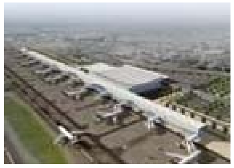




The Transport and Logistics Cluster in the United Arab Emirates

Microeconomics of Competitiveness
Group Project
May 2007

Zaid Ashai
Mohamed El Dahshan
Joanne Kubba
Hilla Talati
Parastou Youssefi

THE TRANSPORT AND LOGISTICS CLUSTER
IN THE UNITED ARAB EMIRATES

TABLE OF CONTENTS

I. INTRODUCTION

The UAE – and perhaps more so Dubai, its most vibrant Emirate – evokes images of endless deserts, oil fields, millennial falcon hunting, sumptuous hotels, lavish man-made private islands, and non-stop shopping festivals. Behind these images lies a country that has sought to decrease its dependence on oil, build a modern economy and position itself as a leader in the Middle East region. For our project, we chose to analyze the transport and logistics cluster as it presents the UAE with an opportunity to leverage its strengths while further diversifying its economy and building global competitiveness. We begin with an overview of the UAE economy and its national competitiveness; next we analyze the transport and logistics cluster in the UAE; finally, we conclude with some recommendations to promote the competitiveness of the cluster in the future.

II. COUNTRY ANALYSIS

Strategically located at the South-Eastern tip of the Persian Gulf, the United Arab Emirates occupies a total area of about 83,600 sq. km (32,400 sq. miles) – roughly the size of Portugal – and has 700 km of coastline, 600 km along the Arabian Gulf and 100 km bordering the Gulf of Oman (National Media Council, 2007). Its long coastline and strategic location have facilitated the development of an open, merchant economy.

The UAE is composed of seven Emirates, each with a large degree of autonomy and divergent natural resources endowments; for instance, Abu Dhabi produces 85% of the UAE's oil, whereas in Dubai, petroleum represented less than 3% of the GDP in 2006 (Government of Dubai, 2007).

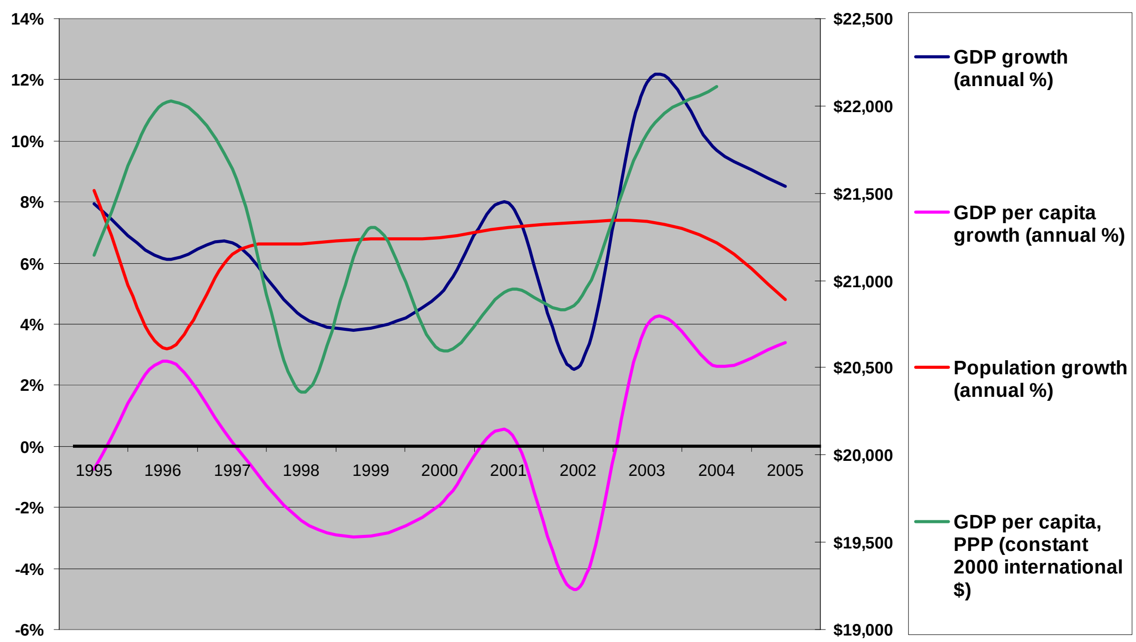
Sheikh Khalifa bin Zayed Al Nahyan, the ruler of the Emirate of Abu Dhabi and Federal President of the country, rules by the motto 'God, Nation and Royal Family'. He assumed his functions in

2004 after the death of his father, Sheikh Zayed bin Sultan Al Nahyan, the first president of the Federation (since 1971) and an immensely popular figure within his country. Sheikh Zayed pursued liberal economic and social policies, while ensuring universal free access to education and health care for his citizens, which brought him much popularity and his country the stability necessary for its development.

II.A. NATIONAL ECONOMIC PERFORMANCE

The UAE's economy is one of the most dynamic economies of the region; nevertheless, a closer examination allows us to moderate this first impression.

Figure (1) – UAE GDP, GDP Per Capita, Population and Growth Rates[1]



With a PPP-adjusted GDP per capita of $21,030, the UAE enjoys a relatively high level of income, and is more prosperous than many of its neighbors. GDP has grown at an average rate of 6.66%

[1] World Bank, 2007.

over the past decade (1996-2006), and growth has been particularly strong over the past few years, as shown in Figure (1). On a per capita basis, however, the picture is less rosy with GDP per capita (PPP adjusted) growing at only 0.45% annually over the past decade. The main reason for this, as shown in Figure (1), is that the population has grown extremely rapidly over this period as well, averaging 6.31% annual growth over the period (EIU, 2007a). The population growth has been driven largely by the rapid increase in the size of the non-national labor force, which has fueled the UAE's recent construction boom.

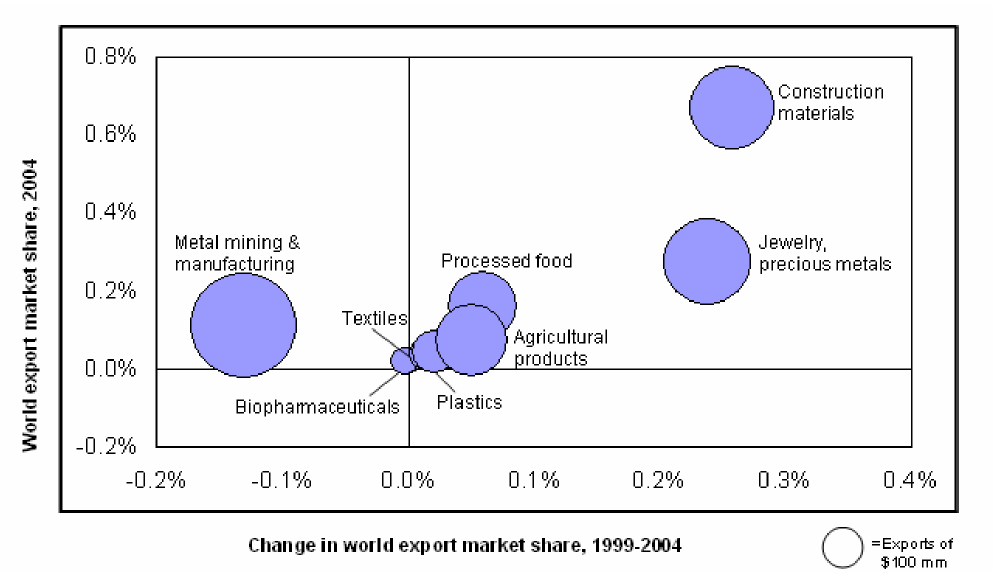
The UAE has one of the most unique demographic distributions of the world. Emirati nationals are estimated to represent around 20% of the population, while the rest of the population is composed primarily of migrant labor, mainly from South Asia and other Arab States (HSBC, 2004).

