility for targeted industries. Examples of such projects are artificial islands in a form of Palm Island, and Dubai World, the indoor ski resort Dubai Ski Dome, immense sport complex of Dubai Sports City as a part of the Dubailand, the world’s first underwater luxury resort Hydropolis, the world’s first built-on-purpose Maritime City intended to integrate the maritime industry. Among others are Dubai Healthcare City combining hospital, medical school and life science research center in a partnership with Harvard Medical School and Boston University Institute for Dental Research and Education, London’s Moorfields Eye Hospital; Dubai Internet, Studio, Media, Textile Cities with free trade zones and 100% company ownership aimed to boost production in these industries.⁸ The ultimate objective is to attract vast amounts of sustainable inflow of private capital in the non-oil related sector – so that sustainable growth, productivity and revenue will remain once the oil (and gas) runs out. It should be noted that historically, most investment inflow has been oil sector/petroindustry related. To date, Dubai has been quite successful in attracting non-oil related foreign investments with construction industry 34,5%, and financial intermediation and insurance 35,38% being the main recipients of FDI in 2006.⁹ Non-oil sector keeps significantly contributing to the growth of the country.

Table 1. UAE growth accounting, 1985/2003 (excluding oil).

	Abu Dhabi	Dubai	Sbarjah	North Emirates	UAE
Annual average change in %					
GDP growth	3.6	7.4	4.7	4.5	5.1
of which: (the above row is the sum of the rows below)					
Labour growth	2.5	3.0	2.1	2.4	2.6
Capital growth	3.1	3.4	2.2	3.0	2.6
TFP growth	-1.7	0.7	2.0	-1.9	-1.3
IC change	-0.3	0.3	-1.7	0.9	1.1

TFP=Total factor productivity; IC=Idle capacity

Source: Dubai Chamber¹⁰

We find that many oil-rich countries in the Persian Gulf region are now seeing the merit of this approach and attempting to adopt the elements of the “Dubai Model” of sustainable economic growth i.e. growth through private investment into the R&D driven sectors after oil has been depleted¹¹. Qatar, for example, has made its move to become a

⁷ © Copyright 2008, Scheherazade S. Rehman.

⁸ http://www.projectdubai.com/projects.php?prj_id=37&areas=all

⁹ Dubai Statistics Center Bulletin “Foreign Direct Investment – Dubai Emirate 2007”.

<http://www.dm.gov.ae/PortalResources/DMEGOV/OSI/webreports/FDI07Eng.pdf>

¹⁰ http://www.dcci.gov.ae/content/Bulletin/Issue19/SectorMonEn_ISSUE19.pdf

¹¹ See Wells (2005) <http://www.btinternet.com/~nlpWESSEX/Documents/OGJournalEnergyCrisis.htm>

regional hub of higher education. Others, like Saudi Arabia, who have languished rudderless in terms of a planned economic growth and diversification strategy for almost 30 years are suddenly realizing their folly and are scrambling to introduce free trade and finance zones designed to compliment each other. Examples include financial, educational and medical research centers aimed to establish profound innovation infrastructure (i.e. by attracting highly recognizable brand names such as Harvard, John Hopkins, etc. to gain instant credibility and expertise). They are following an aggressive non-oil sector development program to globalize and integrate into the world economy.¹² Hence, we now see a multitude of Saudi projects, for example, the Kingdom's bid to repatriate capital and attract value-added foreign investments into its Economic Cities through the so called "10 x 10" program to put Saudi Arabia among the world's top 10 globally competitive investment destinations by 2010.¹³

More importantly these countries comprehend the need to diversify their economies (Auty, 1993; Eifert, Gelb & Tallroth, 2002; Rice & Mahmoud, 2000; Mehdi, 2004)¹⁴ and to ensure a stable source of funding for investment activities (Bisat et al., 1997) both via repatriation of capital and attraction of FDI¹⁵. The need for sustainable future foreign private investment outways the traditional fears associated with globalization of these economies.¹⁶ This is especially true given the widely publicized bleak economic prospects of these economies if nothing is done, and done quickly.¹⁷ These economies, for the first time, are attempting to either capitalize on or create their regional and sometimes global comparative advantage by attracting FDI into targeted sectors (other than oil and gas). For example, Saudi Arabia's efforts to capitalize on its unique global religious comparative advantage of the "Kaaba¹⁸" in building the Knowledge Economic City in Medina. The city tries to encompass multiple objectives from taking advantage of religion as a uniquely Saudi competitive advantage while encouraging globalization and economic development.¹⁹

The first part of the paper addresses the theoretical background of economic growth and competitive advantage models. Although there is a whole set of research on a relationship between foreign direct investments and economic growth²⁰, little has been

¹² IMF Survey Magazine: Countries&Regions, Non-Oil Sector Supports Saudi Growth, Koba Gvenetadze <http://www.imf.org/external/pubs/ft/survey/so/2007/CAR1114A.htm>

¹³ See Appendix 1. <http://www.sagya.gov.sa/english/index.php?page=overview-of-10x10-program>

¹⁴ See Al-Shamali and Denton (2000). Also, see IMF Survey Magazine: Countries & Regions, Sound Policies Behind Strong Growth, Elisa Diehl <http://www.imf.org/external/pubs/ft/survey/so/2007/CAR066A.htm>

¹⁵ Sluggish growth, declining oil reserves prompt Qatar to diversify economy away from oil. IMF Survey: 30(22): <http://www.imf.org/external/pubs/ft/survey/2001/112601.pdf>

¹⁶ See Yusuf (2001) for a prominent discussion of this topic.

¹⁷ http://www2.standardandpoors.com/spf/pdf/media/Oil_Boom_Gives_Gulf_Sovereigns_Room.pdf

¹⁸ See Appendix 2.

¹⁹ The city will comprise various zones designed to compliment each other: a technology and knowledge based industry zone, an advanced IT studies institute, an interactive museum on the life of Prophet Mohammad (PBUH, a center for Islamic civilization studies), a campus for medical research and life sciences, an integrated medical services zone, a retail zone, a business district, residential zones including high rises, houses, and fully-serviced apartments, shopping malls, and a mosque with a 10,000 worshipper capacity.

²⁰ Carcovic M., Levine, R. 2002. Does Foreign Direct Investment Accelerate Economic Growth? Department of Business Finance, University of Minnesota, Working paper Series. http://www.petersoninstitute.org/publications/chapters_preview/3810/08jie3810.pdf

said on foreign direct investments and national competitive advantage with respect to economic growth of oil and gas abundant countries of Middle East and Central Asia. The second part of our paper introduces the framework of the so-called “Dubai Model” in detail and outlines the key components necessary to develop sustainable comparative advantage for the oil-rich economies. The third part proceeds with the methodology employed to measure the success of the “Dubai Model” in the UAE and in application to other regions. The last part brings the results and investigates the degree to which other oil and gas countries in the region (i.e. Saudi Arabia, Kuwait, Qatar, Iran) have adopted the so-called “Dubai Model”. It also examines if the Dubai Model is being employed in the Eurasian (Central Asian) oil and gas regions of Kazakhstan, Azerbaijan, Turkmenistan and Uzbekistan. The objective is to gauge if the Eurasian economies are employing the traditional growth strategies of oil-rich non-OECD countries in managing their natural resources or are they adopting the newer non-traditional model of economic growth, such as the “Dubai Model.”

THEORETICAL BACKGROUND

In this section we first look at the experience of Persian Gulf countries, and then follow with a current literature on economic growth, comparative advantage with a special focus on the natural abundant countries.

