Import Demand Behavior of Arab Countries: Recent Trends and Influence of Geopolitical Events

Nader Habibi

October 2010

Crown Center for Middle East Studies and
Department of Economics
Brandeis University
781 736 5325
nhabibi@brandeis.edu

1) Introduction

In recent years the high prices of crude oil and natural gas have increased the purchasing power of oil-exporting Arab countries and as a result the competition among industrial countries for export of goods and services to these nations has intensified. For industrial countries which have had to pay considerably more for crude oil and oil products since 2000, the Middle East import market has become more significant than before. Furthermore the economic boom in Arab countries has not been limited to the oil exporting MENA countries. The non-oil exporting Arab countries such as Egypt, Jordan and Morocco have also benefitted indirectly through their economic linkages with their oil–rich neighbors. They also enjoyed higher economic growth rates between 2000 and 2008 and as a result their demand for imports also increased[1].

The available import data for Arab countries shows that as the total volume of imports by most Arab countries has sharply increased in the past 10 years, the relative market shares of their trade partners have not remained stable. The market shares have fluctuated over time and some countries have gained market share at the expense of others. Since the Arab Middle East has been one of the fastest growing markets in recent years, the major exporting countries are interested in identifying the factors that can have an impact on their market shares in this import market.

In this article I will analyze the market shares of the United States, Western Europe, and Japan and China in the import markets of Arab countries. I will first tabulate and discuss each exporter's market share to see if any noticeable time trends stand out. Then I will use statistical analysis to identify the economic and non-economic factors that have had a significant influence on each exporting country or region's market share.

Among Arab countries I will focus primarily on the six members of the Gulf Cooperation Council (GCC): Saudi Arabia, the UAE, Kuwait, Oman, Bahrain and Qatar. These countries have benefited the most from the 2002-2008 oil boom and their import markets have experienced the sharpest growth among Arab countries in recent years. In addition to investigating the import markets of individual GCC countries I will also analyze the market shares of leading exporters in the aggregate imports of GCC as a trade bloc followed by a similar analysis for the aggregate imports of Arab countries.

The value of the total imports of a given country is affected mainly by economic factors such as the size of the domestic economy (GDP), exchange rate policy, and import tariff rates. The relative market shares of each trade partner in total imports, however, is influenced by both economic and non-economic factors and in some occasions the non-economic factors can play a more dominant role. For example if a specific commodity (i.e. rice) can be purchased from several countries and all producers are selling at competitive prices, a buyer might take geopolitical factors into account when deciding which country to buy from[2].

Consequently since the main focus of this article is on import market shares I will pay attention to both economic and non-economic factors. However, the analytical section of the article will put more emphasis on the role of non-economic factors such as diplomatic relations and strategic considerations, in determining the market shares of leading exporters in Arab economies.

The non-economic factors are particularly important for the US trade relations with Arab countries because of the complex strategic and security relations between the US and some Arab countries as well as the unique role of the United States in the Arab-

Israeli conflict. These two dimensions of the American Middle East policy generate mixed feelings in some Arab countries. On one hand the United States plays a crucial role in providing external security to several Arab countries and strengthening moderate Arab regimes against their domestic opponents. The ruling elites in these countries are appreciative of the US role and might be encouraged to favor American products to show this appreciation.

On the other hand they are frustrated by the continuous US support for Israel in its ongoing conflict with the Palestinians and neighboring Arab countries. This frustration could reduce the popularity of US goods in Arab countries as Arab governments and private importers might decide to purchase their imports from countries that show more sympathy for the Arab positions in this conflict. More recently, the Muslim terrorist attacks against the West and the US response to these attacks have also added a new complication to the US-Arab relations.

If a diplomatic development leads to a more positive public opinion toward the US in an Arab country, it could benefit the American exporters and contractors at the expense of their European and Asian competitors. Hence we might observe a market share gain for the United States. For example we might expect the US liberation of Kuwait from Iraqi occupation in 1991 to have had a positive impact on US market share in Saudi Arabia and other GCC countries which were appreciative of the US military intervention. On the other hand, during the second Palestinian Intifada (2000-2001), a large number of Arab non-governmental organizations (NGOs) launched a grassroots campaign for the boycott of American products to protest the US support for Israel[3]. This boycott along with widespread anti-American sentiments could have led to a loss of market share for the United States in some Arab countries.

Another important factor in bilateral trade relations is trade agreements. Bilateral trade agreement between two nations will lower the barriers to trade between them and hence give each country a trade advantage over its competitors in the other nation. Multilateral trade agreements such as membership in World Trade Organization (WTO) limit the ability of a member nation to favor a specific trade partner imposing discriminatory tariffs or quotas. In recent years a growing number of Arab countries have been admitted to WTO. Saudi Arabia was the last GCC country to gain admission in 2005[4].

Both, the United States and European Union, have had some success in signing free trade agreements with Arab countries. The United States has signed bilateral trade agreements with Bahrain, Morocco, Jordan and Oman. The Bush administration initiated trade negotiations with several Arab countries with the long-term goal of replacing these bilateral trade agreements with a comprehensive US-Arab Free Trade Agreement[5].

Unlike the United States which has focused on individual free trade agreements, the European Union has moved toward a collective free trade agreement with several Arab countries in Southern and Eastern Mediterranean area. This agreement is known as the Euro-Mediterranean Free Trade Area and includes Morocco, Algeria, Tunisia, Jordan, Lebanon, Israel and the Palestinian Authority[6]. This trade agreement plus a long history of economic relations between Europe and North Africa has turned the European Union into the largest trade partner of the North African Arab Countries.

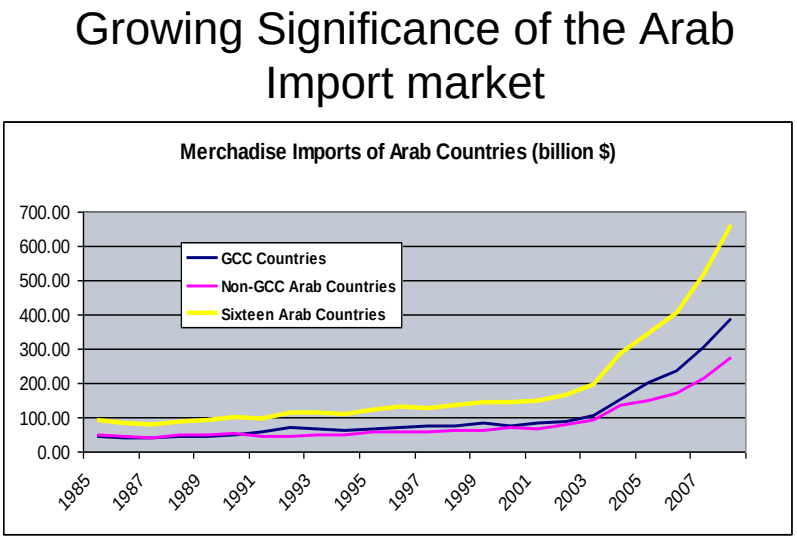
The European Union is also negotiating a free trade agreement with the GCC although these negotiations have been underway for more than two decades and some fundamental differences are yet to be resolved[7]. In more recent years Japan, China and India have also

expressed interest in signing free trade agreements with GCC countries. Several rounds of trade talks between these countries and GCC have already taken place[8].

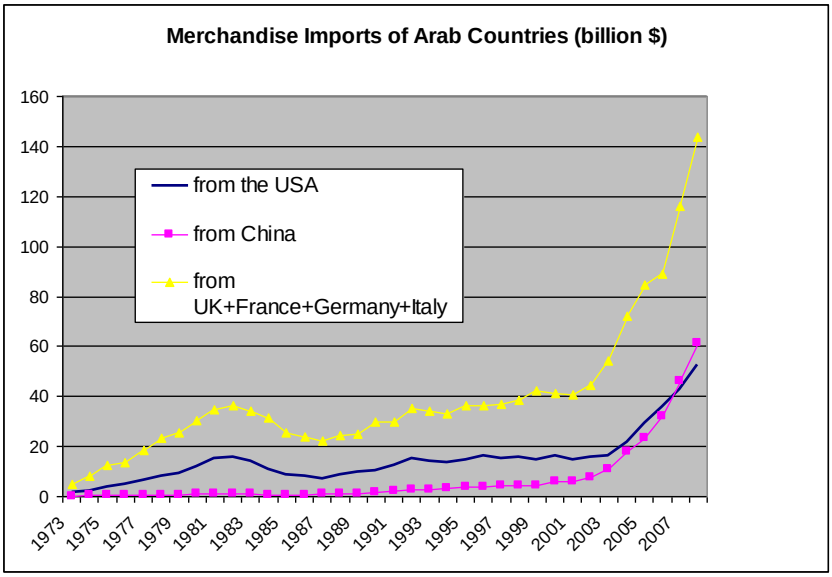
The rest of this article is organized into three sections. Section two analyzes the recent trends in aggregate imports of Arab countries and the relative market shares of their trade partners. Section three reviews the academic literature on impact of political and diplomatic factors on bilateral trade among nations. Section four describes the theoretical foundations of the statistical model that I will use to investigate the impact of various factors on market shares. The statistical analysis and its results will be discussed in section five followed by the summary and conclusion.

2) **Recent Trends in Arab Import Markets**

Before focusing on relative market shares of exporting nations in Arab markets, it is helpful to look at the aggregate size of this market. As shown in graph 1-a, the total merchandise imports of Arab countries[9] has increased sharply since 2001. It increased by 347% from $147.6 billion in 2001 to $659.5 billion in 2008. Most of this growth was generated by the six GCC countries. The merchandise imports of GCC rose by 375% during 2001-2008 thanks to their record high oil revenues. Although GCC accounts for under 12% of the total population of Arab world, its share of Arab imports has exceeded 50% since 1991. As a result the GCC import market is very important for industrial countries. Arab imports from all of their major trade partners have increased sharply after 2000 as demonstrated in Graph 1-b. Imports from Europe are significantly larger than China and the United States.