The labor force is even more skewed than the population distribution. About 99% of the private sector labor force of the UAE is composed of foreign labor, which is very high even in comparison to its neighbors; foreign labor represents 52% of the private sector labor force in Oman, 54% in Saudi Arabia, 70% in Bahrain, and 97% in Qatar (McKinsey Quarterly, 2007). In addition, the labor force has grown extremely rapidly over the past decade, averaging 8.9% annual growth from labor1996 to 2006 (EIU, 2007a).

While the unemployment rate for non-citizens is practically non-existent, the Emirati unemployment rate is relatively high at 15% (CIA, 2006). Research undertaken by the UAE government indicates that the local unemployment rate is high because nationals tend to favor the public and semi-public sector, citing "high salaries, greater benefits, job security and shorter working hours" as their motivation. Furthermore, it appears that nationals have difficulty coping with the rapidly changing needs of the labor market, particularly in select labor-intensive sectors including wholesale, retail, hotels and construction, which together constitute 36% of the workforce (UAE Government, 1999).

Despite its relatively high levels of prosperity, the UAE's performance on social indicators has been weak. The UAE ranks 49th on the UNDP's Human Development Report, behind some of its peers in the region (including Kuwait, Bahrain and Qatar), and well behind other countries with its GDP level. In addition, performance on education metrics tends to be particularly poor in comparison to the region, with the average resident completing 10.3 years of schooling; in the region, only Saudi Arabia and Yemen perform worse (World Bank, EdStats).

Figure (2): Cluster composition of exports for the UAE (ex-oil), 1999-2004[2]



The UAE has made significant attempts to diversify its economy (away from oil) in recent decades. Today, GDP is split almost evenly between industry and services, with agriculture representing a

[2] Institute for Strategy and Competitiveness.

mere 3%. Industry represents 50% of the country's economy, which includes manufacturing (13% of national GDP), construction (8%), and crude oil production (27%). Services represent 47% of GDP with trade (14%), financial services (7%) and transport, storage and communications (7%) comprising the largest service sectors (EIU, 2007b). In terms of exports, construction materials and jewelry and precious metals are currently the most successful export clusters after oil (Figure (2)).

II.B. NATIONAL COMPETITIVENESS

Five key factors drive the competitiveness of the UAE's economy today:

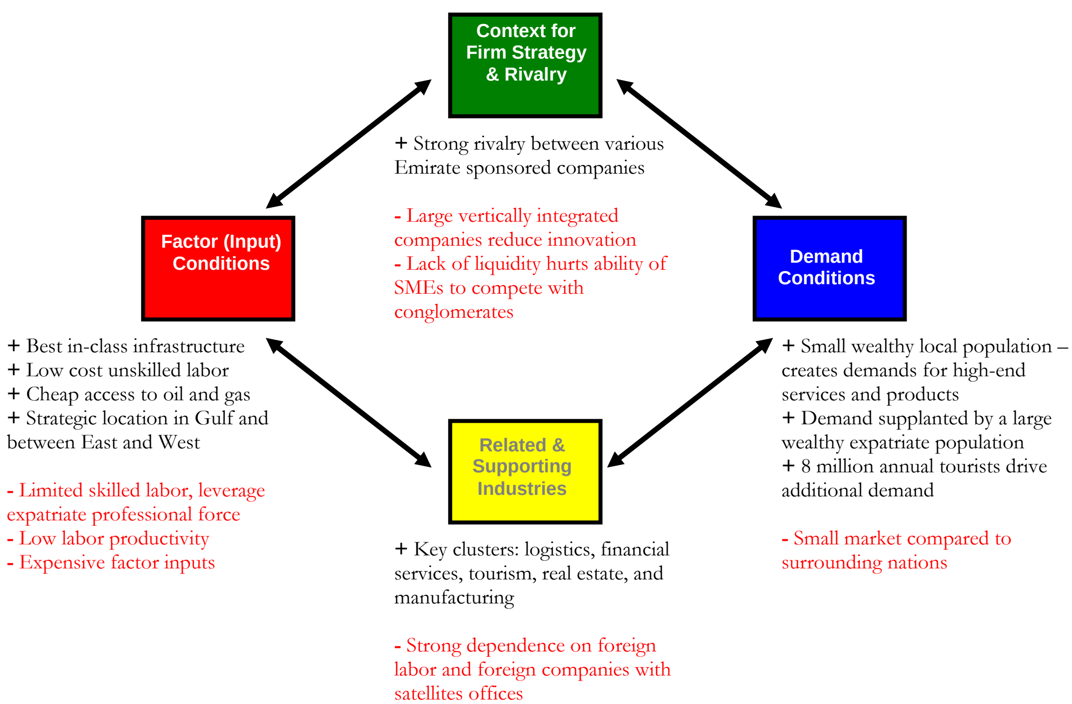
- **Post-September 11th economic surge:** The immediate aftermath of September 11th 2001 has been characterized by tightened controls on capital movements in and out of the United States from the UAE and the region, which has triggered a flight of Emirati indigenous capital back to the country. This economic surge is said to have generated approximately $1.4 trillion dollars of liquid assets in the region.[3] Furthermore, new travel restrictions have also discouraged tourists from the country and region from heading to European or American countries; those have turned to regional destinations, with the Emirates – and particularly Dubai – at the lead.
- **Emergence of local bellwethers:** The UAE has succeeded in creating 'national champions', acclaimed services organizations which have acquired international recognition. Among those are the Emirates Airlines and DP World, as well as other firms in transportations, logistics, financial services and operations. These firms have succeeded in attracting a large pool of highly qualified labor. Furthermore, the existence of multiple state-owned enterprises operating in the same sector has ignited competition and has generated a number of well managed, efficient and competitive firms.