Persian Gulf Experience

A review of the economic development of the oil-rich countries in this region by Askari & Haber (1999) reveals that there has been *no real comprehensible long-term economic growth strategy* for most of these economies. Many of these countries conducted haphazard economic strategies over the last 30 years, which have yielded disastrous results. For example, failure to achieve significant economic diversification, rising joblessness amongst the youth, dropping standards of living, soaring government budgets, low savings, shrinking of the middle class, and other economic and related social ills.²¹ Declining economic growth accompanied by quantitatively high investment rate in the Arab world within the last 30-40 years, observed by Sala-i-Martin & Artadi (2003) and Nili & Rastad (2007), suggests the low quality of investment projects to be the key determinant of growth in oil-exporting countries. According to these authors, the low quality of financial institutions, the excessive reliance on public investment, the dominant role of government in total investment, the weakness of private sector and the low quality of human capital determined systematically unproductive investment decisions and, thus, low economic growth. The issue of developing a sustainable

While some authors would argue the unconditional positive impact of FDI on growth worldwide and in the Arab context (van Pottelsberghe de la Potterie & Lichtenberg, 2001; Krogstrup & Matar, 2005; Ledyeva & Linden 2006), others (De Mello, 1997; Sadik & Bolbol, 2001; Saggi, 2000) bring the evidence of FDI to be growth enhancing in the long-run if the conditions of technological progress and human capital accumulation are met.

²¹ Abed G. T. 2003. Unfulfilled Promise, Finance&Development, A Quarterly Magazine of the IMF, 40:1 <https://www.imf.org/external/pubs/ft/fandd/2003/03/abed.htm>

comparative advantage in non-oil sectors was a non-issue in many of these governments' economic strategies, until recently.

For the most part, many of these oil-rich countries utilized the traditional growth model (Gelb, 1988; Farzi, 1993; Ascher, 1999) in that the revenue from oil and gas related activities was utilized in essentially three ways. First, a portion was invested in the domestic economy for infrastructure, consumption and production subsidies, and non-oil (including military and internationally non-tradable) sector development. Most of these activities were conducted primarily through government budget spending and with no real understanding and, for that matter, emphasis on creating productivity or competitiveness. Second, a portion of the oil and gas revenue was directly invested back into the country's own oil and gas sector and related petro-industries (El-Erian & Fennel, 1997). Here, they did understand that the oil sector's development was crucial to their future oil revenue and with it the accompanying political power (and corruption that has come along with that). Finally, part of the investments was shifted into global (foreign) private capital market portfolios. Occasionally, the portfolios returns earned in the foreign capital markets were repatriated back home constituting an inward flow of investments. Other than that particular brand of inward investment flow (i.e. repatriated capital), the only other major type of inward investment flows these countries experienced over the last 30 years or so were by-and-large foreign private investment into the domestic oil and gas sector. In many of these countries, the inward foreign private capital investment flow into non-oil and gas sectors was negligible. What about the investments by former citizens (Diaspora), that was not a case, at least for the Persian Gulf region; these are mostly common among the countries of the Maghreb region.²² We should mention a growing demand from Muslim immigrants for Islamic bonds governed by Islamic laws (Sharia) that, unlike Diaspora bonds, forbid paying or receiving interest, and are structured as asset-backed securities of medium-term maturity that give investors a share of the profit associated with proceeds from such issuance.²³

Current Literature on Economic Growth and Comparative Advantage

Classical economists (Adam Smith, 1776; Ricardo, 1817; Ramsey, 1928; Schumpeter, 1934) provided modern theory of economic growth with the concept of diminishing returns, effects of technological progress in a form of increased specialization of labor, the notion of competitive behavior, etc. The model proposed by Solow-Swan (1956) explained a significant part of variation of economic growth across countries. It made a prediction that in the absence of technological progress, countries would inevitably face an economic decline, which proved to be unsustainable in the long run.²⁴ To address this deficiency, it was assumed that the growth rate of an economy depends on the inputs of

²² Khachani M. The Maghreb Immigration in Europe: Its Impact on the Economy of the Countries of Origin. Regional Conference on Arab Migration in a Globalized World. <http://www.egypt.iom.int/eLib/UploadedFolder/Abstracts%20of%20Research%20Papers.%20Regional%20Conference.pdf>

²³ Ketkar, S.L., Ratha, D. 2007. Development Finance via Diaspora Bonds. Track Record and Potential. <http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1100792545130/Diasporabonds.pdf>

²⁴ See Barro and Sala-i-Martin (2004). This model specifies the levels of capital and output per worker as dependent upon the country's saving rate, growth rate of population, and the position of production function.

labor and capital, as well as technological progress in a form of increasing capital intensity, and high labor productivity. Since technological progress was treated as an exogenous variable, this very exogeneity did not provide answers to policy questions regarding the economic growth.²⁵

A new class of endogenous growth models emerged to address these issues and to emphasize know-how, investments in R&D, entrepreneurship, development activities by firms and learning society as the key drivers of economic growth.²⁶ Romer in his seminal work (1986) and later Lucas (1988), having adopted Arrow's learning-by-doing concept, underlined the role of human capital formation and increasing returns to scale. They showed that economic growth can turn into being sustainable in the long run if knowledge embodied in physical or human capital is treated as an endogenous variable. Grossman and Helpman (1990) extended the theory by fully explaining the role of innovation that can grow prodigiously and affect economic growth endogenously via technology spillovers. Dynamic models of international specialization, such as East Asia Growth Development Model, Porter's Diamond, Paul Krugman's total factor productivity, and Globalization theory, look more deeply into the interaction of technological progress, labor, and capital and propose the idea of limitless growth as a result of perpetual know-how advancement.

Natural Resource Abundance and Economic Growth

Numerous attempts to find a significant relationship between economic growth and natural resource abundance serve as an important connection between the determinants of economic growth and the measurement of sustainability. All else being equal, it would be natural to assume that resource abundance would be positively related to economic growth. However, there is an extensive literature in favor of the so-called "resource curse hypothesis" claiming that resource abundance impedes economic growth. Gelb (1988) confirmed such findings in his case studies with results being later reinforced in the case studies by Karl (1997) and Auty (1999, 2001), as well as in seminal econometric studies across countries by Sachs & Warner (1995, 1997, 2001), followed by Gylfason et al. (1999) and Busby et al. (2002).

To outline the reasoning behind such a conclusion, van Wijnbergen (1984), Krugman (1987), Matsuyama (1992), Sachs & Warner (1995) and Gylfason et al. (1999) suggest that the exploitation of more natural resources "crowds out" the traded (or industrial) sector (so called "Dutch disease") and inhibits growth in productivity and learning effects (Matsen & Torvik 2002). Later studies propose the low rates of savings and investments to be the source of a lagged economic growth. Atkinson & Hamilton (2003) indicate a combination of institutional quality and resource abundance as an explanation for low saving and investment patterns. Gylfason et al. (2002, 2006) claim that across countries heavy dependence on natural resources may hurt saving and productive investment indirectly by slowing down the development of the financial system whereas indicators of financial development are strongly associated with long-run growth (Levine & Sara 1993).

²⁵ UN. Analysis of Performances and Assessment of Growth and Productivity in the ESCWA Region.1: 7-8 <http://www.escwa.un.org/information/publications/edit/upload/ead-03-3-e.pdf>

²⁶ Romer, P. M. 1994. The origins of endogenous growth. *The Journal of Economic Perspectives*, 8(1): 3-22.

New findings in the literature suggest that the natural resources may affect economic growth through both positive and negative channels. According to Stijns (2005), the typical growth regressions do not reveal the effect of natural resources on economic growth to the full; he believes that the ability of a country to exploit its resource base depends critically on the nature of the learning process involved. Papyrakis & Gerlagh (2004), Boschini, Pettersson & Roine (2006) and Brunnschweiler (2008) carry out studies along the lines of his findings. They argue that there is a *positive relationship between natural resource abundance and economic growth* when other explanatory variables, such as types of resources possessed by the country, institutional quality, corruption, investment, openness, terms of trade, and schooling, are taken into consideration. Countries rich in minerals are cursed only if they have low quality institutions, while the curse is reversed if institutions are sufficiently good. However, if former is the case, and resources alter the quality of institutions in a detrimental way, Mehlum, Moene & Torvik (2005) believe that countries suffer a double resource curse - as the deterioration of institutions strengthens the negative effect of more natural resources. These assumptions suggest that resource-abundant countries may succeed in their efforts to achieve sustainable development if they create appropriate high-quality institutions that would accumulate savings and encourage productive and efficient investments into the non-oil competitive tradable activities. Having said that, let us proceed with the Persian Gulf countries' development path.