Graph 1.a.



Graph 1-b

Along with the sharp increase in imports of Arab countries, the relative market shares of leading exporters to these countries have changed. I have focused my comparison of relative market shares on China, Japan, the United States, and aggregate imports from four largest European economies (Germany, France, the UK and Italy). This aggregate market share will be referred to as EU4 from here on. In order to shed light on longer-term trends I have used the three-year average of annual market share data instead of the annual data. Annual bilateral trade among nations is often subject to sizable fluctuations which tend to obscure the longer term trends and can be smoothed out by averaging.

The most visible trend in import market shares during 1988-2008 is a gradual loss of market share in Arab countries for Europe, Japan and the United States. During the same time interval the market share of China has visibly increased. This trend is a reflection of the emergence of China as the dominant global center for manufacturing since 1980. China has enjoyed a clear cost advantage in production and export of low and medium technology manufactured products. The United States, Western Europe and Japan still dominate the global market in high-tech products but the range of products that can be produced in a cost-effective manner in China has steadily expanded over the past three decades.

The market share of EU4 in the Arab world fell from an average of 32% in 1988-90 to 24% in 2005-07 (Table 1). However, we can see that most of this decline took place during 2000-2007 and EU4's market share was relatively stable before that. The share of EU4 in GCC countries fell from 25% to 21% during the same 20-year interval, but it was not consistent among member countries. While EU4 market share declined sharply in Saudi Arabia it enjoyed a moderate growth in the UAE and remained stable within a narrow range in Kuwait. Table 1 also allows us to compare EU4's market share performance in the Arab world with other developing regions. We notice that EU4's loss of market share was not limited to the Arab world. The downtrend is visible in Africa and Latin America as well and the relative decline in both markets is larger than in Arab countries. In Africa for example EU4's market share fell by 35% from 0.42 in 1988-90 to 0.27 in 2005-07.

Table 1: Combined Market Shares of Germany, France, Italy and the UK in Arab Countries (3-year averages of the annual market rates)

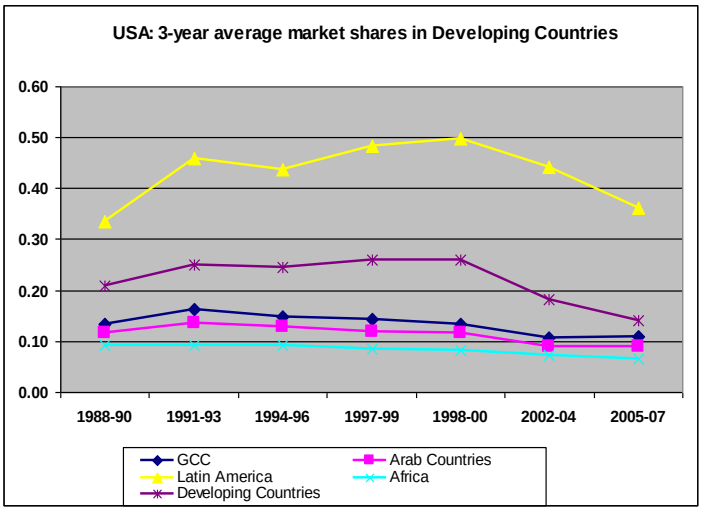
	1988-90	1991-93	1994-96	1997-99	1998-00	2002-04	2005-07
Saudi Arabia	0.27	0.28	0.26	0.24	0.23	0.22	0.21
UAE	0.25	0.25	0.26	0.24	0.28	0.32	0.28
Kuwait	0.23	0.27	0.27	0.23	0.23	0.26	0.22
GCC	0.25	0.26	0.25	0.24	0.24	0.23	0.21
Arab Countries (a)	0.32	0.32	0.31	0.30	0.30	0.29	0.24
Middle East	0.33	0.36	0.34	0.32	0.31	0.28	0.26
Latin America	0.14	0.13	0.13	0.12	0.11	0.10	0.09
Africa	0.42	0.40	0.37	0.35	0.35	0.33	0.27
Developing Countries	0.26	0.26	0.24	0.23	0.22	0.21	0.19

Source: Nominal import data from IMF Direction of Trade Statistics, market shares calculated by the Author a) Arab countries are: GCC countries, Algeria, Morocco, Libya, Egypt, Tunisia, Syria and Jordan

The US market share in Arab countries has been consistently smaller than the EU4 countries. This is due to the relatively closer proximity of Europe and the Middle East as well as the long history of trade and economic ties between Arab countries and Europe in comparison to the United States. The US market share in Arab countries remained stable in the 12%-13% range during 1988-2000 but declined to 9% in 2000-2007 (table 2).

In the GCC market the US loss was moderately smaller. The US share in GCC market fell from an average of 14.2% in 1988-2000 to 11.6% in 2002-2007. Among GCC countries US has traditionally maintained strong economic ties with Saudi Arabia but the US market share in that country has declined from 20% in 2000 to under 13% in 2008. The US market share in Oman, Qatar and the United Arab Emirates has remained relatively stable during 1988-2007. The US market share in Kuwait rose considerably after the first Gulf war (1990-91) in which a US led international coalition liberated Kuwait from Iraqi occupation. It rose from 11.7% in 1990 to a pick of 22% in 1993 and remained above 15% until 1999. It has remained stable in the 12%-14% range ever since.

As demonstrated in table 2 and graph 2, the US market share in the Arab region (and in the Middle East) is larger than in Africa but smaller than in Developing countries as a group. As we saw in table 1 the opposite is true for EU4 countries. At the same time we observe that the pace of decline in US market share in Arab countries, during 2001-2007, is not as severe as in Latin America or the developing countries in general. In other words, it appears that the US has lost less market share in the Arab world in comparison to other developing countries.



Graph 2

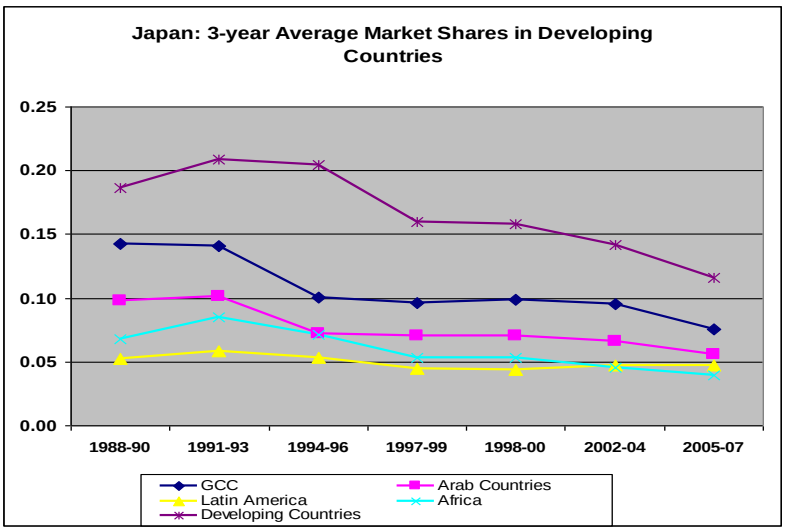
Table 2: Market Share of the United States in Arab Countries (3-year averages of the annual market rates)

	1988-90	1991-93	1994-96	1997-99	1998-00	2002-04	2005-07
Saudi Arabia	**0.17**	**0.21**	**0.22**	**0.21**	**0.20**	**0.16**	**0.13**
UAE	**0.09**	**0.09**	**0.09**	**0.10**	**0.09**	**0.07**	**0.10**
Kuwait	**0.12**	**0.22**	**0.16**	**0.14**	**0.13**	**0.13**	**0.14**
GCC	**0.13**	**0.16**	**0.15**	**0.14**	**0.13**	**0.11**	**0.11**
Arab Countries (a)	**0.12**	**0.14**	**0.13**	**0.12**	**0.12**	**0.09**	**0.09**
Middle East	**0.13**	**0.15**	**0.17**	**0.16**	**0.15**	**0.11**	**0.12**
Latin America	**0.34**	**0.46**	**0.44**	**0.48**	**0.50**	**0.44**	**0.36**
Africa	**0.09**	**0.09**	**0.09**	**0.08**	**0.08**	**0.07**	**0.06**
Developing Countries	**0.21**	**0.25**	**0.25**	**0.26**	**0.26**	**0.18**	**0.14**

Source: Nominal import data from IMF Direction of Trade Statistics, market shares calculated by the Author a) Arab countries are: GCC countries, Algeria, Morocco, Libya, Egypt, Tunisia, Syria and Jordan

Another industrial country that has lost market share in the Arab world is Japan (graph 3). On average, Japan's market share in Arab countries has been smaller than in other developing countries. Japan's market share in the region's imports fell from an average 10% in 1988-2000 to under 7% in 2005-07. In the GCC market Japan's share fell from 14% to 8% between 1988 and 2007 in a pattern similar to the Arab world in general.

Unlike EU4 and the US which experienced the largest decline in their market shares during 2000-2007, Japan's market share dropped most in early 1990s when the Japanese currency, yen, appreciated against the US dollar. We also observe in graph 3 that, Japan's market share decline in Arab world was also repeated in other developing countries. Japan's market share loss in these countries, however, was more severe in the second half of 1990s as opposed to the first half in Arab countries.