[3] Nasser Saidi- Chief Economist DIFC, "MENA's Economic Renaissance: Oil, Diversification & Regionalism", presentation given at State of the Region Conference by Dubai School of Government, September 9, 2006

- **Growth in Asian Economies:** Part of the good fortune of Dubai has been its proximity, as well as the relevance of the services it offers, to some of the fastest growing economies in the world, most notably China and India. This has allowed for a sustained knowledge sharing between the UAE, China, and India.
- **Substantial increases in FDI:** With an increase of 1000% in FDI over less than half a decade (from approximately $1 billion in 2001 to $11 billion in 2005), the UAE is fast becoming one of the most attractive locations for FDI in the world.
- **Rise of local capital markets:** The growth of the Emirati stock market is not only a reflection of but also a sustaining force for the country's competitiveness, as family-owned businesses are now better able to take shares public via local exchanges, and local businesses are better able to raise equity, locally and internationally.

An analysis of the national diamond highlights the economy's strengths and weaknesses.

Figure (3): UAE National Diamond



It is necessary to analyze the position of the UAE in the Global Competitiveness Report and its ranking to fully understand the national demand.

The UAE is ranked 31st worldwide, according to the 2006 Global Competitiveness report; a position which reflects stability, as it was ranked 32nd in 2005, but a regression from 2004, when it was ranked on the 24th position. Analyzing the sub-rankings provides interesting insights into these strengths and weaknesses, particularly if we compare these indicators with their rankings in previous years.

Demand conditions have witnessed a general improvement between 2005 and 2006, with the presence of regulatory and environmental standards, government procurement of advanced products and buyer sophistication improving.

Factor conditions are also generally improving, from physical infrastructure (such as telephone and fax, or port infrastructure quality) to the good functioning of financial markets, with an improved access to loans and to the local equity market.

Related and Supporting industries indicators, however, present a more mitigated image, with seemingly a lower investor appreciation of the performance of local companies: local supplier quality and quantity were both downgraded in the survey. However, governmental efforts to offer specialized research and training services have been recognized as the UAE ranking in this category strongly improved.

Context for Firm Strategy and Rivalry indicators, however, signal a number of 'red lights'. The UAE has witnessed an increase in trade barriers, downgrading its position from first to fourteenth globally; furthermore, the costs of corruption and the centralization of the local economy have increased (WEF, 2006).

The UAE's governance indicators also provide an interesting image, and for this we turn to the World Bank's 'Governance Matters' composite indexes. While on a generally improving trend over the past decade, the UAE appears to be regressing in comparison to the past few years (2004 being our comparison landmark) on indexes of voice and accountability indexes (20.8th percentile vs. 22.7th in 2004), political stability (64.6 vs. 71.1), government effectiveness (69.4 vs. 80.9), regulatory quality (64.9 vs. 79.3), and the rule of law (66.7 vs. 78.4). Worth noting, however, that apart from the voice and accountability indexes, the UAE is consistently ranked in the top two quintiles for all indexes, in comparison to the rest of the world (Kaufmann, Kraay and Mastruzzi, 2006). Hence, this longer term view allows us to underscore that rather than a generalized decline, the UAE is on a path for growth but has experienced a number of difficulties over the past couple of years.

The government has not been idle in the face of these challenges. The federal and local governments have led the efforts for growth by deploying a number of policy tools in order to improve the local business environment:

- **Massive infrastructure spending:** The government has succeeded in creating, as we have seen, world-class infrastructure in transportation (seaport, airports, roads), energy, communications, and tourism. This infrastructure is a strong asset and plays an important role in encouraging companies to locate in the country.
- **Business-friendly tax environment:** The lack of corporate taxes attracts business opportunities to the UAE, as it significantly reduces the cost of doing business.

- **Creation of free zones:** A number of free zones in the UAE have succeeded in attracting capital, offering highly preferential treatment and allowing for full foreign ownership of projects and complete mobility of capital; furthermore, the free zones generally have highly modernized infrastructure and facilities, and are well connected to other zones and transportation hubs.
- **Generation of Institutions for Collaboration (IFCs):** The UAE Government has spearheaded the development of a number of IFCs, which attempt to facilitate interactions between the government and the business sectors. Among the major IFCs is the Chamber of Commerce which attempts to facilitate private sector input into the government-led development of economic and legal regulations, as well as support the development of Small and Medium Enterprises. A new center for support services to new businesses is also being created by a joint effort of the Department of Economic Development, the Dubai Chamber of Commerce, and the Dubai municipality.
- **Emiratization policy:** In the face of the increased unemployment faced by locals, the UAE has launched a policy to increase their participation in the economy, including enacting quotas for local hires in certain industries. There are concerns that this policy might reduce labor productivity and have a negative impact on the business friendly environment of the UAE (Ministry of Labor, 2006).

III. TRANSPORT AND LOGISTICS WORLDWIDE

Transport and logistics comprise a large sector of the economy, accounting for total revenues worldwide of $3.4 trillion in 2006, with estimated annual growth of 4.5% over the next 5 years. Commercial transport services (as opposed to passenger services) account for the bulk of revenues generated by this sector. Companies operating in the commercial transport space provide a vital service to the economy by providing an essential link between the extraction of natural resources, the fabrication of products, and the distribution of goods to wholesalers, retailers and end consumers. The industry is highly cyclical; fluctuations in commercial transport demand tend to be highly correlated with changes in economic growth. In addition, sector demand is heavily influenced by the volume and direction of international trade, and the level of globalization (DataMonitor 2006, 2007).

The transport and logistics sector encompasses a wide range of activities. Broadly, there are three types of services provided by this sector: (1) transport services, including air freight, express delivery services, airlines, marine transport, and road and rail transport; (2) transport infrastructure services, including airports, marine ports, highways and railways; and (3) logistical services, including freight forwarders, freight brokers, and 3rd-party logistics providers. Of the three sub-sectors, transport services accounted for 64% of total revenues in 2006, generating $2,179 billion. Transport infrastructure and logistics services each generated a little over $600 billion each in 2006 (Standard & Poor's, 2006).

There are a number of trends shaping the sector today (Standard & Poor's, 2006):

- **Growth in Asia:** Rapid growth in Asia has played an important role in driving sector growth, both through increasing exports from Asia to western markets as well as growing domestic demand for imported goods. In 2006, the Asia Pacific region accounted for just over a third of global transport revenues. In response to growing demand, transport and infrastructure providers in Asia have been rapidly expanding capacity and upgrading their facilities.
- **Increasing importance of logistics**: As global trade and outsourced manufacturing have expanded, demand for reliable logistics services has grown exponentially. Further, companies are becoming increasingly willing to outsource their supply chain capabilities as their operations

become more global and more complex. It is estimated that worldwide logistics spending will grow at an average annual rate of 7% between 2003 and 2008. Technology will continue play an important role in increasing the efficiency of the industry and driving demand for new services.