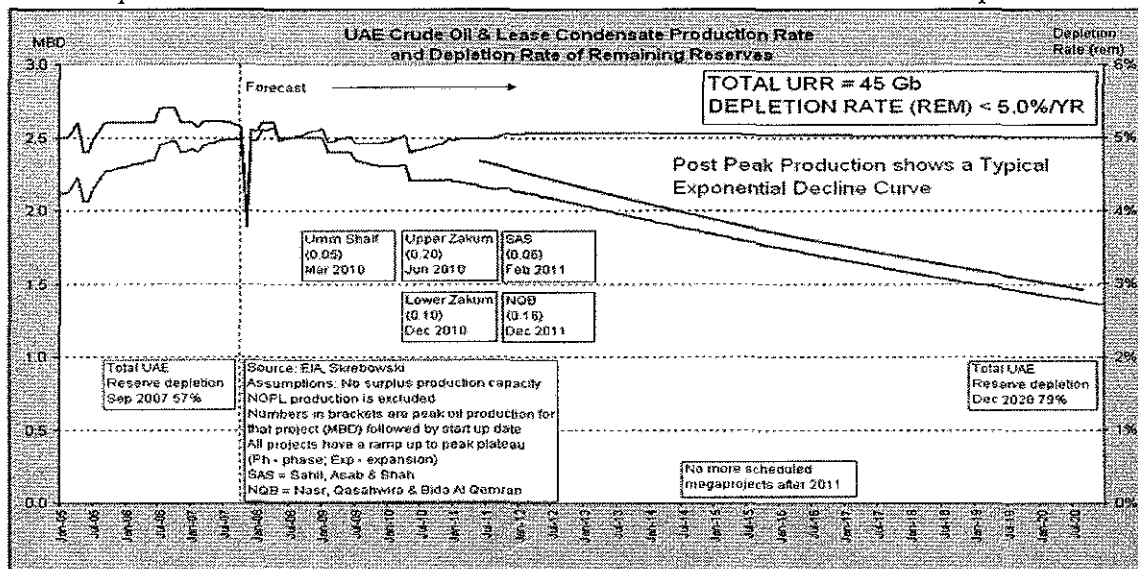
'DUBAI MODEL' FRAMEWORK

The unique contribution of our paper is that we propose the Dubai Model as a framework to promote economic growth in the oil-exporting countries. We claim these countries may facilitate sustainable economic growth long after oil runs out by attracting high-quality productive private investments into the artificially created innovation-intensive non-oil sectors. That will give a subsequent rise to technological spillovers and productivity, creating unique and dynamic comparative advantages and helping to ensure sustainable economic growth. Apart from transforming macroeconomic policies in a comprehensive manner, such a model will require these countries to introduce systemic changes such as liberalization, privatization and introduction of new institutions and legal frameworks to fully utilize those investment flows.

The Dubai Model's essential tenant of "build it and they will come" is supported by the fact that Dubai government is not financing the entire economic capacity building with public funds (oil revenues). They are in fact acquiring significant foreign investment to assist in their economic expansion and thus diversify their development risk. The model's basic characteristics and objectives are to rapidly develop specific non-oil sectors and attract sustainable foreign investment. This is currently being achieved by the billions of dollars spent on creation of massive infrastructure and overnight development of industries such as tourism, financial, transportation hubs and R&D centers. This is done by coupling the massive scope of their physical construction with the use of name branding to get an instant credibility for targeted industries. Examples of such projects are Dubai Financial Center, Dubai Healthcare City with its extensive medical, science and research facilities, Maritime City, Textile, Media, Internet cities, theme parks, and numerous artificial islands, as a part of free trade zones with their tax incentives and

100% foreign ownership. The ultimate objective as stated earlier is to attract a sustainable inflow of private capital in the non-oil related sector – so that these sectors will continue to generate sustainable growth, productivity and revenue once the oil (and gas) has been depleted. Below is a chart with the prospects on oil and gas depletion.

Graph 1. UAE Crude Oil & Lease Condensate Production Rate and Depletion Rate.



While constructing the framework to conceptualize this growth strategy, we have discovered that the “Dubai Model” serves as a framework to promote economic growth of only a very specific type of oil-exporting country – namely only the small countries. Small in terms of the size of the population is crucial to the success of this model. Small populations with vast oil and gas wealth allow governments to allocate capital resources in a more efficient, flexible, dynamic and less bureaucratic manner, while larger economies (with large populations have budgetary restrictions and large consumptions subsidies that limit their resources and flexibility. See Table 2 for and Table 3 for the richest countries in the region, which are small in size, as opposed to the most populated countries. Based on this proposition, Iran, Saudi Arabia, and Iraq would need to significantly modify the Dubai Model to address the needs of their large population. As such, we see in Saudi Arabia that although the government has employed the Dubai Model, it is using almost 100 percent of its own public resources rather than drawing foreign capital whilst in the development stage. It hopes to attract foreign capital after the massive build up. A risky strategy at best and very different than that employed by the original “Dubai Model.”

Table 2. Middle East Overview.

Most Populated Countries in the Middle East		Richest Countries in the Middle East GDP/capita 2007 est.	
Iran	71,021,039	Qatar	\$72,849
Iraq	25,374,691	UAE	\$42,934
Saudi Arabia	24,195,950	Kuwait	\$33,634
Yemen	22,383,108	Israel	\$25,800

Syria	19,890,585	Bahrain	\$25,730
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Source: IMF and WB database 2008

Table 3. Population of the Persian Gulf Countries.

Iran	71,021,039	UAE	4,041,000
Iraq	25,374,691	Kuwait	2,396,417
Saudi Arabia	24,195,950	Bahrain	~ 1,600,000
		Qatar	~ 1,200,000

Source: IMF and WB database 2008

The problem with the Dubai Model is that they are trying to artificially create comparative advantage and growth (fast)... potentially building a house of cards (with a very nice deck). The lessons learned in economic transformation of Central Eastern Europe and Central Asia from centrally planned economies to free markets structures demonstrate that these countries will need to implement macroeconomic policies along with systemic changes. The macroeconomic policies intended to curb inflation/budget deficit, to restore balance of payment, to raise employment rate, etc. can be done overnight. Again, to have these policies to sustain over a long period of time, the Persian Gulf and Central Asian countries will need to facilitate systemic reforms. These system changes will take time to build and develop core integrity. These changes include privatization, establishment of private property rights, development of innovative product-service markets, establishment of capital and labor markets, and introduction of new institutions and legal frameworks (good corporate governance, sound accounting practices, and strong rule of law).

METHODOLOGY OF ANALYSIS OF THE 'DUBAI MODEL'

The question we raise in our research is whether the investment and growth strategies employed in the Persian Gulf countries, particularly in the UAE, prove to be growth enhancing in the long run. Such strategies involve artificially created competitive advantages and use of innovative practices. Also, we explore whether those strategies could be applied to some other oil-exporting countries.

In our analysis we focus on the UAE and Persian Gulf countries (Bahrain, Kuwait, Qatar, Iran, and Saudi Arabia), and later we run the regression analysis for Eurasian oil and gas producing countries: Azerbaijan, Kazakhstan, Turkmenistan and Uzbekistan. We expect the Dubai Model to be growth enhancing after 1999, as this time period is known for reforms taking place. It follows the Asian economic crisis and signifies a significant rise in oil price. Upward trend in oil prices has echoed in revenues that allow governments of these countries to advance structural reforms and build their competitiveness. Here is how our hypotheses look like:

Hypotheses

Hypothesis 1. The Dubai Model has created significant sustainable growth by generating non-oil tradable industry specific competitive advantages in Middle East countries that are resource rich specifically in oil & gas between 1990-2006.

Hypothesis 1a. The Dubai Model has positively impacted sustainable growth in

Middle East oil exporting countries between 1990-2006 by attracting "high-quality" foreign investments in targeted non-oil tradable market sectors.

Hypothesis 1b. The Dubai Model has generated competitive advantages, which positively impact sustainable growth as measured by GDP per capita growth rate between 1990-2006.