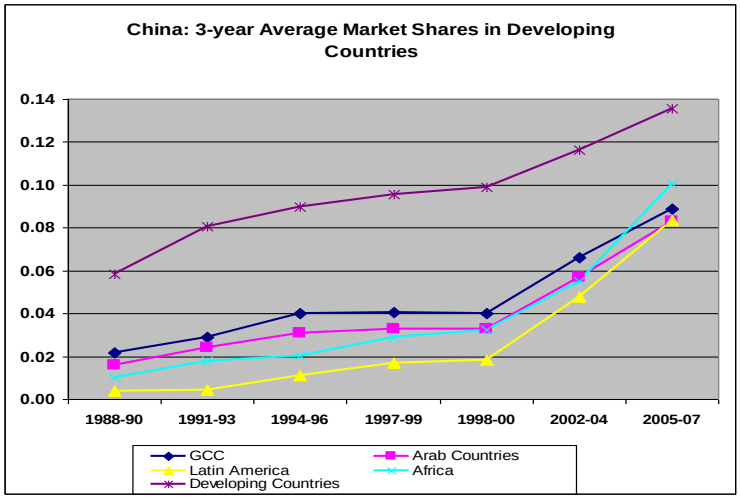


Graph 3.

In Contrast to the United States and European countries, China has seen its market share increase in the Arab world during the past two decades (Graph 4). While China's market share in Arab countries is significantly smaller than those of Europe (EU4) and the United States, it has enjoyed a considerable growth in recent years. Starting from a negligible share of fewer than 2% in 1988-1990, China's share grew slowly to 3% by 1998-2000. This, however, was followed by much faster growth during 2000-2007 which increased China's share to an average 8% during 2005-07. Graph 4 also reveals that during 2005-07 China's market share in Arab countries was similar to Latin America but smaller than Africa and Asia.

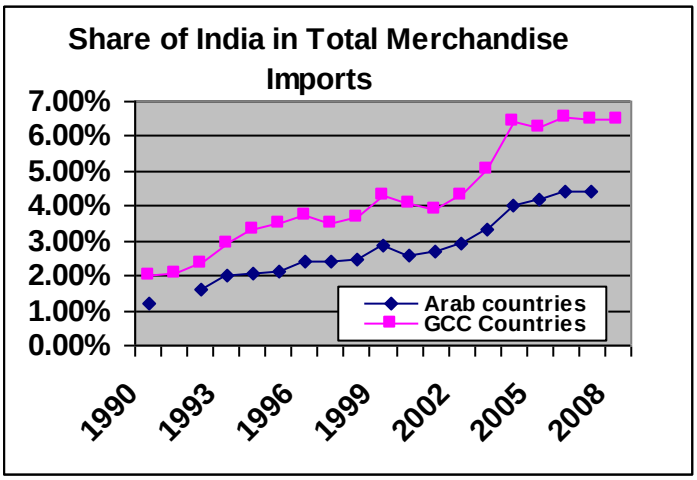
China's market share in GCC bloc was only (2%) in 1988-2000 but it rose to 9% by 2005-07 mainly due to rapid increase in China's exports to the UAE, which has emerged as a major processing and re-export center for the Middle East and Central Asia. China's market share in UAE imports rose to 11% in 2005-07 from 4% in 1988-2000.

The Chinese currency, Yuan, was effectively fixed against the US dollar during 1995-2005 and enjoyed an 18% appreciation during 2006-08. While this appreciation made Chinese goods relatively more expensive China continued to gain market share while the US share remained steady. Furthermore, during 2006-08 euro appreciated against the dollar and Yuan making European goods more expensive compared to both American and Chinese products. Yet we observe that while European countries (EU4) lost market share during this interval, the appreciation of euro benefited China's exports but not the United States.



Graph 4

The market share changes discussed above also reveal that the Arab import market has become more diversified over time. The combined exports of EU4, Japan, China and the United States accounted for 56% of total imports of Arab countries in 1988-90 but it declined to 47% during 2005-07, indicating an increase in the market shares of other countries such as India. As shown in graph 5 India's market share in Arab countries has enjoyed strong growth since 1990. The fastest growth in India's market share was experienced during 2000-2005. It is also worth noticing that the combined share of China and India in Arab merchandise imports has also increased significantly- up from 4.2% in 1992 to 13.9% in 2007. The growth of the combined share of China and India in the GCC market is even more significant- up from 5.2% in 1992 to 17.2% in 2008. (Author's calculations based on the United Nation's Comtrade Data.)



Graph 5

<u>Market shares in major import categories:</u> In addition to market shares in total imports we also discuss the market shares of leading exporters in two important categories of

internationally traded goods: a) manufactured goods and b) machinery and transport equipment. As demonstrated in Table 3 these are the largest import categories for Arab countries. Together they accounted for 53.53% of total merchandise imports in Arab countries. They are even more significant for GCC countries and accounted for 57.7% of their total import bill in 2008. The share of these two categories in merchandise imports of oil exporting Arab countries is significantly larger than oil importers. The small oil and gas exporting country of Qatar, for example, allocated 78% of its imports to these two import categories in 2008 which was the highest record in Arab world. The second and third record holders were Oman and Libya[10].

Table 3: Imports by SITC categories 2008	Arab Countries		GCC Countries	
	Value in US$ Mil.	Share	Value in US$ Mil.	Share
0+1-Food Live Animals, Beverages & Tobacco	47669.5	10.22%	22680.8	8.12%
2+4 - Crude materials, inedible, except fuels, animal and vegetable oils, fats and waxes	19955.6	4.28%	6760.3	2.42%
3-Mineral fuels, lubricants, except fuels	37124.5	7.96%	7990	2.86%
5-Chemicals and related products	37993.1	8.15%	18238.5	6.53%
6-Manufactured goods	95952.6	20.58%	56552.1	20.24%
7-Machinery and transport equipment	153648.2	32.95%	104657.1	37.46%
8-Miscellaneus manufactured articles	34437.6	7.38%	24812.6	8.88%
9-Commodities and transactions not classified elsewhere	39538.8	8.48%	37699.5	13.49%

Source of data: United Nations Comtrade database

Arab Countries: Algeria, Bahrain, Egypt, Jordan, Lebanon, Libya, Kuwait, UAE, Syria, Saudi Arabia, Qatar, Oman, Morocco, Tunisia, Yemen.

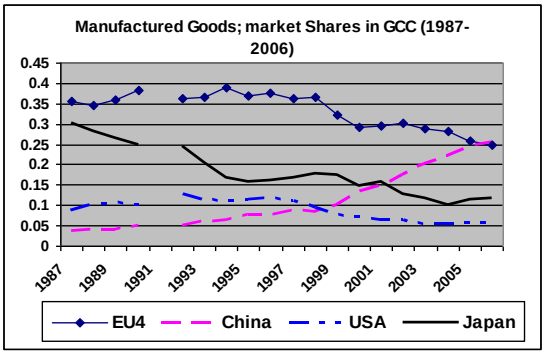
Manufactured goods, machinery and transport equipment also account for a significant share of total exports for leading trade partners of the Arab world. China enjoys a strong advantage in production of manufactured goods that is reflected in the composition of its exports. As demonstrated in Table 4 manufactured goods (SITC categories 6 and 8) accounted for 42.4% of China's merchandise exports in 2008 while the comparable figures for the United States, Japan and EU4 were 19.9%, 19% and 26% respectively.

Exports of machinery and transport equipment account for 63.3% of Japan's exports which is significantly higher than other exporting countries in our study. The share of this category in exports of the United States, EU4 and China falls in the range of 42% to 48% which is still the largest export category for each one of them. The share of machinery and transport equipment in composition of China's exports has increased from 33.1% in 2000 to 47.4% in 2008. For the United States on the other hand the share of this category has declined from 52.7% in 2000 to 42.8% in 2008.

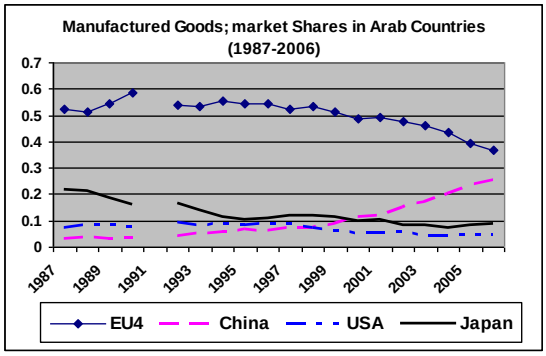
Table 4: Exports by SITC categories (% share) in 2008	USA	China	EU4	Japan
0+1-Food Live Animals, Beverages & Tobacco	7	2.6	6.25	0.5
2+4 - Crude materials, inedible, except fuels, animal and vegetable oils, fats and waxes	6.2	0.8	2.09	1.3
3-Mineral fuels, lubricants, except fuels	5.9	1.6	5.00	1.3
5-Chemicals and related products	13.8	5	14.48	9.1
6-Manufactured goods	9.6	18.1	14.73	11.7
7-Machinery and transport equipment	42.8	47.4	41.10	63.3
8-Miscellaneus manufactured articles	10.3	24.3	11.23	7.3
9-Commodities and transactions not classified elsewhere	4.3	0.2	5.11	5.5
Total value of exports in billions of US$	1299.90	1217.78	3053.31	714.33

Source of data: United Nations Comtrade database
EU4: Germany, France, Italy, United Kingdom

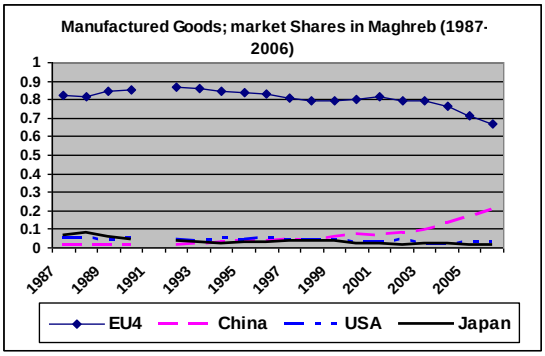
Market shares in imports of manufactured goods: Graphs 6a to 6d show the market shares of leading exporters in manufactured goods in various sub-regions of the Arab world. During the 1987-2006 European countries (EU4) dominated the Arab market for manufactured products. This dominance is particularly visible in North Africa (Algeria, Libya, Egypt, Moroccco; referred to as Maghreb in graphs below) where EU4 countries captured more than 70% of the market during 1987-2005; falling below 70% only in 2006. Nevertheless EU4's share of manufactured imports has gradually declined in all three sub-regions of the Arab world. The downtrend has been most severe in the Levant (Jordan, Lebanon and Syria) in comparison to GCC and Maghreb sub-regions.