- **Cost pressures**: Rising fuel prices and the need to comply with more stringent environmental standards will continue to pressure the operating margins of transport service providers.
- **Consolidation**: The sector has recently seen some consolidation amongst port operators, shipping lines and third-party logistics providers. This consolidation is driven by the desire to achieve economies of scope and scale. In the logistics sector, in particular, consolidation has been driven by growing demand for integrated global solutions; however, local and regional players still maintain a strong presence.

Each of these trends has impacted the development of the transport and logistics sector globally.

IV. TRANSPORT AND LOGISTICS CLUSTER IN THE UAE

IV.A. OVERVIEW OF THE CLUSTER

The transport and logistics cluster is an important sector in the UAE economy, comprising 10.4% of non-oil GDP in 2005.[4] The size and efficiency of Dubai's ports have made Dubai the third largest re-export hub after Hong Kong & Singapore.[5] Dubai's port ranked as the ninth busiest container port in the world in 2005 with 7.6 million TEUs, up 15.63% from 2004.[6] The UAE's ports export mainly oil and gas, but also raw materials and finished goods. Imports consist of intermediary and consumer goods, as well as a significant re-export trade to other economies particularly in the Gulf region, India and Eastern Africa.

---

[4] UAE Yearbook 2007, Economic Development, http://www.uaeinteract.org/uaeint_misc/pdf_2007/English_2007/eyb5.pdf

[5] Emirates Industrial Bank report

[6] Container Throughput Worldwide, Port of Hamburg, http://www.hafen-hamburg.de/en/index.php?option=com_content&task=view&id=58&Itemid=91; American Association of Port Authorities (AAPA) World Port Rankings 2004, http://www.aapa-ports.org/files/Statistics/WORLD%5FPORT%5FRANKINGS%5F2004.xls

The Dubai International Airport is one of the fastest growing airports, with 15% year-on-year growth for the past decade and expected to grow by another 19% until 2010 – reaching a handling capacity of 60 million passengers. The airport ranked first in service quality by the Airports Council International in 2004.[7] In 2004, local firm Emirates Airlines, wholly owned by the Government of Dubai, was the world's fastest-growing intercontinental airline, one of the world's five most profitable, and the 17th largest in terms of cargo tonnage.[8]

As Dubai has witnessed tremendous growth and diversification in its economy, logistics in particular has had great success as one of the first clusters to develop international growth. To better understand the cluster, it is necessary to examine its history, structure, and role in Dubai's economy.

IV.B. STRUCTURE OF THE CLUSTER

History

For centuries, Dubai has been known as the "city of merchants," a busy trading post for the Gulf region. The first stage of developing a transport and logistics cluster began in the 1960s when Dubai dredged its 14km creek, leading into a natural harbor.[9] Initially, the creek was dredged in order to accommodate the trade of oil; however, by the 1970s the government realized the need to diversify the economy beyond oil.

Focusing on developing Dubai's key strengths in terms of its location and its historical legacy as a trading hub for the region, Sheikh Zayed gave instructions in 1976 for the construction of Jebel Ali

[7] Dubai Industrial City Report, http://wcm.dubaiholding.com/wps/wcm/resources/file/eb34570850e9eab/
[8] Ibid
[9] "Cities Guide Dubai: Historical Background, The Economist, http://www.economist.com/cities/findStory.cfm?CITY_ID=DUB&FOLDER=Facts-History

Port, the largest man-made harbor in the world and the largest port in the Middle East.[10] Jebel Ali Port led the growth of maritime transport to and from the UAE, as well as the development of major shipping and transshipment activities, shipbuilding, repairs, and maintenance services.[11]

Until this point, UAE's key trading partners were India, Iran and Eastern Africa. The development of a transport and logistics cluster in UAE really took shape with the establishment of the Jebel Ali Free Zone Authority (JAFZA) in 1980.[12] JAFZA is an industrial and distribution facility dedicated to attracting FDI. Since the mid-1980s, the UAE has made it a strategic priority to establish Dubai as a major aviation and maritime transport hub between Europe and Southeast Asia.[13]

Structure

The transport and logistics cluster has undergone much restructuring, mostly due to its growing needs. The two ports (Rashid and Jebel Ali) and JAFZA are now encompassed within the Dubai Ports Authority (DPA). The DPA had an international investment arm, Dubai Ports International (DPI), which focused on acquiring foreign port terminals as part of its strategy of expansion. DPA and DPI combined in 2005 to form Dubai Ports World (DP World). A new regulator, the Dubai Ports and Jebel Ali Free Zone Authority, was created to oversee the regulation of Dubai's ports.

Fully owned by the Emirate of Dubai, DP World has acquired several ports to increase growth and competitiveness in the transport and logistics industry. DP World has made large investments to acquire other port operators such as CSX World Terminals and Peninsular and Oriental Steam

[10] "Mina Jebel Ali," Global Security, http://www.globalsecurity.org/military/facility/jebel-ali.htm
[11] WTO Trade Policy Review, *Trade Policies by Sector UAE: Transport*, pg 62
[12] History and Future, JAFZA, http://www.jafza.co.ae/jafza/content/section1/s1_2.aspx
[13] WTO Trade Policy Review, pg 61

Navigation Company (P&O).[14] In fact their annual growth has averaged over 20% over the past 3 years.[15] DP World and P&O's global portfolio include ports in thirty countries worldwide, launching Dubai's transport and logistics cluster into the global sphere. DP World's main competitors are Hutchison Ports International, PSA Corporation, APM Terminals, China Ocean Shipping Group Company, Kenya Ports Authority, Tanzania Harbors Authority, Cargill Inc., and SAGA.[16]

It is worth noting that growth of the transport and logistics cluster in Dubai has been largely spurred by the government. Two state-owned conglomerates in particular, Dubai World and Dubai Holdings, each encompass their own entities including ports, terminals and financial institutions. Dubai World manages Dubai World Central International Airport, Dubai Logistics City, DP World, P&O, Inchcape Shipping Services, Dubai Dry Docks, as well as its own financial entity, Istithmar. Dubai Holdings, on the other hand, manages the newly forming Dubai Industrial City, Dubai Outsource Zone and Dubai International Capital (DIC).[17]

The two state-owned conglomerates are built to both complement and compete against one another. This model is intended to foster competition, even though essentially they are both liable to the government. The premise is that each state-owned firm will grow and develop greater efficiency with competition, while at the same time be able to complement one another in areas the other lacks. This is clearly demonstrated when examining the relationship between JAFZA and DIC described below. To further understand the cluster, a closer examination of the key stakeholders is necessary.