Hypothesis 2. The Dubai Model has generated positive significant sustainable growth in the Central Asian oil & gas -rich countries between 1990-2006.

Variables of interest

We consider the inflows of foreign direct investments into the region, revenues from oil and gas per capita, government expenditures on education, growth in population and consumption, institutional quality, and an interaction of trade openness with the foreign direct investments as the main factors conditioning economic growth. Below is a rationale for choosing these variables.

According to the conceptual framework developed by OECD, the economic dimension²⁷ of sustainable development is dependent upon three resource indicators: produced assets measured as a volume of net capital stock, R&D assets as a multi-factor productivity growth rate, and financial assets possessed by country.²⁸ In a case of resource rich countries, a country may achieve and sustain a temporarily high GDP without industrializing by simply over-exploiting natural resources or by misallocating investment. But once those resources are exhausted, this high level would no longer be sustainable. Therefore, we agree with Dasgupta (2007) that GDP per capita measures current well being rather than a sustainability of growth.²⁹ However, we are still using the GDP per capita growth rate (graph 1) as a best available indicator for the regions of interest³⁰. While considering R&D and financial as useful in measuring sustainability, we exclude them due to the lack of data in these two areas (the early data on financial assets is not available for most Central Asian countries).

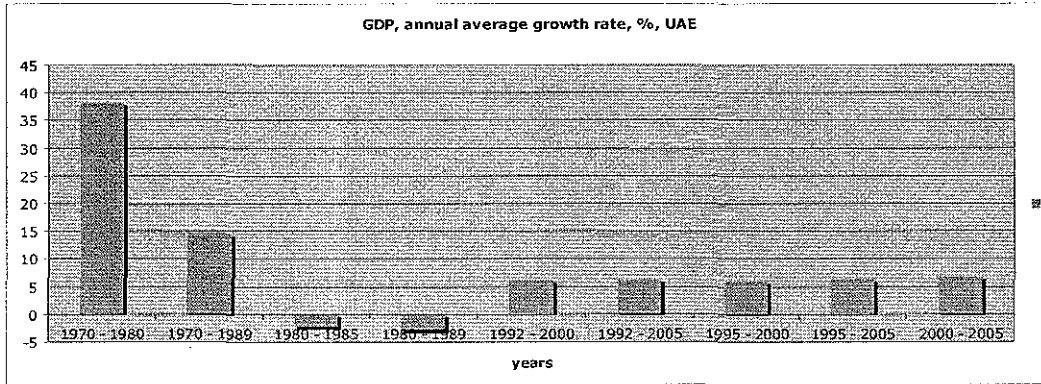
Graph 2. Real GDP, annual average growth rate, UAE.

²⁷ Measuring Sustainable Development, September 2005. Statistics Brief, OECD.

²⁸ Different approaches: Canada and Norway use a "capital" approach with the focus of measurement on the stocks and flows of different national assets: natural capital, financial capital, produced assets, human capital, etc.

²⁹ He suggests using productive base which is a combination of institutions (laws, property rights, beliefs, etc.) and capital assets (manufactured capital, human and natural capital, publicly available knowledge).

³⁰ <http://www.un.org/esa/sustdev/natlinfo/indicators/isdms2001/isd-ms2001economicA.htm>



Source: UNCTAD Handbook of Statistics 2007.

In a most basic form, growth accounting is based on a variety of Cobb-Douglas production function with constant return to scale, which decomposes country's long-run growth rate into the weighted growth rates of capital, natural resources, labor, and overall efficiency³¹:

$$y_t = A_t L_t^\alpha N^\beta K_t^{1-\alpha-\beta} \quad (1)$$

One of the shortcomings of this approach is that the total factor productivity (TFP) variable encompasses too many public and private sector choices that might impact productivity growth. Krugman (1987) tries to highlight learning curve as a driving force behind growth productivity by saying that once established arbitrary patterns of specialization of countries tend to become entrenched over time; however, his model is extreme to the extent that it assumes dynamic scale economies to be the only source of specialization and comparative advantage. Since our main proposition that Dubai Model is FDI driven, we identify FDI as our main explanatory variable of interest.

$$Growth_t = \alpha * g_{t-1} + \beta * FDI_t + \gamma * [Conditioning\ set]_t + \varepsilon_t \quad (2)$$

Log of GDP is used to investigate the dynamic properties of the data where growth is in part dependent on past performance, and past input levels (Mankiw et al., 1992; Islam, 1992; De Propris & Driffield, 2006).

When decomposing a conditioning set, we get:

$$g = constant + \alpha * \ln GDP + \beta_1 * FDI + \beta_2 * OILREV + \beta_3 * EDU_{t-n} + \beta_4 * INSTQ + \beta_5 * P + \beta_6 * C + \beta_7 * FDI * TRADE + \beta_8 * DI + \eta_t + \nu_{it}, \quad (3)$$

where g denotes a sustainable growth measured as a GDP per capita, PPP (2005 International \$) growth rate. We expect the rate of per capita economic growth g to be a decreasing function of a lagged real per capita GDP, to control for the catch-up effect, P - population growth, and C - final consumption expenditures. Growth rate is also an increasing function of the net oil revenue per capita $OILREV$, FDI activity - inward foreign direct investment stock as a percentage of GDP, and $FDI * TRADE$ - FDI and openness to trade interaction term. Openness to trade is measured as exports plus imports relative to GDP (Carcovic & Levine, 2002). We run additional regressions to confirm the

³¹ See Gylfason and Zoega (2006)

results using the FDI inflows per capita and FDI inflows as a percentage of Gross Capital Formation. We have included the lagged public expenditures on education EDU_{t-n} where available, to see whether the FDI effect is dependent on human capital. We consider it to be somewhat irrelevant in the case of the UAE where 80% of the workforce consists of immigrant workers but we have to consider it as Borensztein, De Gregorio, & Lee, 1998 claim that FDI impose positive effect once a certain threshold in human development has being passed. Stijns (2005) also points out that the growth regression is not complete unless the learning process is taken into consideration. Boschini (2006) claims good quality institutions help to reverse resource curse, we introduce an institutional quality (INSTQ) that we proxy by an Index of Economic Freedom from Heritage Foundation. D1 is a dummy variable we use to see if the Dubai Model makes a difference in the period after 1999. We control regional and global economic shocks by including η_t -fixed year effects; $\varepsilon_{i,t}$ is a normally distributed disturbance, i represent country and t – time period, respectively.

For the Central Asian countries, where net oil revenue data was unavailable, we use an index, which is a combination of country's natural resource endowment in a form of proven reserves of oil and gas and the oil prices as they contribute up to 80% of oil-exporting countries' GDP.³² We leave out natural gas prices as in general they follow the oil prices pattern with a small lag. Plus, thirty years ago natural gas was not considered as an exportable commodity at all. Most countries hold concession agreements; it means that even if the natural gas price goes up, the involved parties still face a fixed price. We also had to drop institutional quality and government expenditures on education in panel regressions as those were only available for a short period of time and only for Kazakhstan. We believe that Central Asian countries initially had relatively high levels of education and literacy level that do not considerably vary between the countries.

Specific effect of FDI on TFP

To study a specific effect of FDI on TFP we also run the regressions for the Persian Gulf countries as Sadik & Bolbol (2001) did for select Arab countries. Besides relating growth in GDP (dY/Y) to growth in capital I, labor L and FDI, it allows us to estimate the private marginal product of capital MPK:

$$dY/Y = \lambda * FDI/Y + \alpha * dL/L + MPK * I/Y, \quad (4)$$

where λ is a marginal product of TFP due to FDI spillovers. If FDI has a favorable effect, then $\lambda > 0$.