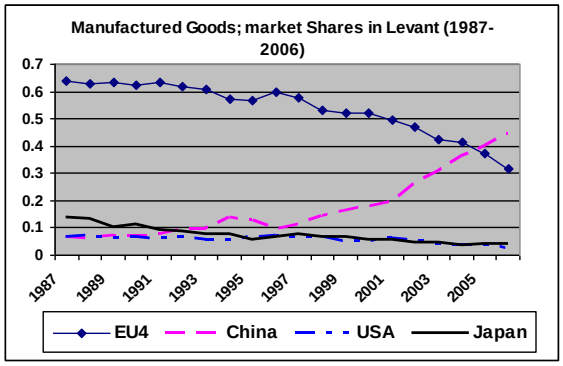
Graph 6-a



Graph 6-b



Graph 6-c



Graph 6-d

The market share of the United States in manufactured goods markets of Arab countries has been significantly smaller than European countries (under 10% in aggregate imports of Arab countries). In GCC countries it was slightly above 10% until 1997 but suffered a gradual decline to near 6% by 2006. A similar declining trend is also visible in US market share of manufactured goods in the Levant (Graph 6-d). Among the exporting countries in my sample Japan has suffered the largest relative market loss in the Arab market for manufactured goods.

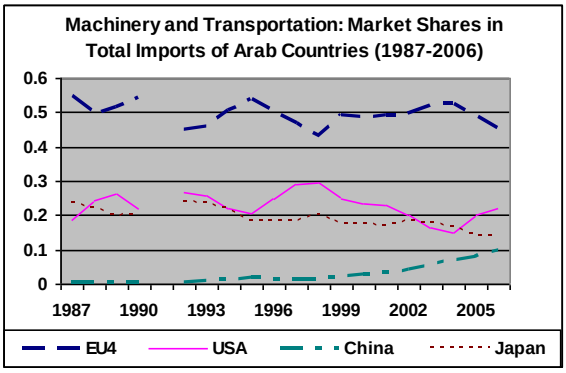
Japan's market share in the Arab world as a whole (graph 6-b) has declined from 21.6% in 1987 to 8.6% in 2006. In the GCC block Japan's share declined from a sizable 30.1% in 1987 to 11.7% in 2006. Similarly Japan has lost market share in Levant and Maghreb regions, although its market share in manufactured imports of these regions was relatively small in 1987 to begin with. This decline is partly due to the deliberate industrial policy of Japanese government which promoted a shift from production of low-end manufactured goods to advanced machinery and capital goods that fall outside of the SITC's manufactured goods category.

China's market share in Arab countries' imports of manufactured goods has enjoyed a rapid increase which has outperformed its share of their overall merchandise goods imports. Graphs 6-a to 6-d show that this growth was primarily realized after 1995. In the aggregate Arab market China's share rose from 6.3% in 1996 to 25.3% in 2006. A very similar trend is observed for China's share in the GCC market for manufactured goods. In Maghreb countries the growth of China's share has been moderately slower (growing only to 20.2% in 2006) but in the Levant it has been more substantial than rest of the Arab world- up from an average of 10% in 1990s to 44.4% in 2006 which exceeded EU4's share by more than 12% in that year.

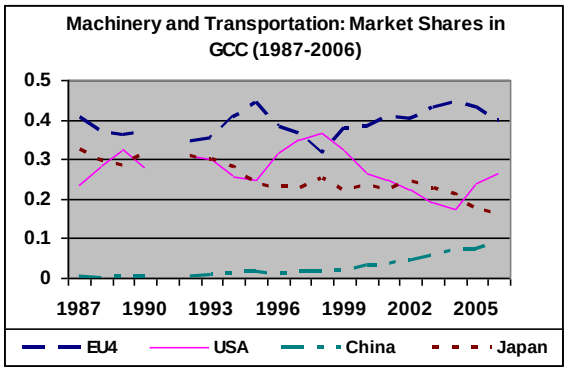
Market Shares in Machinery and Transport Equipment: Graphs 7-a to 7-d show the relative market shares of leading exporters in machinery and transport equipment imports of Arab countries. These graphs show that unlike manufactured goods, we do not observe a significant downtrend in market shares of the US, EU4 and Japan. The market share of EU4 in the aggregate imports of the Arab world (graph 7-a), in particular, appears to have been relatively stable in the 45% to 55% range during 1987-2006.

This stable trend is also visible in EU4's market share in GCC countries although the range of fluctuations appears to be larger. In more recent years EU4's market share in GCC has enjoyed a steady increase from a low of 31.21% in 1998 to a peak of 44.89% in 2004 before declining to 39.64% in 2006. The only sub-region in which EU4's market share shows a visible downward trend is the Levant where it has gradually declined from a peak of 69.41% in 1990 to 49.8% in 2006.

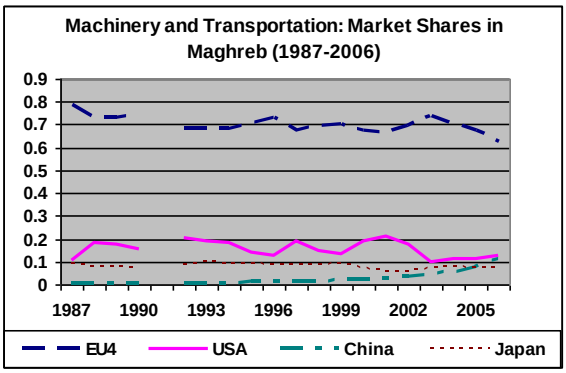
Graphs 7-a and 7-b reveal an interesting relationship between the market shares of the United States and the EU4. While the market shares of both regions appear stable in the long-run, the short-run fluctuations seem to move in opposite direction. Intervals of market gain for EU4 (i.e. 1998 to 2004) are associated with market losses of similar magnitude for the United States. This inverse relationship is most visible in the GCC market (graph 7-b). During 1998-2004, when EU4 market share was on the rise, the US market share declined steadily from 36.6% to 17.6% before reversing into an uptrend during 2005-2006. This relationship is partly due to exchange rate fluctuations between dollar and euro. It appears that for Arab importers the American and European exports of machinery and transport equipment are close substitutes and they can switch from one supplier to another when dollar/euro rates fluctuate[11].



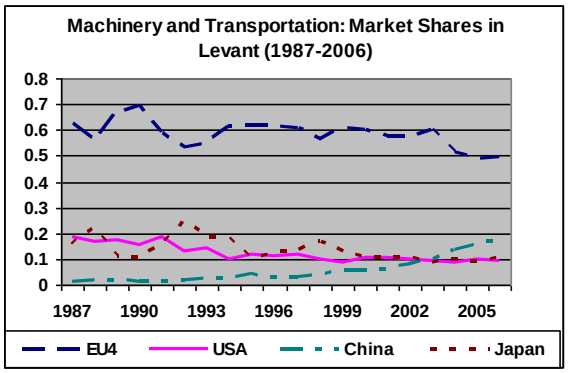
Graph 7-a



Graph 7-b



Graph 7-c



Graph 7-d

The US market share in machinery and transport equipment market of the Arab world is significantly larger than its share in the manufactured goods market. In the aggregate Arab market the average market share in machinery and transport equipment category during 1987-2006 was 22.93% compared to only 6.9% in manufactured goods. The comparable figures in the GCC market were 27.36% and 8.8% which indicate an even larger gap. Since the US economy has a technological advantage in production of advanced machinery and capital goods this result is not surprising. Furthermore, most of the military goods and weapons systems that constitute a sizeable portion of the US exports to friendly Arab countries also fall into this category. Looking at the evolution of the US market shares during 1987-2006 we also observe that the US has been more successful in protecting its share in the market for machinery and transport equipment in comparison to the market for manufactured goods.

China's share in Arab imports of machinery and transport equipment is notably smaller than its share in Arab imports of manufactured goods (2.91% and 9.96% respectively during 1987-2006). And it remained stable up until 2000. It is only after 2000 that we observe a noticeable increase in China's market share which rose steadily from 2.98% 2000 to 9.92% in 2006 for the aggregate imports of the Arab world. This development is in line with the transition of China's export products form low cost labor intensive goods to more advanced products and machinery in recent years. This trend is likely to continue and China will become more competitive in the global market for machinery and transport equipment.

3) Review of Literature on Determinants of Import Share

Bilateral trade relations among nations have attracted the attention of economists and political scientists alike. Not surprisingly, in economists' analysis of international trade the economic factors have taken the center stage while the non-economic factors have taken a back seat. The political scientists, on the other hand, have paid more attention to political, diplomatic and institutional factors while introducing the economic variables as control variables only to assure the accuracy and soundness of their analysis.