---

[14] DP World website, History, http://portal.pohub.com/portal/page?_pageid=761,248333&_dad=pogprtl&_schema=POGPRTL

[15] "JAFZA: Empowering Business, Partnering Success," November 30, 2006,

[16] DP World website, http://portal.pohub.com/portal/page?_pageid=761,1&_dad=pogprtl&_schema=POGPRTL

[17] Interview with Firas Al-Khatib, Former Associate with Istithmar, March 13, 2007

JAFZA: JAFZA was established to encourage and help FDI flourish in Dubai. As of 2006, there were more than 5,500 companies from 120 countries registered in JAFZA; more than 100 of these companies are listed in Fortune 500.[18] The trade volume for companies in JAFZA exceeded USD $48 billion in 2005.[19]

JAFZA positions itself as a "one stop shop," offering the following services:

- Leasing facilities (Office, LIU's, Warehouse and Land)
- Issuing licenses
- Administrative support
- On-site government customs, emigration & DCCI offices
- Banks
- 24-hour security

Now part of Dubai World, JAFZA is a free zone with the following incentives to attract FDI: [20]

- 100% foreign ownership of ventures inside JAFZA
- 50 year no-tax guarantee
- No restrictions on capital inflows and outflows
- No labor restrictions (local or expatriate)

Beyond local incentives, JAFZA has expanded into Malaysia, Morocco and Djibouti. A final yet vital leverage point for JAFZA is its close proximity to airports and logistic centers, in particular the future Dubai World Central International Airport (currently under construction) - set to be the world's largest passenger and cargo hub, ten times larger than Dubai International Airport and Dubai Cargo Village combined.[21]

[18] JAFZA website, http://www.jafza.co.ae/jafza/content/section1.aspx
[19] "JAFZA: Empowering Business, Partnering Success," November 30, 2006
[20] Ibid
[21] Dubai World Central, http://www.dwc.ae/About-DWC.320.0.html

Dubai Industrial City

Conceptualized in November 2004, Dubai Industrial City (DIC) is a 560 million square feet industrial township developed by the government to bolster the manufacturing sector as a key engine of economic growth and diversification.[22] It is designed by Jurong, a leading industrial planner from Singapore, and located between the soon-to-be Dubai World Central International Airport and the Abu Dhabi border, and minutes from the ports and JAFZA.[23] DIC is seen as another opportunity for growth in the local and international logistics sector.

Run by state-owned enterprise Dubai Holdings, DIC comprises six industrial clusters: food and beverage, base metal, mineral products, chemicals, transport equipment and parts, and machinery and mechanical equipment. [24] DIC complements JAFZA, particularly through Transpark, its logistics solution which provides storage and warehousing services for companies residing in DIC.

In addition, DIC has an area dedicated to research and laboratory testing. In fact factories in this industrial sector have an ongoing requirement to conduct lab testing and research initiatives.[25] Also based in DIC is Dubai Quality Mark, which will help monitor the manufacturing companies to ensure they meet international quality benchmarks. The Dubai Quality Mark will be awarded to companies that successfully meet these benchmarks.[26]

---

22 DIC website, FAQs, http://www.dubaiindustrialcity.ae/wps/portal/dindc/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Y_QjzKLN4k3tAwESYGZFr76kRhiPggxb31fj_zcVP0A_YLc0IhyR0VFAFLb99s!/delta/base64xml/L3dJdyEvUUd3QndNQSEvNElVRS82XzRfMTlV

23 Interview with Aaditya Sarna, Chief Strategy Officer, Dubai Industrial City, March 19, 2007

24 Dubai Industrial City, http://www.dubaiindustrialcity.ae/

25 "Dubai Industrial City Launches Dedicated Zone," AME Info, April 1, 2007, http://www.ameinfo.com/115422.html

26 UNIDO Country Brief, UAE, http://www.unido.org/doc/26758#DINC

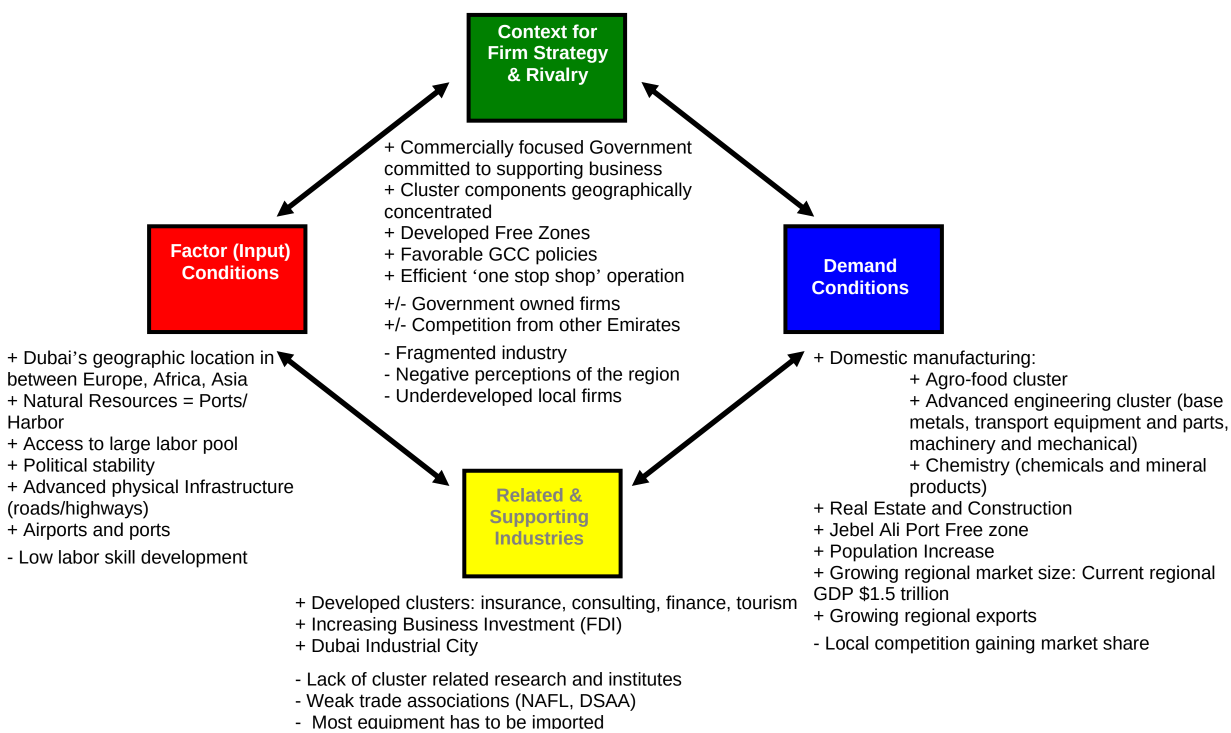
The DIC is set up to compete with JAFZA in that they both offer land-on-lease basis to attract factories. This is part and parcel of the framework set up by the Dubai government. State-owned companies are allowed to run like private enterprises where competition is fostered and encouraged. Therefore just like in the private sector, two entities, Dubai holdings and Dubai World, compete in some areas and complement one another in others.

Dubai Logistics City

Dubai Logistics City (DLC) is an integrated logistics platform with all transport modes, logistics and value added services, including light manufacturing and assembly, in a single customs bonded and Free Zone environment. DLC is attached to the upcoming Dubai World Central International Airport and adjacent to the JAFZA.