Data

Our sample of countries consists of the various regional groupings: Persian Gulf countries (Bahrain, Iran, Kuwait, Qatar, Saudi Arabia, United Arab Emirates); and Central Asian countries (Kazakhstan, Azerbaijan, Turkmenistan and Uzbekistan). The sample countries were chosen based on the list of top world oil and gas exporters and producers from the Energy Administration Information (Official Energy Statistics from

³² John Page The impact of lower oil prices on the economies of Gulf states. *Middle East Policy* [serial online]. 1999;6:59-67. Available from: ProQuest Information and Learning, Ann Arbor, Mi. Accessed April 10, 2008, Document ID: 43106834

the US Government).³³ To demonstrate the impact of the Dubai Model, we have divided our time framework into two parts: 1990-1998, 1999-2006. 1990 – 1998 designates a period where no significant efforts had been made in terms of planned policies towards attracting inward foreign direct investments, whereas the period of 1999-2006 signifies the Dubai Model implementation and marks a specific policy oriented to attract inward FDI. We had an earlier data on the Persian Gulf countries but the sample period for the Central Asian countries is only 1990-2006 starting from the year of their independence. Therefore, to make results consistent, we had to use the same time periods even though they might be short to provide us with meaningful results.

We take our data on GDP per capita, PPP, final consumption expenditures, and public expenditures on education from the World Bank (2007) World Development Indicators database; the data on FDI are taken from the Key Data of the UNCTAD (2007) World Investment Report; the data on exports and imports relative to GDP are taken from IMF World Economic Outlook database (April 2008). The net oil revenue per capita is taken from the EIA (Energy Information Administration) of the US Government OPEC fact sheet. The data on oil prices, as well as oil and gas proven reserves are taken from the British Petroleum Historical Data “Statistical Review Full Report Workbook 2007”³⁴. The Index of Economic Freedom is taken from the Heritage Foundation past scores dataset. Higher scores correspond to higher level of economic freedom. Information on government expenditures on education was only available for Kazakhstan. The data sources for the GDP, investment, and population growth rate are taken from AMF, National Accounts of Arab Countries.

Limitations

As we can see from the results, growth accounting equations are limited in their power to explain variations in output, particularly, when combined with a missing data on certain countries of the Middle East and Central Asia over time. We also believe that data when available are plagued with severe measurement errors.

The lack of data on corruption indices to fully account for the institutional quality change over long period of time (available only from 1995) contributes to the distortion of results for the Persian Gulf and Central Asia. Plus, Institutional Quality might be endogenous to the economic growth in the very long run. We may argue the institutional path dependence, such as Soviet heritage in case of Central Asia, and dependence on natural resources in case of Persian Gulf, to be the reasons for the current poor institutional environment.

One of the limitations of our model is a causality issue: it might well be some other factors (changes in efficiency of government regulations, changes in skills of the workforce and so on) we don't account for, that positively influence a pace of economic growth in the UAE apart from the so-called Dubai Model. (We consider total inward FDI, which means they encompass FDI into the oil sectors as well.) The Dubai Model is size sensitive; we believe it to be mostly applicable to the countries with a comparable population size. The Saudi Arabia and Iran that, unlike Central Asian countries, have 5-10 times fold population than the UAE, are adapting the Dubai Model with some

³³ <http://tonto.eia.doe.gov/country/index.cfm>

³⁴ <http://www.bp.com/statisticalreview>

alterations focused to raise youth employment.

To avoid the problems associated with running cross-sectional time-series analysis, we eliminate problems that may threaten the validity of our findings. We ensure the normality of error terms and that our regression estimators are unbiased by testing and correcting for heteroskedasticity and autocorrelation of error terms. Also, when estimating dynamic models from short panel we have to remove the fixed effects. Because in presence of those fixed effects, the lagged dependent variable is correlated with the error term. We have an issue of multicollinearity due to a linear relationship between our explanatory variables, e.g. oil revenue and consumption. We had to drop the consumption variable.

RESULTS

Overall, our regression results support the main predictions of the Dubai Model. FDI inward stocks seem to have a positive effect throughout a considered period of time. Table 4 summarizes the findings for the UAE.

Table 4. Dependent variable: growth rate of GDP per capita, UAE.

<i>Period</i>	1990-2006					
<i>Intercept</i>	40,716** (2,29)	52,165* (4,77)	52,247* (5,02)	53,473* (4,85)	63,389 (1,48)	605,28** (14,28)
<i>ln GDP</i>	-0,001** (-2,44)	-0,001* (-5,05)	-0,001** (-2,90)	-0,001** (-2,70)	-0,001** (-1,82)	0,01** (-14,82)
<i>FDI^a</i>	0,79* (4,27)	0,384* (3,55)	0,169 (0,79)	0,149 (0,66)	0,089 (0,26)	5,234** (13,04)
<i>Oil revenue per capita</i>		0,001** (2,99)	0,001** (3,12)	0,001** (2,63)	0,001 (1,32)	0,001** (13,85) ^a
<i>Expenditures on Education</i>			-0,027 (-1,15)	-0,028 (-1,11)	-0,021 (-0,42)	-0,012 (-1,53)
<i>Growth in Population</i>				-0,312 (-0,61)	-0,532 (-0,87)	1,822*** (6,73)
<i>Growth in Consumption</i>					-0,0001 (-0,000)	
<i>Trade Openness</i>					-0,237 (-1,14)	0,573** (9,07)
<i>Institutional quality</i>						-2,883*** (-1,87)
<i>FDI*Trade</i>						-0,192*** (-10,98)
<i>Dummy for year >=1999</i>	-0,92 (-0,47)	-2,64** (-2,45)	-5,01*** (-2,17)	-4,96*** (-2,06)	-4,24 (-0,98)	-10,31*** (-11,8)
<i>R² adj.</i>	0,62	0,88	0,90	0,90	0,72	0,99

^a In the regression, this variable is included as ln (variable)

Note: t-statistics are given in brackets.

* significant at 1%, ** significant at 5%, *** significant at 10%.

In half of the regressions, the coefficient on FDI is positive and statistically significant at 1 and 5 % level. We carried a series of sensitivity checks using different right-hand side variables such as inward FDI flows, inward FDI flows as a percentage of Gross Capital Formation. The estimate implies that a 1 percent-of-GDP increase in inward FDI stock, everything else equal, gives rise to 5,23 percent increase in the GDP growth rate. We must note that FDI becomes statistically insignificant once we introduce a control for government expenditures on education, growth in population and consumption, and trade openness. Such variation in investment rate can be explained by the short periods of increase and long periods of decrease in investment flows into transportation, storage and communication industries, whereas investments into the real estate and business services are following a strong upward trend. The coefficient on lagged GDP is negative and statistically significant most of the time. As anticipated, oil revenues boost growth but their magnitude is relatively small. It could be explained by a gradual deterioration of oil reserves in the UAE. Currently, oil sector does not exceed 20% of the Dubai GDP, and oil contributes less than 5% to government revenues.³⁵ The coefficient on expenditures on education does not prove to be statistically significant, which is a result that we expected to see. The cost of labor dropped significantly in the late 80s - middle 90s; that resulted in a heightened labor use since then. As we already mentioned 80% of Dubai labor force is coming from abroad, therefore, it seems unlikely that the government was willing to invest into human capital in that period as the country could import the skilled workforce. It is only now that they are trying to reverse that path and it may take some time for newly established research institutes to bring positive returns. We dropped the consumption variable as we suspect a multicollinearity issue due to a strong correlation between oil revenues and consumption patterns. An interaction between FDI and trade openness enters as negative and statistically significant at the 10% level. This result does not support a notion that FDI is particularly good for the country with an open trade regime. It may be well that the entry and exit barriers are still pretty high in the UAE. It does not seem that the institutional quality has created a better environment for conducting business but this conclusion is somewhat dubious due to a lack of consistent data for the entire period of 1990-2006.