Most economic analysis of international trade is concerned with total volume of imports and exports and how they affect the domestic macroeconomic conditions. The earliest economic model of international trade to differentiate between products based on their countries of origin and thus pave the way for analysis of country import shares was Armington (1969). Armington assumed that when industries in several countries produce the same product for export, an individual importer differentiates these products by country of origin. According to the Armington model an importing country first allocates its total expenditure between domestic goods and imports. Once it decides on the aggregate level of imports, if there are several national suppliers for an import product, it decides on how much to buy from each national supplier and hence the market share of each supplier is determined[12].

In another empirical study Parikh (1988) focused on import shares of leading trade partners for the United States, Japan and the European Economic Community (EEC)[13]. His import share model was derived from an Almost Ideal Demand System (AIDS)[14]. In his model the import share of country **i** in country **j** is a function of the real value of aggregate imports of **j** and the export price indexes of all the countries that export to **j**. Parikh used a 25x25 matrix of trade flows (in constant prices) to estimate his import share equations for 25 countries and aggregated regions.

In empirical trade studies economists consider the income level of the importing country and the relative price of exports from various countries as the key determinants of the volume of imports by a country from its trade partners. Political scientists have generally tried to investigate the impact of diplomatic relations on trade by adding appropriate dummy variables to these standard models of trade.

Using this approach, two early empirical works by Kunimoto (1977) and Nagy (1983) showed that warmer diplomatic relations between two nations led to expansion of bilateral trade[15]. Two other empirical studies in early 1980s focused on the impact of bilateral conflict on trade and vice versa. Polachek (1980)[16], Gasiorowski and Polachek (1982)[17] and Arad and Hirsch (1983)[18] used a rational choice model as the basis for a number of empirical studies which showed that rational actors (nations) will avoid conflict with their trade partners.

Building on these earlier empirical works Pollins (1989)[19] used a pooled cross-section time-series econometric model to investigate the impact of bilateral diplomatic relations on imports. He used a log-linear import demand function in which the independent variables where: a) importing country's income level, b) price level for exports from a specific trade partner, c) a weighted average of export prices for all of the importing country's trade partners, and d) an index of diplomatic relations between the trade partners. Pollins' empirical results showed that diplomatic relations have a significant correlation with volume of trade and warmer diplomatic relations is associated with larger volumes of bilateral trade. Furthermore, his findings revealed that the impact of

diplomatic relations on trade was stronger in countries where governments imposed more direct control over foreign trade.

Several more recent studies have also demonstrated the impact of non-economic factors on trade relations among nations. Summary (1989)[20] demonstrated that the volume of US trade with other countries was sensitive to political factors. His study showed that in general the United States traded more with countries that were regarded as politically friendly. In another study on trade behavior Dixon and Moon (1993)[21] demonstrate that countries with similar political systems (i.e. democracies) tend to trade more with each other. In an extension of Pollins' analysis, Morrow et.al. (1998)[22] focused on the direct and indirect impact of conflict on trade. Using long term international trade data among major powers they showed that both direct impact of conflict (trade embargos and formal restrictions) and its indirect impact (higher political and security risks of trade) are significant and result in a reduction of trade between two states that are in conflict short of war.

While the empirical studies listed above are focused on advanced economies, there has also been a small body of literature that has dealt with role of non-economic factors in trade behavior of developing and (former) communist countries. Since, in these countries, the government has more control over international trade, the role of political factors in choice of trade partners is expected to be even stronger.

In a study of foreign trade patterns in Eastern Europe in 1960s and 1970s, Lutz (1995)[23] finds that their trade with developing countries was influenced by diplomatic considerations and Soviet influence. Whenever the Soviet Union expanded its trade relations with a developing country, the East European nations increased their volume of trade with that country within a year or so. Another investigation on trade behavior of communist countries was conducted by Lim and Kim (2002)[24] with focus on North Korea. Prior to the collapse of the Soviet Union, North Korea maintained close diplomatic relations with both China and Soviet Union. Lim and Kim's empirical study revealed that while aggregate imports of North Korea from these two communist rivals was not sensitive to diplomatic relations, their relative market share of North Korea's imports of some basic commodities was highly sensitive to these factors.

4) Theory and Statistical Model

In this section I describe a theoretical argument for the estimation model that will be used to investigate the determinants of import market shares. This model was initially developed in Parikh (1988). In his analysis of import demand shares, Parikh derived his import share equations from an Almost Ideal Demand System (AIDS). The AIDS model is suitable because it allows us to formulate each exporting country's market share as a function of the real value of the importing country's aggregate imports and the export prices of major competitors. The import demand equations in AIDS are derived from an indirect utility function as described in equation one.

(1) $$\log c(u, \mathbf{P}) = \alpha_0 + \sum_k \alpha_k \log P_k + \frac{1}{2}\sum_k \sum_i \gamma^*_{ki} \log P_k \log P_i + u\beta_0 \prod_k P_k^{\beta_k}$$

Where **c(u, P)** = the cost of achieving the utility level for the given level of export prices (P1, P2, ….,Pn). Here **Pi** represents the price level of exporting country **i** (i.e. relative exchange rate). By taking the derivative of equation 1 with respect to **log Pi** we can derive the market share demand for each exporter:

(2) $$\frac{\partial \log c(u, \mathbf{P})}{\partial \log P_i} = a_i$$

(3) $$a_i = \alpha_i + \sum_k \gamma_{ik} \log P_k + \beta_i u \beta_0 \Pi P_k^{\beta_k}$$

Equation 3 gives the import share as a function of the importing country's utility level and all export prices. To introduce the import level into equation 3 Parikh notes that for a utility maximizing importer, the cost of imports needed to achieve the utility level **u** at a given price level **P** is **M= c(u,P).** This equation can be solved for **u** as a function of **M** and **P.** After substituting for **u** in equation 3 and simplifying the result we get the import share demand function for each importing country **j** from country **i** in equation 4.

(4) $$a_i^j = \alpha_i^j + \sum_k \gamma_{ik}^j \log P_k^j + \beta_i^j \log\left(\frac{M}{P}\right)^j$$

This equation proves very practical for estimation of the import share equation. The relative exchange rates can be used as substitutes for the export prices. The data for nominal level of aggregate imports and price levels are readily available for the Arab (importing) countries. We can add appropriate dummy variables to this equation for the non-economic factors that we anticipate to have an impact on the market share of each exporter.

Statistical Model: For my empirical investigation I will focus on import shares in six Arab countries of the Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, UAE and Saudi Arabia), plus two regional import aggregates, one for GCC as a bloc and another for the combined imports of 13 Arab countries. The dependent variable for each importing country is the import share of one of its partners. For sake of consistency the

four exporters that were discussed in the trend analysis section will also be included in this section: the United States, EU4, Japan and China. In addition I will also repeat some regression models for the aggregate market share of Japan, China, India and South Korea as a single exporting block labeled Asia4.

The time series bilateral import-export data for this analysis is borrowed from the IMF Direction of Trade (DOT) Statistics[25] on an annual basis with the maximum data range of (1969-2008). The DOT data is ideal for multi country analysis because all trade data is reported in the US dollar. However, in many cases the volume of bilateral trade reported by an exporting country differs from what the importing trade partner reports. This can be due to procedural differences or occasional corrupt practices in one country. This gap is also visible when exports are used in developing countries for implicit capital transfer (capital flight)[26].

Independent variables: The right hand side variables of each regression model include two economic variables, an appropriate exchange rate and the real value of aggregate imports. A number of dummies for major political and geopolitical events that are expected to have had an impact on importing country's attitude toward each trade partner are also added to the right hand side. Since all six GCC countries had pegged their currencies to the US dollar for the entire time interval under consideration I have used the dollar/euro exchange rate and the dollar/yen exchange rate as proxy for the national currency exchange rates. For example the dollar/euro exchange rate will reflect the relative price competitiveness of US and Chinese exports versus the European exports (since Chinese currency is also pegged to the US dollar.)

Political and diplomatic variables: In order to test for the impact of political and diplomatic factors I introduce several dummy variables for specific time intervals that are associated with important events in the Arab world. The choice of events is primarily motivated by the US-Arab relations and I have focused on events that have had a lasting and significant impact on bilateral relations between the United States and the Arab world (Table 5).

Two major events that clearly stand out are the Gulf War I and Gulf War II. The role of the United States in the first Gulf War, which led to the liberation of Kuwait from Iraqi occupation, was generally perceived as positive in GCC and other moderate Arab countries. On the other hand, the US invasion of Iraq in 2003 faced strong public opposition by most Arab governments and contributed to the rise of anti-American sentiments throughout the region. I have limited the time span of this variable to 2003 and 2004. Visual examination of the change in US and European market shares (Table 5) support our initial expectations on how these events could have affected their export prospects in the Arab world. The US market share in GCC countries, for example, rose by 3.7% in 1991 but declined by 0.8% and 1.6% in 2003 and 2004 respectively.

I have also included a dummy variable for years 2001 and 2002 to capture the impact of the second Palestinian Intifada[27] (uprising) and the September 11 terrorist attacks. The second Intifada, which began in September 2000 led to a surge in Anti-American sentiments in the Arab World which could have had an adverse effect on demand for American products in the region. The second intifada was soon followed by the September 2001 attack on World Trade Center, which led to further tensions between the United States and Arab countries. Due to the short time interval between these two events

I have combined them into a single variable titled Intifada-September11 which covers years 2001 and 2002.