IV.C. DIAMOND ANALYSIS

Figure (4): Transport and Logistics Cluster Diamond



Factor Conditions

Dubai's transport and logistics cluster has benefited greatly from Dubai's factor conditions – in particular its natural assets, advanced physical infrastructure, and major seaports and airports, which are all in close geographical proximity to one another.

One of Dubai's natural assets is its harbor, which makes it an ideal trading port. Another asset is its geographic location between Europe, Africa and Asia, which combined with its political stability make it very well suited as a trading hub. Before Dubai became a major trading hub, most of the traffic between Europe and Asia passed through Colombo, Sri Lanka, where there was much traffic and delay. Iran was not an option, due to the high cost of insuring shipping lines, nor was the Soviet Union due to political risks.[27] In particular, with the discovery of oil in the 1960s, petrodollars provided the necessary capital to invest in developing port and airport infrastructure, airlines, and shipping companies and agencies. Furthermore, Dubai's relative proximity to suppliers of raw materials (i.e. India and China), as well as to buyers of final products (i.e. GCC countries, EU) have contributed to the development of its transport and logistics cluster.

Additionally, Dubai's small geographical surface area contains two world-class airports and two major ports within 93 miles of each other.[28] This geographical proximity (between the ports, airports, JAFZA and DIC) has facilitated cluster development.

---

[27] Interview with Aaditya Sarna, Chief Strategy Officer, Dubai Industrial City, March 19, 2007
[28] WTO Trade Policy Note, pg 62

Figure (5): Geographical Proximity of Cluster Components

Demand Conditions

The development of other clusters in Dubai's economy has led to significant demand for transport and logistics, particularly in the areas of tourism, real estate, manufacturing and construction. Regional companies are investing in Dubai and no longer simply coming to the region and leaving as soon as business is done, as is the case with Kuwaiti logistics firm Agility and the Jordanian firm Aramex. This has increased demand and fueled the cluster and the location as a true transshipment hub.

The development of the six industrial clusters in the DIC will further spur demand and attempt to transform the logistics luster into a localized entity that allows firms to access talent internally within Dubai and have the firm growth occur from within. DIC was particularly mindful of import and export trends while setting up the industrial zones, choosing those six specific industries in which GCC countries were importing most.[29]

Indeed, there is strong demand growth in the region. Between 2004-2007, GCC countries' GDP/capita has increased 3%, due largely to the rise in oil prices. The GCC has invested much of this new wealth in large infrastructure construction projects. The GCC's largest import sector is machinery and mechanical products, valued at $23 billion and growing at 9% CAGR; in transport, GCC car sales are expected to grow over 10%; base metals are growing at 20% CAGR; chemicals at 5% CAGR; food and beverage at 10% CAGR; and in mineral products, construction projects in the Gulf are worth $697 billion.[30] This economic activity creates significant demand for logistics services in the region, much of which is captured by Dubai.

Context for Firm Strategy and Rivalry

Dubai is led by a very commercially focused government which is committed to the development and growth of the transport and logistics cluster. As explained earlier, the government has created competition and rivalry between the various state-owned holdings groups such as Dubai World and Dubai Holdings. A number of domestic shipping companies are partly or fully owned by the UAE government, described below.

- **National Petroleum Construction Company**: Engaged in offshore construction, engineering and fabrication, pipe coating; design, fabrication and supply of pressure vessels, columns, separators, absorbers, and strippers; procurement for the oil and gas industries.
- **National Marine Dredging Company:** Executes dredging contracts and associated land reclamation work.

The Arab Maritime Petroleum Transport Company is owned jointly between the emirate of Abu

[29] "City with a Difference," Gulf Industry Online, Volume 15:2, February 2006, http://www.gulfindustryonline.com/bkArticlesF.asp?Article=4172&Section=679&IssueID=234
[30] DIC website, http://wcm.dubaiholding.com/wps/wcm/resources/file/eb34570850e9eab/presentation.ppt

Dhabi (9.1%), the emirate of Dubai (9.1%), and the other Arab countries have 9.1% each.[31] Within the aviation sector, government-owned Emirates SkyCargo (the cargo division of Emirates Airlines) is a success in the logistics cluster, awarded Air Cargo Carrier of the Year in 2004-2006 and named Best Cargo Airline to the Middle East for 18 consecutive years.[32] Local firms held privately are described below.

- **Al Robban Shipping and Freight Services:** provides services in logistics & distribution, including shipping agency, freight forwarding, warehousing & distribution, master consolidation, customs clearance, ship chandling and multi-modal operations.
- **Gulf Agency Company Ltd.:** provides shipping, logistics and marine services, including shipping agency, ship supply, canal transit, bunker fuels, hub agency, chartering, air freight, sea freight, warehousing & distribution, supply chain management and project cargo.
- **Emirates Shipping Line FZE:** offers a container service from the Indian subcontinent via the Mediterranean direct to the east coast of the USA.
- **Al-Futtaim Logistics:** joint venture between Al-Futtaim Logistics and Exel; provides warehousing and distribution services, road transportation, sea and airfreight forwarding; has a distribution centre in Jebel Ali Free Zone and hubs in other places.
- **Al Mazroui Group:** business group with interests in trading, engineering products, oil field supplies & services, safety & security, international freight forwarding, industrial maintenance, electro-mechanical contracting, software, hotel and hospital catering.[33]

Regionally, Dubai (as part of UAE) is in the Gulf Cooperation Council, a trade bloc comprised of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE. One example of cooperation amongst these states is the United Arab Shipping Company (UASC), the largest container carrier to and from the Middle East. UASC was established jointly by the six GCC states in 1976; the share owned by the UAE government is 16.5%.[34]

Dubai has also ensured ease and efficiency for its port customers by embracing technology. Its ports, for instance, handle a number of services online, including enquiries, cargo clearance, and

[31] WTO Trade Policy Review, page 65
[32] WTO Trade Policy Review, page 66; Sky Cargo website http://www.skycargo.com/aboutus/companyoverview/companyoverview.asp?lnid=13110
[33] "Logistics, Freight Forwarders, Transporters UAE, http://www.indexuae.com/Top/Business_and_Economy/Services/Logistics
[34] See: http://www.uasc.com.kw/index.asp

manifest and cargo handling services.[35] Registered users can view and pay duties online. Information on port dues and other fees and taxes for the Dubai ports is available electronically as well.[36]

Related and Supporting Industries

Important related and supported industries to transport and logistics are banking finance, insurance, and consulting services. JAFZA's "one-stop shop" provides customers easy access to insurance and financial firms within the free zone. Dubai's financial services sector is well developed within the city, as is the ease with which shippers can insure their goods.