We believe the Dubai Model to be size relevant; therefore, we run a panel regression using a fixed effects model for a set of countries that have relatively small population such as Kuwait, Qatar, and the UAE.³⁶ See Table 5 for the results. Timeframe of 16 years might be simply too short to provide us with meaningful results on a relationship between the variables of interest, the impact of FDI in the short run can differ from that in the long run. The FDI prove to be positive and statistically significant at 1% level. The estimate implies that a 1 percent-of-GDP increase in inward FDI stock, everything else equal, on average gives rise to 1,3 percent increase in the GDP growth rate. Surprisingly, oil revenues per capita do not enter statistically significant for these countries. Still, the big share of budget revenue of these countries despite all their reforms still comes from

³⁵ <http://www.gulfnews.com/gnqfr/gnqfr32008/economy/10238418.html>

³⁶ See Appendix 3 for population size.

exports of oil and natural gas and high oil price has resulted in accumulation of significant financial assets. We dropped institutional quality and education expenditures due to a lack of consistent data. The coefficients on growth in population and consumption mostly conform to theory but are not always statistically significant. We do not find robust link between growth and trade openness of the economy. The FDI and the interaction term between FDI and trade openness enter significantly, the coefficient on FDI is positive and negative on the interaction term. This may suggest that FDI may be growth enhancing in countries that just started opening their economies, which is particularly true for the Persian Gulf countries.

Table 5. Dependent variable: growth rate of GDP per capita.^a

<i>Period</i>	1990-2006					
<i>Intercept</i>	6,24 (-1,79)	7,622 (1,57)	7,837 (1,64)	33,55 (1,34)	9,74 (1,13)	20,49** (2,61)
<i>ln GDP</i>	-0,0001** (-2,26)	-0,0001** (-2,66)	-0,0005* (-3,00)	-0,0005* (-2,78)	-0,0005* (-3,18)	-0,0004*** (-1,86)
<i>FDI^a</i>	1,339* (3,30)	1,299* (3,22)	1,44* (3,53)	1,129** (2,58)	1,32* (3,16)	1,603* (3,49)
<i>Oil revenue per capita</i>		0,0005 (1,37)	0,0005 (1,32)	0,0001 (0,23)	0,0001 (0,28)	-0,0001 (-0,46)
<i>Growth in Population</i>			0,33 (1,49)	-0,173 (-0,34)	-0,876 (-0,90)	-1,977** (-2,11)
<i>Growth in Consumption</i>				-0,284 (-1,03)		
<i>Trade openness</i>					0,234 (1,28)	0,441** (2,56)
<i>FDI*Trade</i>						-0,028*** (-1,86)
<i>Dummy for year >=1999</i>	-3,854 (-1,20)	-5,583 (-1,64)	-6,417*** (-1,88)	-8,039** (-2,23)	7,562** (2,16)	-6,219** (-1,75)
<i>R² adj.</i>	0,24	0,27	0,31	0,307	0,34	0,39

^a Includes Kuwait, Qatar, UAE. We had to drop Bahrain due to a lack of information.

^b We do not control for education expenditures and institutional quality due to missing values for Qatar.

Note: t-statistics are given in brackets.

* significant at 1%, ** significant at 5%, *** significant at 10%

Eurasia

The effect of FDI in Central Asian countries turns out to have a strong positive effect on economic growth. See table 6 for results. The estimate implies that a 1 percent-of-GDP increase in inward FDI stock, everything else equal, on average gives rise to 0,14 percent increase in the GDP growth rate. As expected, the lagged GDP takes a negative and significant value. Even though oil price plays significant role in export revenues of these

countries, our index does not provide us with any statistically significant results. We also used oil price to see if there would be any difference but got the same outcome. According to the estimates, a 1 percent-of-GDP increase in population, everything else equal, on average leads to 3,5 percent decline in the GDP growth rate. There has been a stable growth in population in Azerbaijan, Uzbekistan while Kazakhstan and Turkmenistan experienced a decline due to migration of some ethnic groups after the dissolution of the Soviet Union. While Azerbaijan and Kazakhstan struggle to attract foreign investments and are considered as more open economies, trade openness does not enter statistically significant, it may be explained by the relatively closed economies of Turkmenistan and Uzbekistan. One may need to dissect this panel to consider these economies in detail. Interaction between FDI and trade openness is not significant either.

Table 6. Dependent variable: growth rate of GDP per capita. ^a

<i>Period</i>	1990-2006					
<i>Intercept</i>	8,513* (3,42)	8,0868 (3,13)	10,11* (3,74)	9,68 (1,18)	9,839 (1,16)	8,727 (0,87)
<i>ln GDP</i>	-0,001** (-1,91)	-0,001** (-1,94)	-0,001 (-1,07)	-0,0009 (-1,07)	-0,0001 (-0,82)	-0,0001 (-0,61)
<i>FDI^b</i>	0,145* (3,98)	0,143* (3,89)	0,139* (3,90)	0,14* (0,0381)	0,14* (3,63)	0,151* (3,62)
<i>Oil Price *Natural Abundance</i>		0,002 0,64	0,004 (1,45)	0,004 (1,43)	0,004 (1,40)	0,004 (1,21)
<i>Growth in Population</i>			-3,416** (-2,04)	-3,392** (-1,95)	-3,444** (-1,85)	-3,518** (-1,80)
<i>Growth in Consumption</i>				0,005 (0,006)	0,003 (0,004)	0,019 (0,18)
<i>Trade openness</i>					-0,006 (-0,08)	-0,035 (-0,33)
<i>FDI*Trade</i>						0,001 (0,92)
<i>Dummy for year >=1999</i>	-11,77* (5,31)	-11,08* (-4,49)	-9,15* (-3,54)	-9,18* (-3,46)	-9,22* (-3,38)	-9,46* (-3,35)
<i>R²</i>	0,65	0,65	0,67	0,68	0,68	0,68

^a Includes Azerbaijan, Kazakhstan, Uzbekistan, Turkmenistan

^b In the regression, this variable is included as ln (variable)

Note: t-statistics are given in brackets.

* significant at 1%, ** significant at 5%, *** significant at 10%.

Specific effect of FDI on TFP in select Persian Gulf countries

To see whether FDI play a positive role in total factor productivity, we also run the ordinary least squares (OLS) for 1996-2006 for five Persian Gulf countries: Bahrain, Kuwait, Qatar, Saudi Arabia and UAE.

Table 7. Dependent variable: growth rate of GDP.

	<i>I/GDP</i>	<i>FDI/GDP</i>	<i>dL/L</i>	<i>R² adj.</i>
Bahrain	0,035** (2,95)	2,12 *** (2,44)	11,05 (0,77)	0,53
Kuwait	0,005 (0,99)	-3,27 (-0,09)	-0,342 (-0,07)	0,21
Qatar	0,00001 (0,05)	5,194* (2,18)	-9,467* (-2,01)	0,36

Saudi Arabia	0,0002* (4,35)	-2,83** (-2,75)	-27,92* (-3,55)	0,72
UAE	0,0001 (0,40)	0,42 (0,35)	-0,974 (-0,76)	0,11

Note: t-statistics are given in brackets.

In our results we confirm a conclusion that there is no universal way for FDI to affect economic growth. There are so many specific firm level and country level situations where FDI would be different depending on a set of policies and factors in place. We get the conflicting predictions on the growth effects of FDI in the Persian Gulf countries. Receipts from oil exports and skyrocketing oil price allow these countries to invest heavily domestically. Bahrain, a regional financial hub, demonstrates strong positive spillovers from FDI and domestic investments onto TFP. Rising oil prices add to financial sector that can have a higher liquidity. It allows low interest rates to boost private consumption. Also, Bahrain is one of the Persian Gulf economies that extract a large share of its exports from the processed petroleum products and utilizes its strong transportation and communication infrastructure to attract foreign businesses to import duty free. But with a steady decline in its oil reserves, it gets highly dependent on crude oil imports. FDI in Qatar, with its large investments into the human capital, education and health care system, and LNG (liquefied natural gas) industry seem to have a favorable effect on TFP. The mounting demand from growing population (due to influx of foreign workers) for inputs has to be satisfied from abroad. We confirm the findings of Bolbol & Sadik for Saudi Arabia, whose λ is negative and statistically significant. They claim that it could be linked to the fact that most FDI (except some in light manufacturing and consumer goods) are tied to the Saudi Offset Program. According to it, foreign defense contractors have to reinvest part of their earnings back into the country. Speaking of the Persian Gulf, we agree with M. Porter that most of the policies in the region are designed centrally and imposed by the government, including FDI policies. The investment behavior can be characterized as a one focused on infrastructure building rather than productivity growth. But at the same time, this ability to invest into the high cost world-class facilities, hub for airlines, top of the market resorts, etc. may help the Persian Gulf countries to gain competitive advantage that other countries in the region may not afford.