Table 5: Important Events in US-Arab Relations

Change in the market share of	Gulf War I (Kuwait) 1990-91			Second Intifada & September 11 2001-02			Gulf War II (Iraq) 2003-04		
	1990	1991	1992	2000	2001	2002	2003	2004	2005
USA in Saudi Arabia	-1.5%	3.5%	2.3%	0.1%	-1.2%	-1.5%	-1.3%	0.3%	-0.5%
EU4 in Saudi Arabia	0.9%	0.4%	0.3%	-1.2%	0.1%	-0.3%	0.1%	-1.8%	-0.5%
EU2 in Saudi Arabia	0.8%	0.0%	0.3%	-1.8%	0.3%	-1.1%	0.0%	-0.3%	-1.0%
USA in GCC	-1.0%	3.7%	0.2%	0.6%	-0.5%	-0.6%	-0.8%	-1.6%	1.8%
EU4 in GCC	0.8%	-0.6%	0.7%	0.2%	-0.3%	0.1%	-0.5%	-0.1%	-0.4%
EU2 in GCC	0.8%	-0.3%	0.0%	-1.8%	0.3%	-1.1%	0.0%	-0.3%	-1.0%
USA in Arab (total)	-1.1%	2.1%	0.5%	1.0%	-1.3%	-0.1%	-1.4%	-0.9%	1.0%
EU4 in Arab (total)	1.7%	-1.6%	0.2%	-1.3%	-0.2%	-0.5%	0.5%	-2.9%	-0.5%
EU2 in Arab (total)	1.9%	-1.7%	0.6%	-0.9%	0.1%	-0.5%	1.1%	-1.7%	-1.1%

EU4: Aggregate market share of France, Germany, Italy and the UK.
EU2: Aggregate market share of France and Germany. These two countries were the leaders of European opposition to the US occupation of Iraq in 2003.

Conversion to real values: All import values were converted to real values before calculating the trade shares for regression analysis. This conversion helps us prevent the results of our analysis from being distorted by the differences in inflation rates in exporting countries during the time span of our data. For each of the nine exporting countries an appropriate export price index was used for calculation of real value of their exports to Arab countries after adjustment for price changes. For some countries a direct export price index was not available and close proxies were used as described in table 3. In order to convert the total imports of each importing country from nominal to real values I construct a weighted export price index based on the export price indexes of the nine exporting countries in my sample. The weight of each exporting country's index is equal to its share of the combined exports of the nine exporting countries (in our sample) to each importing country. Consequently the lack of historical export index data for some countries reduced the data range for real values to 28 annual observations after 1980.

Table 6: **Source of data for Export Price Indexes**

US: Bureau of Economic Analysis (Export-Goods Price Index, Table 1.1.4)
Italy, UK, Germany (IMF: Export unit value Index)
Japan: Bank of Japan (Export Price Index)
China: National Bureau of Statistics (Producer Price Index of Manufactured Goods)
France: National Income Accounts (Ratio of nominal to real values of Exports of Goods)
India: IMF (Export Prices, L74&D)

Korea: IMF (Export Prices, L76)

The estimation method: For an importing country the market shares of its trade partners are interconnected because the market shares for all partners add up to one and an increase in one partner's share reduces the market shares of all others. Because of this property using the Seemingly Unrelated Regression (SUR) method is more efficient than running independent OLS regressions. To take advantage of this additional efficiency I have used the SUR model in this analysis.

I estimate an SUR model for each importing country. The model will have one equation for each trade partner under consideration. As was explained earlier the nine exporting countries in our sample accounted for nearly 50% of the total imports of each importing country and we consider the rest of the world as the residual trade share that will not be directly estimated.

The unit-root test: To make sure the trade share time series are stationary I used the Multivariate Dickey-Fuller test for seemingly unrelated equations[28] (Table 7). The results in table 4 suggest that, with the exception of Bahrain and Qatar, the market share variables were non-stationary at the level but became stationary after conversion to first difference. In light of this result I used the first difference of all the dependent and independent variables in my regression estimates rather than their levels.

Table 7: Multivariate Dickey-Fuller test for Seemingly Unrelated Equations (Four Equations for market shares of USA, EU4, Japan & China)

	Level		First Difference	
	Test value	5% Critical Value (No. of Observations)	Test Value	5% Critical Value (No. of Observations)
Bahrain	**33.226**	28.15 (28)	**79.953**	28.894 (27)
Kuwait	17.937	28.15 (28)	**79.491**	28.894 (27)
Oman	22.287	28.15 (28)	**75.384**	28.894 (27)
Qatar	**30.921**	28.15 (28)	**164.745**	28.894 (27)
Saudi Arabia	8.329	28.15 (28)	**46.156**	28.894 (27)
UAE	11.818	28.15 (28)	**93.898**	28.894 (27)
GCC	14.919	28.15 (28)	**56.128**	28.894 (27)
Arab13	19.631	31.844(24)	**53.232**	33.168 (23)

Data range: (1980-2007); (Arab13: GCC countries, Morocco, Libya, Egypt, Tunisia, Algeria, Syria, Jordan)
Market shares are based on import values in constant prices.

5) Estimation Results

For each importing country I estimated the SUR model using the first-difference log equation of the import share model that was described above. The SUR does allow for differences in right hand side equations and instead of using the same exchange rate in all

equations I have used the appropriate exchange rate for each exporting country. In this section I have grouped the results by exporting country. Hence each equation that appears in the table below comes from the SUR model of the corresponding importing country. Table 8 shows the results for the United States and only a handful of the variables have significant coefficients. Even the $/euro exchange rate does not have a significant coefficient in any of the equations.

Table 8 **Model specification: (First-Difference log equations)**

Market share of the United States in each country is the dependent variable. Equations extracted from each country's SUR model estimations.

USA	**Bahrain**	**Kuwait**	**Oman**	**Qatar**	**Saudi Arabia**	**UAE**	**GCC**	**Arab 13**
Total Imports	**0.532**	**-0.5**	**0.391**	**0.0887**	**0.516**	**0.273**	**0.267**	**0.229**
	0.228	0.021**	0.139	0.634	0.595	0.133	0.053*	0.137
Exchange Rate $/euro	**-0.199**	**0.297**	**0.0656**	**0.446**	**-0.047**	**-0.32**	**-0.051**	**0.00772**
	0.642	0.379	0.814	0.19	0.671	0.164	0.679	0.954
Dummy 2001-02 (Intifada, September 11)	**-0.012**	**0.0996**	**0.0688**	**0.0924**	**-0.0495**	**-0.0142**	**-0.0366**	**-0.0679**
	0.949	0.504	0.544	0.524	0.292	0.88	0.486	0.164
Dummy 2003-04 (Iraq war II)	**-0.298**	**0.0864**	**-0.223**	**-0.23**	**-0.00578**	**-0.184**	**-0.15**	**-0.16**
	0.13	0.59	0.068*	0.134	0.91	0.11	0.018**	0.008**
Dummy 1991-92 (Gulf War 1, Kuwait)	**0.215**	**0.489**	**-0.202**	**0.0673**	**0.152**	**-0.0601**	**0.0963**	**0.091**
	0.247	0.002**	0.082*	0.642	0.002**	0.541	0.091*	0.07*
Dummy 1998-99 (Asian Financial Crisis)	**0.114**	**-0.0286**	**-0.11**	**0.0219**	**-0.0666**	**-0.232**	**-0.129**	**-0.0867**
	0.548	0.846	0.343	0.881	0.155	0.022**	0.015**	0.08
Observations	**28**	**28**	**28**	**28**	**28**	**28**	**28**	**25**
"R-squared"	**0.197**	**0.295**	**0.251**	**0.13**	**0.373**	**0.23**	**0.423**	**0.411**
p-value	**0.33**	**0.0611**	**0.156**	**0.604**	**0.011**	**0.217**	**0.0022**	**0.0079**

Nevertheless we see that in several Arab countries the coefficient of dummy variables are significant and show the expected signs. The dummy for Gulf war I (liberation of Kuwait) has a positive and significant coefficient for US market share in Kuwait, Saudi Arabia, the GCC block and the aggregate imports of Arab countries. As mentioned earlier the ruling regimes in GCC countries were generally supportive of the US-led war that liberated Kuwait from Iraqi occupation and this positive image might have contributed to the growth of US market share in GCC. The Dummy variable for 2003-04 Iraq war has a negative coefficient in all countries other than Kuwait but its coefficient is only significant in Oman, the GCC bloc and the aggregate Arab market. The dummy variable for second Intifada/September 11 does not have a significant coefficient in any of the equations.

Tables similar to Table 8 were constructed for China, Japan, and EU4. Rather than presenting these tables in here I have summarized the results for coefficients of the dummy variables in table 9. In this table I have only reported the coefficients that were statistically significant for each trade partner of an importing country. In some cases the coefficient was significant but it came from an equation with a p-value of larger or equal to 0.1 which weakens the significance of the result.

Table 9: Direction of change for significant coefficients in SURE model with Difference-Log Equations

Four European Count. (EU4) United States (USA) China (CH) Japan (JAP)	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	GCC	Arab (13 countries)
Dummy 2001-02 (Intifada, September 11)								
Dummy 2003-04 (Iraq war II)	**JA EU4**		**EU4 US**			**JAP**	**US**	
Dummy 1991-92 (Gulf War I, Kuwait)	**EU4 CH**	**EU4, US**	**JA US**	**EU4**	**US**	**JAP**	**US, JAP**	
Dummy 1998-99 (Asian Financial Crisis)					**JAP**	**US CH**		

Upper: A Positive and Significant Coefficient, (a < 0.1)
Lower: A Negative and Significant Coefficient (a < 0.1)
Underlined abbreviations: The Coefficient is significant but it comes from an equation that is not statistically significant.
EU4: France, Germany, Italy, UK

The numbers in Table 9 offer some consistent but weak results with regard to the impact of the geopolitical developments on US market shares. The 2003-04 Iraq war shows a negative correlation with the US market share in GCC which is also significant in Oman. The Gulf war I dummy has a positive correlation with the US market share in Kuwait, Saudi Arabia and GCC. At the same time we notice that the Intifada/September 11 dummy has no significance for any exporting country in any of the models. Similarly No dummy variable proves significant for the aggregate imports of the 13 Arab countries.

In order to examine the robustness of results that have been reported in Table 9, I repeated the statistical analysis with several other groupings of the exporting countries in my sample. One grouping that offered more significant results was the aggregation of four Asian exporters (China, Japan, India and South Korea) into a single export bloc that I have titled ASIA4. Each importing country's SUR model now had three equations for USA, EU4 and Asia4. I estimated these models with the same set of variables as in table 5 with first difference-log values and simple first difference values. I further switched from annual market share data to the three-year moving average of market shares and found that the latter model generated more significant coefficients without altering their signs. The results were very similar in terms of the sign and significance of the coefficients but the coefficient t-statistics were larger in the first-difference model. The

summary of the coefficients of the dummy variables with the first-difference model appear in Table 10.

Table 10: Direction of change for significant coefficients in SUR model with First-difference equations based on 3-year averages of the market shares (3-equation SUR model)

1) Four European Count. (EU4) 2) United States (USA) 3) ASIA (ASIA4)	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	GCC	Arab 13
Dummy 2001-02 (Intifada, September 11)	**USA**				**ASIA4** **USA**	**ASIA4** **USA**	**ASIA4**	**USA**
Dummy 2003-04 (Iraq war II)	**ASIA4**	**ASIA4**	**EU4**		**ASIA4**	**ASIA4**	**ASIA4**	**ASIA4, EU4**
Dummy 1991-92 (Gulf War I, Kuwait)	**USA** **ASIA4**	**USA** **ASIA4**		**USA**	**USA** **ASIA4**		**USA**	**USA**
Dummy 1998-99 (Asian Financial Crisis)	**USA**	**ASIA4**				**ASIA4**		

Upper: A Positive and Significant Coefficient,
Lower: A Negative and Significant Coefficient (significance level: 0.1)
Underlined abbreviations: The Coefficient is significant but it comes from an equation that is not statistically significant.
Asia4: China, Japan, India, Korea, **EU4**: France, Germany, Italy, UK

The coefficient signs in table 10 point to more consistent and stronger results regarding the impact of each dummy variable on relative market shares of the three exporting regions. The results for the Intifada/September 11 dummy show that this event is associated with lower market shares for the United States in three GCC countries as well as the aggregate imports of the Arab world. Asian exporters, on the other hand, have gained market share during the two years associated with this period. This result is consistent with the deteriorating diplomatic relations between the US and the Arab countries during this period. The September 11 terrorist attacks not only led to diplomatic tensions between the two parties but it also became more difficult for Arabs to travel and conduct business in the United States. Visa applications were subject to long background checks and financial transactions came under close scrutiny by the US oversight agencies.

While table 10 does not show a significant market share loss for the United States in association with the 2003-04 dummy (the Iraq war), it shows positive and significant correlations for the European and Asian countries. The market share gain of Asian countries is primarily driven by the growth of China's market share and can be part of the longer trend that began in 2001. The European market gain however, can be attributed to geopolitical concerns of the Arab importers. Three members of EU4, France, Germany and Italy expressed strong opposition to the US invasion of Iraq while the UK was supportive.

The dummy variable for Gulf War I show a significant positive association with the US market share for both the GCC countries and the aggregate imports of the Arab countries. Within the GCC countries, the US market share has a significant positive association with

this dummy variable in Kuwait, Qatar, Saudi Arabia and Bahrain models. The GCC countries rely on the United States for their external security and the swift US response to the Iraqi occupation of Kuwait was a welcomed development. It is therefore reasonable to assume that the increase in US market share during the years immediately after the liberation of Kuwait was partly due to diplomatic considerations and improved image of the United States among the political and business elites of these societies. At the same time the fact that the Gulf War I dummy did not show a significant positive correlation with the market share of EU4 is puzzling. These four countries were active participants in the US-led coalition against Iraq in Gulf War I although their contribution was much smaller than the United States.

As a final experiment I added a new dummy variable for the 2005-08 interval to the First-difference SUR models of Table 10. This dummy covers an interval that is associated with the record high price of oil and the corresponding record oil revenues for GCC countries. These high revenues led to a sharp increase in Arab imports of merchandise goods (graph 1). The results appear in table11 and seem consistent with the earlier results in table 10. It appears that inclusion of this additional variable has increased the explanatory power of the model and increased the number of variables with significant coefficients.

Table 11: Direction of change for significant coefficients in SURE models with First-difference Equations based on 3-year averages of the market shares (3-equation SUR model for each importer)

Four European Countries (EU4) United States (USA) ASIA (Asia4)	Bahrain	Kuwait	Oman	Qatar	Saudi Arabia	UAE	GCC	Arab 13
Dummy 2001-02 (Intifada, September 11)	USA	EU4			Asia4,EU4* USA	EU4, Asia4 USA*	Asia4	USA
Dummy 2003-04 (Iraq war II)	Asia4	Asia4	EU4	EU4	Asia4,EU4 USA*		Asia4	Asia4 USA
Dummy 2005-08 (Oil Boom)		Asia4		Asia4 EU4	Asia*,EU4* USA	USA	Asia4*	Asia4
Dummy 1991-92 (Gulf War I)	USA Asia4	USA	Asia4	USA	USA	Asia4	USA	USA
Dummy 1998-99 (Asian Financial Crisis)	USA EU4	Asia4	Asia4			Asia4		EU4

Upper: A Positive and Significant Coefficient,
Lower: A Negative and Significant Coefficient,
*: P-value close to 0.1 (weak significance)
Underlined abbreviations: The Coefficient is significant but it comes from an equation that is not statistically significant.

Summary and Conclusion

Between 2003 and 2008 the amount spent by Arab countries on merchandise imports rose from $200 billion to $650 billion. This rapid increase in purchasing power, which was made possible by the sharp increase in price of crude oil, has intensified the competition among industrial countries for the Arab world's import market. Many international corporations have increased their marketing campaigns to promote their products in the region. At the same time the governments of exporting countries have launched intense diplomatic efforts to promote trade and investment relations with Arab countries.

These diplomatic efforts have been especially intense towards the Gulf Cooperation Council (GCC) countries, which accounted for more than 60% of Arab imports despite their small population. The frequent visits of high ranking diplomatic and trade missions of the United States, European and Asian countries to GCC capitals in recent years is a clear testimony to the importance of GCC markets for these governments.

In light of the growing significance of the Arab import market for the global community this study has focused on how the market shares of leading exporters in the Arab world have evolved over the past two decades. In first part of the analysis I looked at the trends of these market shares over time and in comparison to other developing regions. Using the International Monetary Fund and the United Nations databases on annual bilateral trade among nations, I investigated the market shares of the United States, China, Japan and the aggregate market share of four largest European economies (France, Germany, Italy and the United Kingdom). Since GCC constitutes the largest and most important sub-regional import market inside the Arab world, the study focuses on GCC with more detail.

The trend analysis revealed that during 1988-2007 the United States, Japan and European countries have lost market share in Arab markets. China's market share, which was very small at the beginning of this period, enjoyed a substantial growth over these two decades. The market shares of European countries and the United States were relatively stable before 2000 and most of this market loss was realized during 2000-2007. For Japan on the other hand the market loss was most substantial during the first half of 1990s followed by another noticeable loss during 2005-2007. China's market share grew at a slow pace up until 2000, followed by faster growth during 2001-2007.

The trade data further revealed that these patterns were not unique to the Arab countries but there were some differences in magnitudes. Comparing the market share of the United States in aggregate imports of the developing countries and Arab world we notice that its market loss in the Arab countries (particularly in GCC) was relatively smaller than in the developing countries as a whole. For the European countries, on the other hand, the market loss in Arab World was slightly larger than in the developing countries. The pattern of China's market gain in the Arab world was similar to other developing regions.

In addition to aggregate merchandise imports this study also looked at the market shares of the same exporters in two specific types of products that constitute a substantial share of their exports to the Arab world: a) manufactured goods, b) machinery and transport equipment. Data revealed that market losses of the United States, Japan and European countries were more significant in the market for manufactured goods where they faced strong competition from China and other low cost producers. Furthermore, most of this market loss was realized after 1995. In the market for machinery and

transport equipment the United States, Europe and Japan still dominate and their market shares have remained relatively stable.

China's share in this category of exports has been very small but it has enjoyed a visible uptrend since 2000. This recent trend suggests that China is entering into the production of more sophisticated high-value products and will pose a more serious challenge to the traditional producers of advanced machinery in the coming decades.

In the second part of this analysis I used statistical regression models to investigate the impact of important geopolitical events on relative market shares of the same exporters that were studied in the first section. Various empirical studies have suggested that political and diplomatic relations between two nations could have an impact on their volume of bilateral trade. In light of the complex diplomatic and security relations between the United States and Arab countries it might be the case that Arab imports from the US are sensitive to the ups and downs of the US-Arab relations.

To investigate this theory I focused on four important geopolitical events: Gulf War I (1991), Second Palestinian Intifada (2000-2001), The September 11 terror attack (2001) and the US invasion of Iraq (2003-2004). In my statistical model the dependent variables are the market shares of the leading exporters to each Arab country or bloc of countries. I add dummy variables for these events to the existing set of independent variables for each model. (Due to the short interval between the second Intifada which began in September 2000 and the September 11 attacks, I have combined these two into a single dummy variable covering 2001 and 2002.)

While none of these geopolitical events involve China and Europe they have an indirect effect on these exporters' market shares as well. An event that deteriorates US-Arab relations could encourage an Arab country to switch from American products to Asian or European substitutes. This could be particularly the case when a European country sides with Arabs in opposition to a US policy such as the French and German opposition to the US invasion of Iraq.

The statistical results suggest that the Gulf War I and the US invasion of Iraq have both been associated with changes in US market share in Arab imports. We observe a positive association between Gulf War I and the US market share in GCC countries and the aggregate imports of Arab countries in 1991 and 1992. On the other hand we observe a negative association between the invasion of Iraq and the US market share in aggregate imports of the Arab world. Among GCC countries this negative association is only significant for the US market share in Saudi Arabia. Furthermore, the analysis shows a strong and positive growth in market shares of Asia and Europe during 2003 and 2004 which are associated with the US invasion of Iraq.

The results for the second intifada/September 11 event are mixed. This period is associated with an increase in US market share in Bahrain and a negative market share in Saudi Arabia and the UAE. No significant association is detected in other GCC countries or in the aggregate imports of GCC as a group. Nevertheless we observe a negative association between this pair of events and the US market share in the aggregate imports of Arab countries. In Saudi Arabia the US market loss during this period (2001-2002) is associated with market gains for Asian and European countries. This outcome suggests that the adverse impact of second intifada and September 11 events on Saudi-US relations was stronger than on US relations with other Arab countries.

Overall, the analysis allows us to suggest the long-term trends in market shares of leading exporters to the Arab world are mainly driven by cost and economic consideration. China's rise as a manufacturing powerhouse has allowed it to gain market share at the expense of large industrial nations and the trends in Arab countries are no different than other developing regions. However, at the same time, our analysis has revealed that major geopolitical events can have a short-term impact on bilateral trade among Arab countries and their trade partners. While this impact is statistically significant its magnitude is generally small.

The statistical results that I have presented to support this argument should be treated with caution as they might be sensitive to my method of analysis and the sample of countries that are included. Future empirical research in this topic can include a larger sample of Arab countries as well as a larger collection of their trade partners. Another direction for future research is to repeat the statistical/regression analysis for specific categories of commodities in contrast to my analysis which has focused on aggregate merchandise imports.

---

[1] For a survey of economic performance in Arab countries after 2000 see: "Regional Economic Outlook: Middle East and Central Asia", International Monetary Fund, Washington DC, October 2009.

[2] Economists have generally been more interested in studying the volume of bilateral trade among nations than the relative market shares. The most common analytical model for analysis of bilateral trade is the gravity model which assumes that the volume of trade between two nations is a function of the size of their respective economies (GDP) and the distance between them. The gravity model was first introduced by Tinbergen (1962). Economists and political scientists have inserted additional variables into the simple gravity model to study the impact of other factors such as political institutions, diplomatic relations, and relative prices on volume of bilateral trade. Tinbergen, Shaping the World Economy: Suggestions for an International Economic Policy. New York: The Twentieth Century Fund, January 1962.

[3] Blanford, Nicholas, "Arab Citizens Seize Boycott Banner", Christian Science Monitor, May 7, 2002. See: http://www.csmonitor.com/2002/0507/p06s01-wome.html (cited January 21, 2009)

[4] Currently ten Arab countries enjoy WTO membership while six other states have observer status which will eventually pave the way for accession negotiations.

[5] For more detail on US trade agreements with Arab countries see: Lawrence, Robert Z., A US-Middle East Trade Agreement: A Circle of Opportunity?, Peterson Institute for International Economics, November 2006.

[6] For a recent analysis of the Euro-Mediterranean Free Trade Agreement visit: http://www.enpi-info.eu/mainmed.php?id=340&id_type=2, (Website visited June 8, 2010).

[7] A major point of disagreement in EU-GCC trade negotiations is the refusal of European Union to open its petrochemical market to GCC exports. GCC countries have a significant cost advantage in production of petrochemicals but European countries want to protect their domestic petrochemical industries.

[8] The first round of trade talks between China and GCC countries was held in Riyadh in September 2009. This was followed by a GCC-China economic Forum in February 2010 in Bahrain. The GCC countries also initiated free trade talks with South Korea in 2008. The third round of talks between the two parties was concluded in June 2010. The first round of free trade talks between India and GCC was held in March 2006 but the progress has been slow. The 2008-09 financial crisis resulted in a significant slowdown in GCC trade negotiations with Asian trade partners.

[9] Arab countries included in this aggregate are: Algeria, Bahrain, Egypt, Iraq, Kuwait, Jordan, Libya, Lebanon, Morocco, Qatar, Yemen, Oman, Sudan, Syria, Saudi Arabia and, the UAE.

[10] These statistics were calculated by the author based on United Nations Comtrade data. The figures reported reflect the sum of SITC categories 6 (manufactured goods) and 7 (machinery and transport equipment). If we add the SITC category 8 which covers miscellaneous manufactured articles the aggregate shares of categories 6, 7 and 8 will increase to 61% for the entire Arab world and 66.5% for GCC countries.

[11] The European currencies, which were closely linked to one another before they were replaced with Euro in 1997 depreciated sharply against the US dollar in the first half of 1980sbefore reversing course and appreciating gradually during 1986-1995. When euro was introduced it initially depreciated against the dollar from 1997 to 2001. However, it enjoyed another round of steady appreciation after 2001 which lasted through 2009.

[12] Armington, P.S., "A Theory of Demand for Products Distinguished by Place of Production," *International Monetary Fund Staff Papers* 16 (1969): 159-176.

[13] Parikh, Ashok, "An econometric study on estimation of trade shares using the almost ideal demand system in the world link", Applied Economics, 1988, 20, 1017-1039.

[14] For a detailed analysis of AIDS model see Deaton, A.S. and Muellbauer, J. "An Almost Ideal Demand System", American Economic Review, 1980, 70, 2, 312-26.

[15] See Konimoto, K. "A Typology of Trade Intensity Indices", Hitotsubashi Journal of Economics, 1977, 17:15-32; and Nagy, Andras, "The treatment of International Trade in Global Markets" International Institute of Applied Systems Analysis, 1983, WP-83-25. Laxenburg, Austria.

[16] Polachek, Solomon W. "Conflict and Trade", Journal of Conflict Resolution, 1980, 24:55-78.

[17] Gasiorowski, Mark and Solomon W. Polachek. "Conflict and Interdependence: East-West Trade and Linkages in the Era of Detente", Journal of Conflict Resolution, 1982, 26:709-29.

[18] Arad, Ruth Seev Hirsch, The Economics of Peace Making: Focus on Egyptian-Israeli Situation, New York: St. Martins, 1983.

[19] Pollins, Brian M. "Does Trade Still Follow the Flag?", American Political Science Review, June 1989, Vol. 83, No. 2, PP465-480

[20] Summary, R.M. "A Political-Economic Model of US Bilateral Trade". Review of Economics and Statistics, 1989, February, V. 71, i.1. pp. 179-182.

[21] Dixon W.J. and Moon B.E. "Political Similarity and American Foreign Trade Patterns" Political Research Quarterly, 1993, V.46, i.1. pp.5-25

[22] Morrow, James, Randolph M. Silverman, Tressa E. Tabares "The Political Determinants of International Trade: The Major Powers, 1907-1990", American Political Science Review, 1998, Vol. 92, No. 3 pp 649-661.

[23] James M Lutz , *East European Trade with the Developing World*: Soviet Diplomatic Partner or Economic Self-interest. James M. Lutz, 1995, Pages 333 – 362 **vol.9 , No.3.**

[24] Lim,Kang-Taeg and Kim, Jae-Young, "Economic and Political Changes and Import Demand Behavior of North Korea", 2002, Journal of Economic Development, Vol.27, Number 1.

[25] For more information about this data base visit http://www2.imfstatistics.org/DOT/help/DOThelp.htm .

[26] For an analysis of this issue see: Dobranogov, Anton and Ahmad Jalali-Naini, "Explaining Large Inventories: The case of Iran", Middle Eastern Finance and Economics, 2007, Issue 1. (http://www.eurojournals.com/mefe%201%201.pdf)

[27] The first Palestinian Intifada began in December 1987 and lasted till 1993. The second Palestinian Intifada began in September 2000 but there are disagreements about when it ended. Some argue that it ended in 2004 while others believe it lasted till 2005. As far as the impact of second intifada on US image in the Arab world (and hence the possible surge in anti-American sentiments) is concerned I believe that the impact of the second intifada was strongest in 2001 and lasted through 2002. After 2002 however, it was overshadowed by the US invasion of Iraq which had a significantly stronger impact on Arab sentiments toward the United States. Even in the last quarter of 2001, the impact of second intifada on US image was largely overshadowed by the September 11 attacks. This is why I chose to flag 2001 and 2002 as the time interval during which Intifada and September 11 attacks were the dominant contributors to Arab sentiments towards the United States.

[28] This test was conducted in Stata (econometric software) using the MADFULLER command. Multivariate Augmented Dickey-Fuller is a panel unit root test that is suitable for seemingly unrelated regression (SUR) models. The null hypothesis of this test is that all the time series in the panel are non-stationary. Therefore the null hypothesis will be rejected even if one time series is stationary. For more details see Taylor M.P.

and Sarno L. “The behavior of real exchange rates during the post-Bretton Woods period” Journal of International Economics, 1998, 46, pp281-312

****

“In the wake of Desert Storm, the end of the Cold War, and our role in the Arab-Israeli peace process, many U.S. firms are finding Near East markets more receptive to American products. This is particularly true in the Gulf, where both the public and private sectors are increasingly inclined to "buy American."” Source: U.S. economic policy in the Middle East: challenges and opportunities - Assistant Secretary for Near East Affairs Edward P. Djerejian speech October 4, 1993, US Department of State Dispatch , http://findarticles.com/p/articles/mi_m1584/is_n40_v4/ai_14642129/pg_5/?tag=content;col1