Other related industries include ship-repair, shipbuilding, and other port services. Indeed, the UAE ranks among the top five locations in the world for bunkering and other ship chandling. Its ship-repair facilities and shipbuilding capacity are developing rapidly. Most port handling services, including crane lifting, loading, discharging, stevedoring and stowage, storage and warehousing, and pilotage, are supplied exclusively by the emirates' port authorities.[37] One of the world's largest shipping agencies, the Gulf Agency Company (GAC) is entirely private and based in JAFZA. The GAC supplies spare parts and various services to vessels worldwide.

IV.D. CLUSTER ASSESMENT

The core of the transportation and logistics cluster is the container port. As Figure (5) shows, while the Dubai Port is more than 2.5 times the size of its nearest regional competitor, it ranks 9th globally in terms of container port size. The bellwether in the transportation and logistics continues to be

---

35 See DP World, http://www.dpworld.com/fullnews.asp?NewsID=25.
36 See "Dubai Port Tariff," http://www.dpa.co.ae/tariff/generalconditions.pdf
37 WTO Trade Policy Review Note, pg 63

Singapore which is almost three times the size of the Dubai port. Globally, the sector is becoming more dominated by Chinese-based ports, as three of the six largest container ports are based in China. Compared to Singapore and other competing transportation clusters, the percentage of transshipment in Dubai differs significantly as well. The decision to enter more value added services may justify a lower transshipment rate (Figure (6)), however the percentage of transshipment still seems very low to comparable strategic ports.

Figure (6): 2005 Container Port Size Data (Global and Regional)[38]

Global			**Regional**	
Port	TEU (in millions)		Port	TEU (in millions)
Singapore	23.2		**Dubai (UAE)**	**7.6**
Hong Kong (China)	22.6		Jeddah (Saudi Arabia)	2.9
Shanghai (China)	18.1		Salalah (Oman)	2.5
Shenzhen (China)	16.2		Sharjah (UAE)	2.2
Pusan (S. Korea)	11.8		Bandar Abbas (Iran)	1.3
Kaohsiung (China)	9.5		Haifa (Israel)	1.1
Rotterdam (Netherlands)	9.3		Karachi (Pakistan)	1.0
Hamburg (Germany)	8.1		Dammam (Saudi Arabia)	0.9
Dubai (UAE)	**7.6**			
Los Angeles (USA)	7.5			

Figure (7): Transshipment Function of Key Ports (2004)[39]

Port	**% of Transshipment**
Los Angeles (USA)	98%
Singapore	91%
Sharjah	70%
Dubai	**50%**

[38] Data downloaded from www.portaid.com. Most current data available was from 2005.
[39] Powerpoint slide deck prepared by Professor Jean-Paul Rodrigue, Department of Economics and Geography – Hofstra University. Information can be found at: http://people.hofstra.edu/geotrans

While Dubai is relatively small compared to the leaders in the sector, its growth rate has outstripped most of the comparable ports, except for Chinese based ports that are experiencing hyper-growth due to its export boom (Figure (7)).

Figure (8): Growth of Key Ports[40]

Port	Growth Rate (2005)
Shenzhen	40%
Dubai	**20%**
Rotterdam (Netherlands)	12%
Overall Asian Port Growth	10%
Singapore	8%
Hong Kong (China)	4%
Overall European Port Growth	3%

A promising development for the transportation and logistics cluster overall has been the strategic growth of DP World. As can be seen in the table below, DP World has a geographic diversity that compares favorably to other major port holdings. This geographic diversity may allow DP World to route more container traffic through Dubai. Additionally, partners and suppliers of DP World may gain access to new regional markets which would boost the overall growth of the Dubai based transportation and logistics cluster. DP World is well positioned for growth in South Asia as it is the dominant player in the region. Continued growth in the Indian economy will benefit DP World and the rest of its local partners. The one weak area for DP World is its presence in Pacific Asia which is by the fastest growing region for container shipment (Figure (9)). For DP World and the rest of the Dubai transportation logistics cluster to continue to grow, it will be incumbent for DP World to increase its presence in Pacific Asia through acquisitions and partnerships.

[40] ISL Market Analysis 2006: World Port Development. Report can be found at: www.isl.org/infoline

Figure (9): Overview of Major Port Holdings[41]

Holding	Australia	Europe	North America	Pacific Asia	South America / Caribbean	South Asia / Middle East	Total
APM Terminals		7	13	7	3	5	35
Dubai Ports World	5	9	1	10	3	12	40
Hutchison Port Holdings		7		21	8	2	39
Port of Singapore Authority		10		18		1	29
Total	5	33	14	56	14	20	143

V. SUMMARY OF STRATEGIC ISSUES

As we have seen in the preceding section, the transport and logistics cluster enjoys a number of unique strengths, including its location, its world-class infrastructure, and a progressive, non-bureaucratic government that has played an active role in developing the cluster. While these are powerful ingredients for success, there are a number of challenges that remain to be overcome, both at the national level and at the cluster-specific level. The government must address both in order to ensure the healthy development of its economy and promote the competitiveness of the cluster.

1. **Labor market challenges**: Local labor force participation is extremely low (and unemployment is fairly high). To date the UAE economy has relied heavily on foreign labor, which tends to be both transient and expensive. The government has tried to increase local employment through the controversial Emiratization policy (described earlier) but so far has not been very successful.
2. **Limited local capacity**: Local capacity is fairly limited; the UAE as a whole lacks an entrepreneurial culture, and local firms are lagging far behind their international counterparts.

[41] Rodrigue, Jean-Paul. The Geography of Transport Systems. Routledge: 2006. See Chapter 4 for information regarding major port holdings.

3. **Need for knowledge creation:** Dubai needs to transition from simply investing in infrastructure to developing deep expertise in the transport and logistics space (which as mentioned earlier, is the fastest growing component of the cluster).
4. **Fragmented nature of cluster:** While there are a few global providers of transport and logistics services, the industry is largely dominated by small "mom-and-pop" shops which are highly fragmented and underdeveloped.
5. **Cyclical nature of cluster demand:** The transport and logistics cluster tends to be very cyclical, due to its heavy dependence on trade.

VI. RECOMMENDATIONS

The governments of the UAE and Dubai must address each challenge described above in order to strengthen their economy as a whole, and promote the transport and logistics cluster.

1. STRENGTHEN THE LOCAL ECONOMY

In order to strengthen the local economy, the government must address the two challenges laid out above: low local labor force participation, and limited local capacity.

Build skill and will of local labor force: The UAE government must focus on improving both the skill and will of the local labor force in order to reduce its reliance on foreign labor, and develop a strong, resident, permanent knowledge base:

- Complement the Emiratization policy with targeted training and accreditation programs in order to develop the skill level of the local labor force.
- Pursue strategies to build a national sense of ownership and identity (for instance by building a national civil service, or launching a PR campaign to highlight the benefits of employment).

Build local capacity: The UAE government must also focus on building the capacity of local firms. While there is no shortage of multi-national firms operating in Dubai, local firms tend to be under-developed, lacking in capital, skills, experience and know-how. The government should focus on developing these local companies through the following actions:

- Create a local institute (which could potentially be modeled on the Small Business Administration in the U.S.) that would provide local firms with a host of services, including training, export services, assistance in obtaining government contracts, and assistance with navigating regulation.
- Provide seed money to local entrepreneurs to encourage new business development.
- Initiate a shift in the local mindset through targeted messaging from the Dubai leadership.
- Create conditions to attract and retain talented entrepreneurs (e.g. by relaxing immigration policies and ownership regulations).

2. PROMOTE THE TRANSPORT AND LOGISTICS CLUSTER

In addition to developing the local labor force and strengthening local firms (actions which will directly benefit the transport and logistics cluster as well) the government should focus on developing the cluster by encouraging local knowledge creation, developing the depth and breadth of local firms, and encouraging the diversification of the cluster.

Encourage local knowledge creation: The Dubai government must transition from investment in physical assets to investment in information and knowledge development:

- Position Dubai as a logistics provider for the region in order to build supply chain capabilities.
- Provide incentives for R&D at local firms.

- Collaborate with local universities and professional associations to create cluster-specific tracks at the universities and develop internship and apprenticeship programs.
- Create exchange programs to send local talent abroad to develop expertise and experience in the transport/logistics space, and also attract foreign talent to the region.

Develop depth and breadth of local firms[42]: The industry structure is highly fragmented and most of the firms operating in the sector are small "mom-and-pop" shops that do not have the means to establish sophisticated processes and service offerings. While the national level recommendation to build local capacity will help address this issue, there are some cluster-specific actions that the government can take as well:

- Encourage local firms to outsource their transport and logistics services (currently only 12% of firms in the Middle East outsource their transport and logistics services as compared to 25-30% in Western Europe).
- Award government logistics contracts to promising local players to increase local demand, send a signal to other players and develop the market.
- Consider creating a large local player in the space by carving out, consolidating and privatizing the logistics functions of large state-owned industry enterprises.
- Simplify regulation in order to encourage M&A activity and consolidation amongst cluster firms.

Encourage cluster diversification: Instead of relying exclusively on trade and re-exports, the government should encourage players to offer their services to a broader market:

[42] Ideas in this section were drawn from the Booz Allen Hamilton report, "Middle East Transport and Logistics at the Crossroads".

- Encourage diversification into 3rd-party logistics and supply chain management activities by marketing services to other industries (e.g. retail, manufacturing) in the UAE and the broader region.

VII. CONCLUSIONS

While the government must address the challenges highlighted above, we believe that overall the cluster is well-poised for success; this is due to both the tremendous natural advantages enjoyed by the UAE and current trends that will continue to fuel demand for transport and logistics services in the UAE into the foreseeable future. The transport and logistics cluster provides the UAE with a viable opportunity to further diversify its economy, build a healthy, thriving domestic private sector, and establish global competitiveness.

References:*(Internet sources last accessed April 2007)*

American Association of Port Authorities, World Port Rankings 2004, http://www.aapa-ports.org/files/Statistics/WORLD%5FPORT%5FRANKINGS%5F2004.xls

AME Info, “Dubai Industrial City Launches Dedicated Zone,” April 2007, http://www.ameinfo.com/115422.html

Booz Allen Hamilton (2007). “Middle East Transport and Logistics at the Crossroads.” http://www.boozallen.com/capabilities/Industries/industries_article/33588748?lpid=660624

CIA World Factbook 2006, “United Arab Emirates”. https://www.cia.gov/cia/publications/factbook/geos/ae.html

Datamonitor (2007). “Global Transportation, Industry Profile”.

Datamonitor (2006). “Global Logistics, Industry Profile”.

Dubai Industrial City Report, http://wcm.dubaiholding.com/wps/wcm/resources/file/eb34570850e9eab/

The Economist, “Cities Guide Dubai: Historical Background,” http://www.economist.com/cities/findStory.cfm?CITY_ID=DUB&FOLDER=Facts-History

Economist Intelligence Unit, “Country Report: the United Arab Emirates - Statistical Annex”. London: The Economist Publishing Group, February 2007 (a).

Economist Intelligence Unit, “Country Report: the United Arab Emirates”. London: The Economist Publishing Group, February 2007 (b).

Emirates Industrial Bank. “Re-exports from the UAE,” Journal of the Emirates Industrial Bank December 2005

Global Security, “Mina Jebel Ali,” http://www.globalsecurity.org/military/facility/jebel-ali.htm

Government of Dubai, Statistics Centre of Dubai – “Gross Domestic Product for Dubai Emirates”, http://vgn.dm.gov.ae/DMEGOV/OSI/webreports/Gross.pdf

Gulf Industry Online, “City with a Difference,” February 2006, http://www.gulfindustryonline.com/bkArticlesF.asp?Article=4172&Section=679&IssueID=234

HSBC Bank Middle East, “The Changing Demographics of the UAE”, (2004), http://www.uae.hsbc.com/1/PA_1_1_24P/content/uae/pdf/eco_bull_04_eng_demo.pdf

JAFZA, “Empowering Business, Partnering Success,” November 2006, www.jafza.ae

Kaufmann, D., Kraay, A. and Mastruzzi, M., “Governance Matters V: Governance Indicators for 1996–2005”. The World Bank, 2006. http://go.worldbank.org/X35TR3HIM0

McKinsey Quarterly, " Getting Labor Policy to Work in the Gulf." February 2007.

McKinsey Quarterly, "Modernizing the UAE: An Interview with the Minister of Economy Lubna Al Qasimi," February 2007 http://www.mckinseyquarterly.com/article_abstract.aspx?ar=1919&l2=7&l3=10&srid=17&gp=0

Ministry of Labor, "Employing and Training Nationals", http://www.mol.gov.ae/Pages/EmployementOfNationals.aspx (in Arabic)

Standard & Poor's, Global Industry Surveys (2006). "Transportation: Commercial, Asia".

UAE Ministry of Information and Culture, UAE Yearbook 2007, Economic Development, http://www.uaeinteract.org/uaeint_misc/pdf_2007/English_2007/eyb5.pdf

UAE National Media Council, http://www.uaeinteract.com

UAE Government e-Portal, http://www.uae.gov.ae/Government/employment.htm

UNDP, Human Development Report 2006, http://hdr.undp.org/hdr2006/

UNIDO, Country Brief: United Arab Emirates, http://www.unido.org/doc/26758#DINC

World Bank, EdStats Database, http://www1.worldbank.org/education/edstats/

World Bank, World Development Indicators 2007, http://devdata.worldbank.org

World Economic Forum, "Global Competitiveness Report". Geneva: World Economic Forum, 2006.

World Trade Organization, Trade Policy Review: United Arab Emirates (2006), http://www.wto.org/english/tratop_e/tpr_e/tp263_e.htm