The lack of substantial spillover effects on TFP for Kuwait and UAE could be explained by some external factors that swallow the growth effects of domestic and foreign capital, as well as labor. In case of Kuwait, that has extensive non-oil income coming from foreign assets, such factors may include political constraints in liberalizing tax regime for non-oil foreign companies, as well as unwillingness of the government to introduce quality reforms to develop competitive advantages by attracting FDI into non oil sectors. In fact, UAE and Kuwait are among the highest real non-oil GDP between 1998-2006 (IMF, Regional Economic Outlook 2007). We believe the invigorating reforms taking place in the UAE will need their time to unfold.

A significant growth effect of labor in Saudi Arabia can be explained by the huge number of young people of working age in its 5-times increased population. Iran and Saudi Arabia will need to adapt the Dubai Model with certain modifications intended not only to improve the infrastructure but also to employ its labor force.

The entire process of attracting FDI into Central Asian countries has taken a contradictory character starting their independence. Most of the enterprises in early 1990s and later on have been sold and resold at very cheap prices. Consider Kazakhstan, where bribery, corruption and the lack of transparency in FDI negotiations provided base for

what Peck (2004) called as “a sale of a century”. Most of those FDI went into the oil and metal sectors that were falling short in infrastructure. Should those investments taken time to develop investment environment in a more planned manner, the economic outcomes could have been a way better for Central Asian countries. The process was plagued with many conflicts, allegations in corruption, and subsequent renegotiations in many cases. Some governments are trying to reverse the dire consequences by introducing new reforms. For example, Kazakhstan has been able to identify seven pilot clusters in services and machinery for oil and gas, construction, metallurgical sector, textiles, tourism, transshipment and logistics, etc. to broaden its industrial base. It has also created three-tier institutions to invest millions of dollars from oil revenues to projects intended to create a necessary innovation infrastructure, dedicated think-tanks and policy analysis institutions. The purpose is to attract foreign investors to those targeted clusters to develop high-tech enterprises on a sustainable basis. In a same way the UAE and other Persian Gulf countries did, Central Asian countries have created Free Trade Zones to make a use of duty free imports, and other incentives to investors in relevant areas. Special agencies have been created to furnish the potential investors with information and assist them.³⁷ The focus is to employ the investments into the innovation-driven industries. A potential research could be made on the operation of each particular cluster such as tourism, transportation hub, its interaction with other clusters, and their effect on the overall economy. Some authors provide a complimentary analysis on financial centers existing in the Persian Gulf, same could be done on Central Asian countries; as they have been created pretty recently and it is hard to judge their performance due to a limited activity.

CONCLUSION

The Persian Gulf countries are trying to artificially create comparative advantage and growth very fast. The potential outcome can simply become a house of cards (*with a very nice deck, though*). In their efforts to fill in this house with knowledge and R&D and create credibility overnight, they attract brand names such as Harvard, Princeton, etc. We don't know if such artificially created knowledge and economic cities will provide artificial growth and if yes, how sustainable this growth is going to be. It may take more time to see a rise in the marginal rate of return on those investments into this massive build up. Persian Gulf countries may probably learn from Central Asian experience, particularly from Kazakhstan that has haphazardly tried to attract too many investors in too many sectors, too rapidly and all at the same time in what is now called “sale of a century”. Certain elements of economic development require time to build i.e. systemic integrity. The lessons learned in economic transformation of Central Eastern Europe and Central Asia from centrally planned economies to free markets structures demonstrate that these countries will need to implement macroeconomic policies along with systemic changes. The macroeconomic policies intended to curb inflation/budget deficit, to restore balance of payment, to raise employment rate, etc. and construction of infrastructure can be done overnight. However, to have these policies to sustain over a long period of time, the Persian Gulf and Central Asian countries will need to facilitate systemic reforms.

³⁷ See www.kazyna.kz

These system changes will take time to build and develop core integrity. These changes include privatization, establishment of private property rights, development of innovative product-service markets, establishment of capital and labor markets, and introduction of new institutions and legal frameworks (good corporate governance, sound accounting practices, and strong rule of law). As long as those changes are not in place, prospects for growth, and what's more important, sustainable development, remain to be uncertain.

Appendices

1. The King Abdullah Economic City (KAEC) was launched in 2005 in Rabegh (Red Sea Coast). Three integrated economic cities were launched in 2006 (the Prince Abdul Aziz bin Mousaed Economic City in Hail, the Knowledge Economic City (KEC) in Medina, and the Jazen Economic City in Jazan). The four cities are expected to attract investments worth more than SR300bn (US\$80bn) and create more than a million jobs within the next 10 to 20 years. In 2007, plans were released to establish two more economic cities, one in Tabuk and one in the Kingdom's Eastern Region.

2. The Kaaba is a cuboidal building located inside the al-Masjid al-Haram mosque in Mecca, Saudi Arabia. The mosque was built around the original Kaaba. The Kaaba is the holiest place in Islam. The qibla, the direction Muslims face during prayer, is the direction from their location on Earth towards the Kaaba. It is around the Kaaba that ritual circumambulation is performed by Muslims during the Hajj (pilgrimage) season as well as during the Umrah (lesser pilgrimage).

3. Population size.

Large: Saudi Arabia = 27,019,731, Iran = 67,752,020, Iraq = 24,699,000

Small: United Arab Emirates = 4,041,000, Kuwait = 2,396,417, Qatar = ~1,000,000, Bahrain = ~1,600,000.

Definitions

Sustainability is an achievement of a policy to invest the rents from resource depletion in alternative forms of wealth, which ensures that, in the aggregate, the change in the real value of assets is positive (Hartwick, 1977; Solow, 1986).

We define competitive advantage as an ability of a country to attract foreign investments into the region and benefit from utilizing local comparative advantages, such as religion, ports, etc.

FDI denotes investments involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). FDI flows comprise capital provided by a foreign direct investor to an FDI enterprise, or capital received from an FDI enterprise by a foreign direct investor. FDI stock is the value of the share of their capital and reserves (including retained profits) attributable to the parent enterprise, plus

the net indebtedness of affiliates to the parent enterprise.³⁸ “High-quality” foreign investments constitute investments into the non-oil internationally tradable sectors with a purpose to increase manufactured exports. FDI into the real estate, and hotels, etc. represent FDI into the internationally non-tradable activities as this type of investment is less likely to bring in new technology or help local companies to integrate into global supply networks.³⁹ Despite that, for a country at the investment-driven stage, an extensive joint venturing and heavy investment in trade-related infrastructure (roads, telecommunications and ports) is highly present.⁴⁰

References

- Al-Shamali, A., Denton, J. 2000. **Arab Business: the Globalization Imperative**. Kogan Page; 1st edition
- Ascher, W. 1999. **Why Governments Waste Natural Resources: Policy Failures in Developing Countries**. JHU Press
- Aslund, A., Jenish, N. 2006. *The Eurasian Growth Paradox*. Working Paper Series, Institute for International Economics, WP 06-05
- Atkinson G., Hamilton K. 2003. Savings, Growth and the Resource Curse Hypothesis. *World Development*, 31(11). November 2003: 1793-1807
- Askari, H., Jaber, M. 1999. Oil-exporting countries of the Persian Gulf: What happened to all that money? *Journal of Energy Finance & Development*, 4(2): 185-218
- Auty R.M. 1993. *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. Routledge.
- Auty R.M. 1999. *The transition from rent-driven growth to skill-driven growth: recent experience of five mineral economies*. In: Maier, J., Chambers, B., Farooq, A. (eds.) *Development Policies in Natural Resource Economies*, Edward Elgar, Cheltenham.
- Auty R.M. 2001. *Resource Abundance and Economic Development*. Oxford University Press, Oxford.
- Barro, J., Sala-i-Martin, X. 2004. *Economic Growth*. The MIT Press. Second edition.
- Bisat, A., El-Erian, M., Helbling, T. 1997. Growth, Investment, and Saving in the Arab Economies. IMF Working Paper WP/97/85-EA.
- Boschini, A. D., Pettersson J., Roine, J. 2006. *Resource curse or not: A question of appropriability*. DEGIT Conference Papers c011_050, DEGIT, Dynamics, Economic Growth, and International Trade.
- Borensztein, E., De Gregorio, J., Lee, J. W. 1998. How Does Foreign Investment Affect Growth? *Journal of International Economics*. 45 (1): 115-72.
- Brunnschweiler, C. N. 2008. Cursing the Blessings Natural Resource Abundance, Institutions, and Economic Growth, *World Development*, In Press, Corrected

³⁸ UNCTAD, World Investment Report 2007. Definition is based on OECD, Detailed Benchmark Definition of Foreign Direct Investment, third edition (OECD, 1996) and International Monetary Fund, Balance of Payments Manual, fifth edition (IMF, 1993).

³⁹ Noland, M., Pack, H. 2008. Arab Economies at a Tipping Point. Forthcoming article in *Middle East Policy*.

⁴⁰ von Kirchbach, F. 2003. A Country's Competitive Advantage. International Trade Centre, International Trade Forum: 1.

Proof, Available online 30 January 2008

- Busby, G., Isham, J., Pritchett, L., Woolcock, M. 2002. *The varieties of rentier experience: how natural resource export structures affect the political economy of economic growth*. Mimeo, The World Bank.
- De Mello, L. 1997. Foreign direct investment in developing countries and growth: a selected survey. *Journal of Development Studies* 34 (1): 1–34.
- Dasgupta, P. 2007. *Measuring Sustainable Development: Theory and Application*. Asian Development Bank.
- Eifert, B., Gelb, A., Tallroth N.B. 2002. *The Political Economy of Fiscal Policy and Economic Management in Oil Exporting Countries*. Policy Research Working Paper 2899. The World Bank
- El-Erian, M., Fennel, S. 1997. *Economy of the Middle East and North Africa in 1997*. International Monetary Fund.
- Farzi, Y. H., 1993. Importance of foreign investment for the long-run economic development of the United Arab Emirates, *World Development*: 21(4): 509-521
- Gelb A. 1988. *Windfall Gains: Blessing or Curse?* Oxford University Press, Oxford.
- Grossman G.M., Helpman E. 1990. Comparative advantage and long-run growth, *American Economic Review*: 796-815.
- Gylfason, T., Zoega, G. 2006. Natural Resources and Economic Growth: The Role of Investment. *The World Economy*, Blackwell Publishing, 29(8): 1091-1115, 08.
- Gylfason, T., Herbertsson, T.T., Zoega, G. 1999. A mixed blessing: Natural resources and economic growth. *Macroeconomic Dynamics*, 3: 204- 225.
- Hermes, N., Lensink, R. 2003. Foreign direct investment, financial development and economic growth. *The Journal of Development Studies*, Taylor and Francis Journals, 40(1): 142-163.
- Hoekman, B. M., Kheir-El-Din, H. 2000. *Trade Policy Developments in the Middle East and North Africa*. World Bank Publications
- Islam, N. 1988. Growth Empirics: A Panel Data Approach—A Reply. *The Quarterly Journal of Economics*, MIT Press 113(1):325-329
- Karl, T.L. 1997. *The Paradox of Plenty: Oil Booms and Petro States*. University of California Press, Berkeley.
- Krogstrup, S., Matar, L. Foreign Direct Investment, Absorptive Capacity and Growth in the Arab World, HEI Working Paper No: 02/2005
- Krugman, P. 1987. The narrow moving band, the Dutch disease, and the competitive consequences of Mrs. Thatcher: notes on trade in the presence of dynamic scale economies. *Journal of Development Economics* 37: 41-55.
- Ledyaeva, S., Linden, M. 2006. Foreign Direct Investment and Economic Growth: Empirical Evidence from Russian Regions. BOFIT Discussion Paper No. 17/2006 Available at SSRN: <http://ssrn.com/abstract=1002361>
- Levine, R., Sara, Z. 1993. *Looking at the facts: what we know about policy and growth from cross-country analysis*. Policy Research Working Paper, 1.
- Lucas, R.E. 1988. On the mechanics of economic development, *Journal of Monetary Economics*: 3-42.
- Mankiw, N.G., Romer, D., Weil, D.N. 1992. A Contribution to the Empirics of Economic Growth. *The Quarterly Journal of Economics*, MIT Press, 107(2): 407-437.
- Matsen E., Torvik R. 2002. *Optimal Dutch Disease*. Working Paper Series 2703,

- Department of Economics, Norwegian University of Science and Technology, revised
- Matsuyama, K. 1992. Agricultural productivity, comparative advantage and economic growth. *Journal of Economic Theory* 58: 317-334.
- Mehdi, A. 2004. *The Changing Face of Globalization*. By Samir Dasgupta. Sage Publications Inc.
- Mehlum, H., Moene, K. O., Torvik, R. 2005. *Cursed by resources or institutions?* Working Paper Series 5705, Department of Economics, Norwegian University of Science and Technology, revised.
- Mehlum, H., Moene, K.O., Torvik, R. 2002. *Institutions and the resource curse*. Mimeo, Department of Economics, University of Oslo.
- Nili, M., Rastad, M. 2007. Addressing the growth failure of the oil economies: The role of financial development. *The Quarterly Review of Economics and Finance*, Elsevier, 46(5): 726-740
- Nunnenkamp, P. 2004. To What Extent Can Foreign Direct Investment Help Achieve International Development Goals? *The World Economy*, Blackwell Publishing, 27(5): 657-677.
- Omran, M., Bolbol, A. 2007. *Foreign direct investment, financial development, and economic growth: evidence from the Arab countries*. Review of Middle East Economics and Finance, Berkeley Electronic Press, vol. 1(3): 3
- Papyrakis, E., Gerlagh, R. 2004. The resource curse hypothesis and its transmission channels. *Journal of Comparative Economics*, 32(1): 181-193
- Romer, P.M. 1986. Increasing returns and long-run growth. *Journal of Political Economy*: 1002-1037.
- Peck, A. E. 2004. Economic Development in Kazakhstan. **The role of large enterprises and foreign investment**. Central Asia Research Forum Series. RoutledgeCurzon.
- Sachs, J.D., Warner A. M., 1995. *Natural resource abundance and economic growth*. NBER Working Paper No. 5398.
- Sachs, J.D., Warner A. M., (1997). Sources of slow growth in African Economies. *Journal of African Economies*, 6: 335-376.
- Sachs, J.D., Warner A. M., 2001. The curse of natural resources. *European Economic Review*, 45: 827-838.
- Sala-i-Martin, X., Artadi, E. V., 2002. *Economic growth and investment in the Arab world*. Discussion Paper 0203-08. Columbia University.
- Sadik, A., Bolbol, A. 2001. Capital Flows, FDI, and Technology Spillovers: Evidence from Arab Countries. *World Development*. 29 (12): 2111-2125.
- Solow, R.M. 1956. A contribution to the theory of economic growth, *Quarterly Journal of Economics*: 65-94.
- Stijns, J.P. 2002. *Natural resource abundance and economic growth revisited*. Mimeo, Department of Economics, UC Berkeley.
- Stijns, J.P., 2005. *Natural resource abundance and economic growth revisited*. Resources Policy, Elsevier, 30(2): 107-130.
- van Pottelsberghe de la Potterie, B., Lichtenberg, F. 2001. Does Foreign Direct Investment Transfer Technology Across Borders? *The Review of Economics and Statistics* 83(3): 490-497.
- van Wijnbergen, S., 1984. The 'Dutch disease': a disease after all? *Economic Journal*

94: 41-55.

Wells, P. R.A. 2005. Oil And Gas Journal Predicts Emerging Oil Supply Crisis, *Oil & Gas Journal*.

Yusuf, S. 2001. *Globalization and the challenge for developing countries*. World Bank Policy Research Working Paper No. 2618 ed.

Analysis of Performances and Assessment of Growth and Productivity in the ESCWA (Western Asia) Region, United Nations, First Issue, 2003: