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CSS Papers

*The Iraq War's
Impact on Growth
and Inflation and
Public Spending in
Jordan*

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ABSTRACT

This paper examines the impact of the Iraq war of 2003 on growth and inflation in Jordan. By exploring Jordan and Iraq's trade relationship, the changes in Jordan's consumer price index, and Iraqi investment in Jordan, we differentiate between the economic challenges posed by the Iraq war in general and by the Iraqis in Jordan in particular. We find that the Iraq war has contributed significantly to inflation in Jordan because of rising food prices, rising fuel prices, and rising real estate prices. The displaced Iraqis in Jordan, on the other hand, have contributed far less to inflation and growth in Jordan than is often stated. Moreover, Iraqis' engagement in the labor market has been limited. The impact on infrastructure and utilities varies across sectors.

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I. INTRODUCTION

The Iraqis in Jordan

The American-led war against Iraq in 2003 has had serious consequences for the countries of the region, including Jordan. The war has disrupted the traditional trade relationship between Jordan and Iraq, cutting Jordan off from the subsidized oil that it had been receiving from Iraq. The war also upended Jordan's security situation, as Jordan now faces an unstable neighbor to its east. And most visibly, the conflict has displaced millions of Iraqis into Jordan and Syria. These displaced Iraqis¹ often have little choice but to stay due to the ongoing violence and civil strife in Iraq.

Until November 2005, Jordan had relatively generous policies toward Iraqis who arrived at its borders, allowing most of them to obtain a visa at the border and enter Jordan.² The visas were usually valid for one month and could be extended for three months upon request to the Ministry of Interior. Visas could be renewed by briefly leaving and re-entering Jordan at either the Syrian or Iraqi borders. Some Iraqis were able to obtain one-year renewable residence permits, either through demonstrating a secure and legal source of income, a work permit, or student status.

Shortly after three bomb attacks were carried out by Iraqis in Amman in November 2005, however, Jordanian policy became more restrictive. Authorities rejected more Iraqis at the border and issued shorter-term (often two- or three-day) visas to Iraqis at the Syrian border, making it difficult for Iraqis in Jordan to renew their Jordanian visas (and thus their legal status). As a result, many Iraqis in Jordan overstayed their visas. Nevertheless, at that time Jordan rarely deported Iraqis who had lost their legal status, instead turning a blind eye.

Jordanian policy changed again a year later, in November 2006. Jordan began to officially reject single Iraqi men and boys between the ages of 17-35 at the border. Observers have alleged that Jordan's unofficial restrictions are even more stringent, and that Jordan in fact rejects most Iraqis, especially those that do not have a new G-series passport and those who appear to be Shi'a.³ Police raids against Iraqis living illegally in Jordan have increased dramatically, and many more Iraqis are being deported from Jordan.

1. This paper does not refer to the Iraqis in Jordan, in general, as "refugees." Legally, refugees are people who fulfill the criteria of the 1951 United Nations Convention Relating to the Status of Refugees or who have been classified as refugees by the United Nations High Commissioner for Refugees (UNHCR). See UNHCR, *Handbook on Procedures and Criteria for Determining Refugee Status under the 1951 Convention and the 1967 Protocol relating to the Status of Refugees*, reedited Jan. 1992, para. 28. Many (perhaps most) of the Iraqis who have arrived in Jordan since 2003 fulfill the criteria of the 1951 convention (they have a "well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion"), making them refugees despite the fact that they have not yet been recognized as such by UNHCR or by the Jordanian government (which refers to the Iraqis in Jordan as guests or visitors, rather than refugees). Though Jordan has not ratified the 1951 convention and UNHCR has not yet recognized most of the Iraqis as refugees, some argue that customary international law prevents Jordan from returning refugees to a place where they would be threatened. See Human Rights Watch (HRW), "The Silent Treatment: Fleeing Iraq, Surviving in Jordan," Nov. 2006, p. 22. Human Rights Watch talks of "de facto refugees," a definition broader than that in the 1951 convention, including not only people who have a well-founded fear of persecution but also "persons who fear serious threats to their lives and freedom because of indiscriminate violence and ongoing armed conflict." *Ibid.*, p. 12. Such a definition would encompass almost all of the Iraqis in Jordan. Rather than enter this legal thicket, we will eschew using the term "refugees" to refer to the Iraqis in Jordan in general, keeping in mind that some of the Iraqis are refugees, with corresponding obligations for the Jordanian government, UNHCR, and the international community.

2. This paragraph and the following paragraph draw upon HRW, "The Silent Treatment," p. 50.

3. HRW, "Iraq: From a Flood to a Trickle," p. 9.

Jordan's policy towards Iraqis once again changed on 13 February 2008. Iraqi nationals residing in Jordan who wish to leave permanently will be fully exempted from accumulated fines, while those who wish to stay have two months to rectify their residency status and will have their fines slashed in half. Interior Minister Eid Fayez also announced that Iraqis who leave Jordan and intend to return or newcomers will have to obtain a visa from offices that will soon open in Iraq. The visa system was introduced at the request of the Iraqi government to organize the flow of Iraqis to the country.¹

One estimate puts the number of Iraqi migrants in Jordan at about 800,000 as of April 2007.² A small number have residence permits, a small number are on valid visas, and the remainder have overstayed their visas. The arrival of these migrants in Jordan since 2003 and the Iraq war more broadly, has both benefited and stressed the Jordanian economy.

This paper explores the impact of the Iraq war on growth and inflation and utilities in Jordan. The paper first examines Jordan and Iraq's historic trade relationship, analyzing trends in Jordan's exports to Iraq since the war and the cessation of subsidized oil shipments from Iraq to Jordan. It then moves to explore the war's impact on inflation in Jordan's consumer price index, which has risen from negligible levels in 2003, peaked at 6% in 2006 and fell only slightly to 5.4% in 2007.³ The paper then describes the economic growth Jordan has experienced since 2003 and analyzes the role of Iraqi investment in that growth. The second section of the paper will go on to look at how Iraqi migration has impacted Jordan's national budget spending, resultant pressures on public goods and infrastructure and how the presence of Iraqis in Jordan has affected Jordanian labor markets.

II. JORDAN AND IRAQ'S TRADE RELATIONSHIP

During the 1980s, Iraq was Jordan's primary trade partner and a major market for Jordanian exports. The relationship between the two countries was governed for some time by trade protocols between the two governments. According to these trade protocols, Jordan obtained its supply of oil, in return for its private sector exporting commodities to the secured Iraq market. These arrangements contributed to creating a perception that the Iraqi market was an extension of Jordan's domestic market, given the fact that such trade was a type of barter-trade driven by political interest more than pure economic competitiveness. Once these arrangements were disrupted, Jordanian exporters to the Iraqi market could not divert their exports to a third market, as a normal export-oriented economy would. However, in the aftermath of the 2003 war, Jordanian exports found their way to the Iraq market through different dynamics and structures, as we will demonstrate below.

1. L. Hindi and H. Hazaimeh 'Iraqis Exempted From Fines' The Jordan Times (14 February 2008)

2. The number of Iraqis in Jordan is contested. The figure of 800,000 as of April 2007 is from HRW, "Iraq: From a Flood to a Trickle: Neighboring States Stop Iraqis Fleeing War and Persecution," April 2007, p. 8. While a joint study between the Jordanian Department of Statistics and the Norwegian research institute Fafo 'Iraqis in Jordan: Their Number and Characteristics' May 2007 estimated the number to lie between 450,000 and 500,000 p3.

3. CBJ Monthly Statistical Bulletin. December 2007, Vol. 43 No. 12. Accessed online January 20, 2008.

Jordan's Exports to Iraq

Until 2003, Iraq was Jordan's largest export market.¹ For example, in 2001, Jordan exported to Iraq 22% (JD 299 million) of its total domestic exports, dwarfing Jordan's exports to the U.S. (Jordan's 2nd largest export market, at 12% of total exports, or JD 164 million). In 2002, Jordan exported JD 312 million to Iraq, accounting for nearly half of all of Jordan's exports to Arab countries. Iraq continued to be Jordan's single largest export market.² In 2003, with the onset of the war, Jordanian exports to Iraq dipped in both absolute and relative terms, to JD 224 million (13% of total exports). Since 2003, Jordan's exports to Iraq have rebounded in absolute terms to levels higher than in the prewar period: JD 362 million in 2004, JD 380 million in 2005, and JD 327 million in 2006.³ See Table 1 and Figure 1.

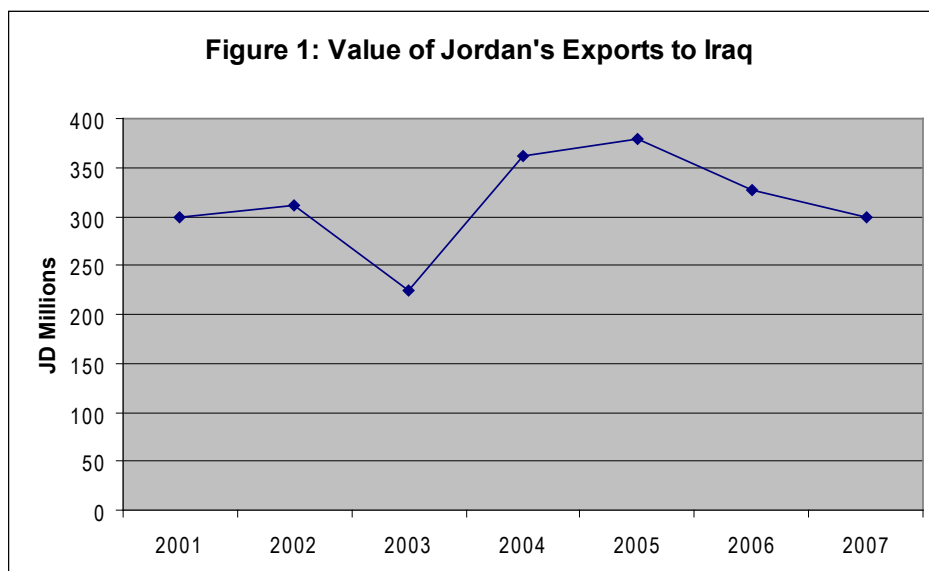
(in JD millions)	2001	2002	2003	2004	2005	2006	2007
Jordan's Exports to Iraq	299	312	224	362	380	327	299
Jordan's Exports to U.S.	165	304	469	722	790	905	747
Total Jordanian Domestic Exports	1.352	1.557	1.675	2.307	2.570	2.903	2.638

Source: "Geographic Distribution of Domestic Exports," Central Bank of Jordan (CBJ) Monthly Statistical Bulletin, Dec. 2006, March 2002 and accessed online April 25, 2007 and January 23, 2008.

¹ Official Jordanian statistics from pre-2001, however, do not reflect this. The official statistics show Jordanian exports to Iraq averaging only JD 107 million from 1997-2000, for example, then suddenly jumping to JD 300 million in 2001. This is because before 2001, under the international sanctions regime against Saddam Hussein's Iraq, the Jordanian government used to pay for its imports of Iraqi oil by sending Iraq Jordanian consumer goods rather than cash. As part of this operation, when Jordanian manufacturers exported their goods to Iraq, they would actually be paid by the Jordanian Ministry of Finance rather than by the Iraqi importer. As a result of this policy, official Jordanian figures pre-2001 do not include these sorts of transactions as exports to Iraq, making the figures appear artificially low.

² Iraq narrowly edged the United States as the largest importer of Jordanian products in 2002: Jordan exported JD 289 million to the U.S. that year. "Geographic Distribution of Domestic Exports," Central Bank of Jordan (CBJ), Monthly Statistical Bulletin, Dec. 2006 and accessed online, April 25, 2007.

³ Ibid.



Source: "Geographic Distribution of Domestic Exports," CBJ Monthly Statistical Bulletin, Dec. 2006, March 2002, Dec. 2007 and accessed online April 25, 2007 and January 15, 2008.

Jordan's exports to Iraq are driven by rising exports of food and beverages. While food and beverages accounted for 22.1% of Jordan's exports to Iraq before the war from 2001-2002, they accounted for nearly 40% of its exports to Iraq from 2004-2006. In absolute terms, the value of the food that Jordan exported to Iraq doubled, from an average of JD 67 million annually in 2001-2002 to JD 142 million in 2004-2006.¹ Chemicals are Jordan's second-largest export to Iraq; they represented 27% of all of Jordan's exports to Iraq from 2001-2006. The major components of this category are medicine, soap, and cleaning materials. These exports have remained relatively steady from 2001-2006. Following these two major categories, cigarettes, manufactured steel products and machinery each make up about 9% of Jordan's total exports to Iraq. See Appendix, Table A.

A further breakdown of Jordan's food exports to Iraq shows that their composition has changed dramatically since the war. Before 2003, animal and vegetable fats were the large majority of Jordanian food exports to Iraq; for example, animal and vegetable fats were 65% of Jordan's food exports to Iraq in 2001 (JD 38 million) and 84% in 2002 (JD 64 million). Jordan's exports of milk, fruits, and vegetables to Iraq were negligible before 2004. Since the war, animal and vegetable fats have continued to be important Jordanian exports to Iraq, but exports of fruits, vegetables, and milk have increased dramatically. See Table 2.

1. Authors' calculations, based on statistics supplied by the Department of Statistics, External Trade Section.

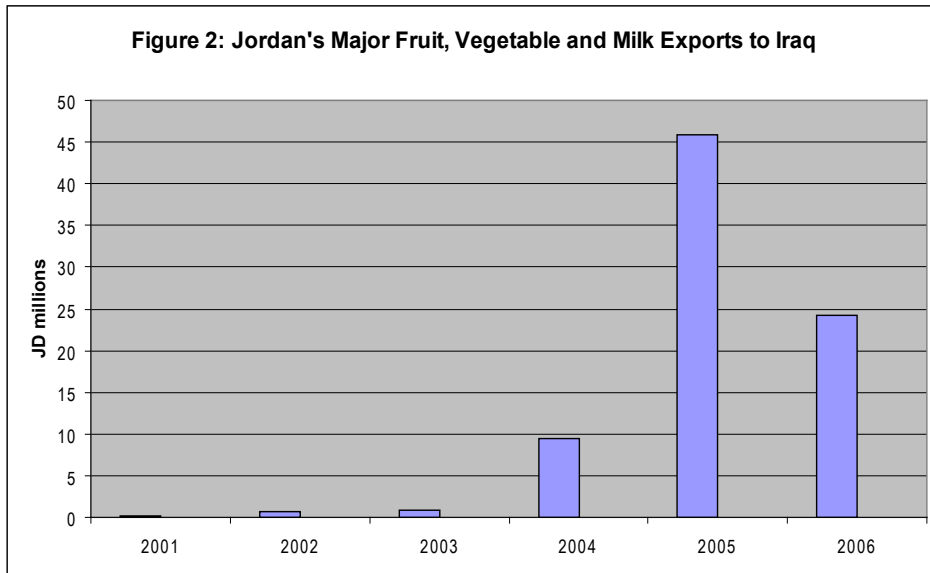
(in JD millions)	2001	2002	2003	2004	2005	2006
Milk*	0	0.6	0.3	0.1	19.7	3.6
Tomatoes	0.1	0.1	0.3	3.1	9.7	6.6
Cucumbers	0	0	0.1	2.4	6.2	7.3
Green pepper	0	0	0	0.7	2.7	2.4
Eggplant	0	0	0	1.4	2.7	3.5
Potatoes	0	0	0.1	1.5	2.3	0.8
Oranges**	0	0	0.1	0.1	1.5	0.1
Lemons	0	0	0	0.1	1.1	0
TOTAL	0.1	0.7	0.9	9.4	45.9	24.3

Source: Authors' calculations based on statistics supplied by the Department of Statistics, External Trade Section.

* Including both powdered and solid (granule) forms.

** Not including juices.

As Table 2 shows, shipments to Iraq of Jordanian milk, tomatoes, cucumbers, green peppers, eggplants, potatoes, oranges, and lemons rose from almost nothing before the war to substantial levels from 2004-2006. See figure 2. These items accounted for 6.5% of Jordan's food exports to Iraq in 2004, a stunning 28.3% in 2005, and 20.8% in 2006.

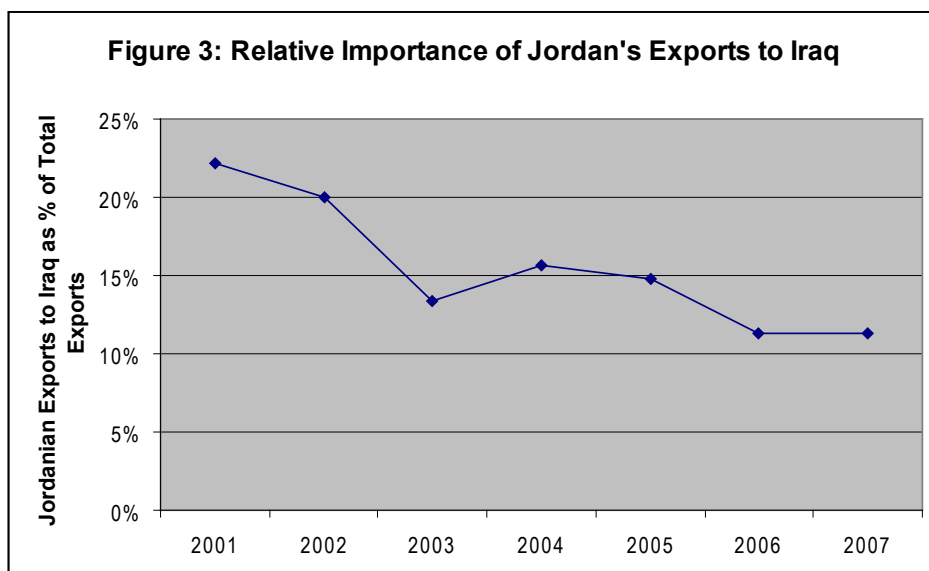


Source: Authors' calculations, based upon statistics supplied by the Department of Statistics, External Trade Section.

At first glance, rising Jordanian exports of food to Iraq in 2004-2006 would be surprising, since at least 2 million Iraqis have left the country since 2003. It has been suggested that these exports primarily went to feed the U.S. army in Iraq.¹ The worsening security situation in Iraq may also have decreased Iraq's agricultural production, causing a greater need for imported food. The implications of substantial Jordanian food exports to Iraq will be explored in the section on "Rising Food Prices", below.

Even as the value of exports to Iraq has exceeded its pre-war level, Iraq has declined in importance, in relative terms, as a market for Jordanian exports. See Figure 3. Due to the growth of exports to other locations, especially to the U.S., Jordanian exports to Iraq made up only 11% of all Jordanian exports in 2006 – a decline of over 10% from only five years before.

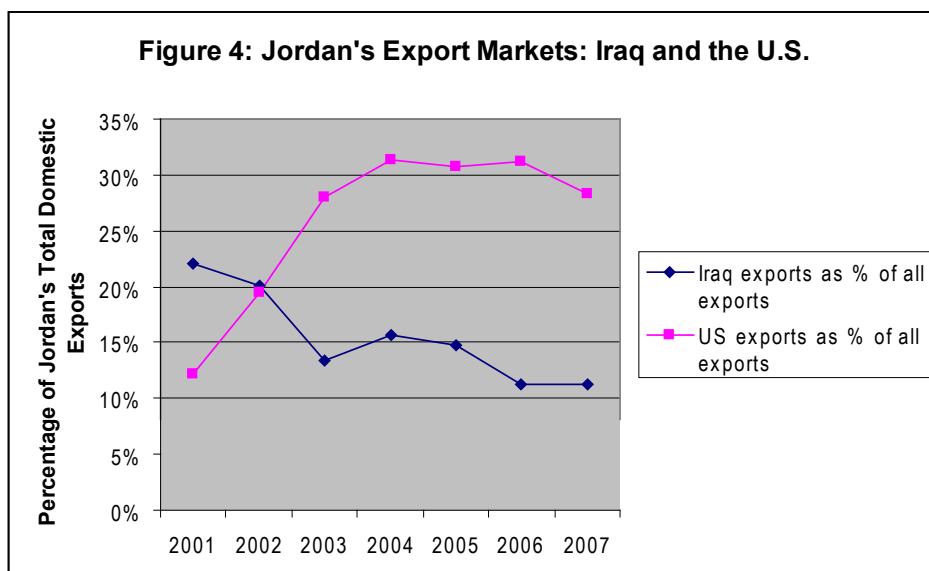
1. Telephone conversation with official in the Department of Statistics, May 23, 2007.



Source: Authors' calculations, based on "Geographic Distribution of Domestic Exports," CBJ Monthly Statistical Bulletin, Dec. 2006, March 2002, Dec. 2007 and accessed online April 25, 2007 and January 15, 2008.

As Jordan's exports to Iraq have decreased in relative terms, its exports to the U.S. surged. As Jordan's Qualifying Industrial Zones (QIZs) started to boost their production of duty-free exports to the U.S., Jordan's exports to America rose sharply, to JD 469 million in 2003.¹ The U.S. has, since then, replaced Iraq as the most important market for Jordanian manufactures. By the end of 2003, 28% of Jordanian exports by value went to the U.S., while only 13.4% went to Iraq – a dramatic reversal of roles. See Figure 4. This marked a major turning point in Jordan's trade orientation, as the importance of its traditional trading partner Iraq was now dwarfed by the importance of its new largest partner, America.

1. "Geographic Distribution of Domestic Exports," Central Bank of Jordan, Monthly Statistical Bulletin, Dec. 2006 and accessed online, April 25, 2007.



Source: Authors' calculations, based on "Geographic Distribution of Domestic Exports," CBJ Monthly Statistical Bulletin, Dec. 2006, March 2002, Dec. 2007 and accessed online April 25, 2007 and January 15, 2008.

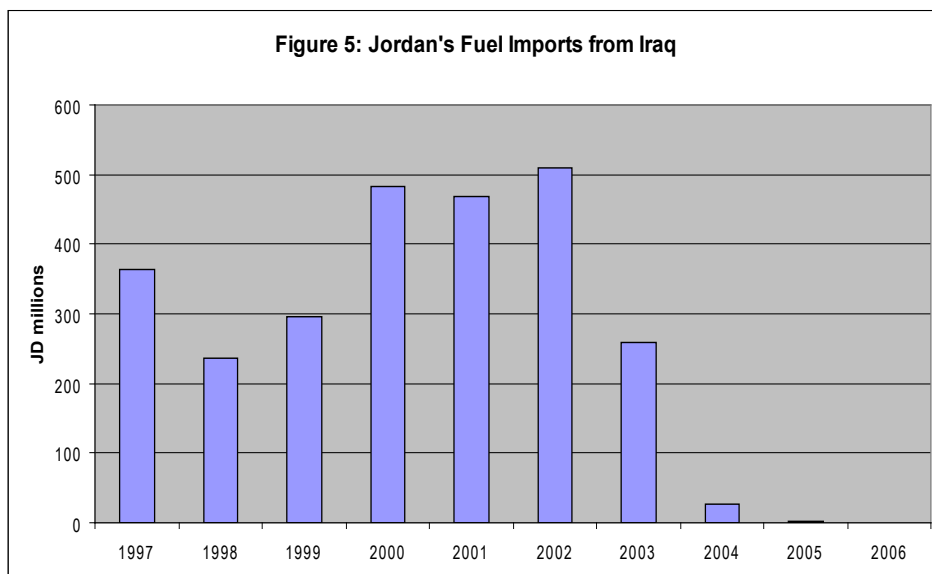
Jordan's Imports from Iraq

Before the war in 2003, Jordan's imports from Iraq consisted almost solely of oil, at heavily subsidized prices.¹ From 1997-2002, Jordan imported an average of JD 393 million in fuel each year from Iraq. See Appendix, Table B. Jordan imported JD 511 million of fuel from Iraq in 2002, on the eve of the war.² But when conflict broke out in 2003, oil shipments from Iraq nearly ceased. Jordan's imports of Iraqi oil totaled only JD 258 million in 2003, JD 27 million in 2004, and JD 3 million in 2005. See Figure 5. Jordan imported no fuel from Iraq in 2006 and the overall level of imports from Iraq is today insignificant.³ Several Gulf countries sent subsidized oil shipments to Jordan shortly after the war to compensate for the oil it was no longer importing from Iraq, but that arrangement lasted only for a limited time.

1. The subsidized prices not only reduced the cost of fuel products to Jordanian consumers, but also allowed the government of Jordan to profit from the oil trade. The government of Jordan would resell the oil it received from Iraq to Jordanian consumers at a small profit, providing not only inexpensive oil for Jordanian consumers but also important support for the Jordanian government budget. It is also worth noting that Jordan paid some of the oil bill to Iraq in consumer goods, such that Jordanian producers would send goods to Iraq and be reimbursed by the Jordanian Finance Ministry.

2. Statistics supplied by Department of Statistics, External Trade Section.

3. Jordan imported only JD 5.2 million from Iraq in 2006. "Geographic Distribution of Domestic Exports," CBJ Monthly Statistical Bulletin, accessed online March 4, 2007.



Source: Figures provided by Department of Statistics, External Trade section.

Since the shipments from Iraq and the Gulf ended, Jordan has had to buy almost all of its oil at far higher prices on the international market. The consequences of this will be addressed in the "Rising Fuel Prices" section, below.

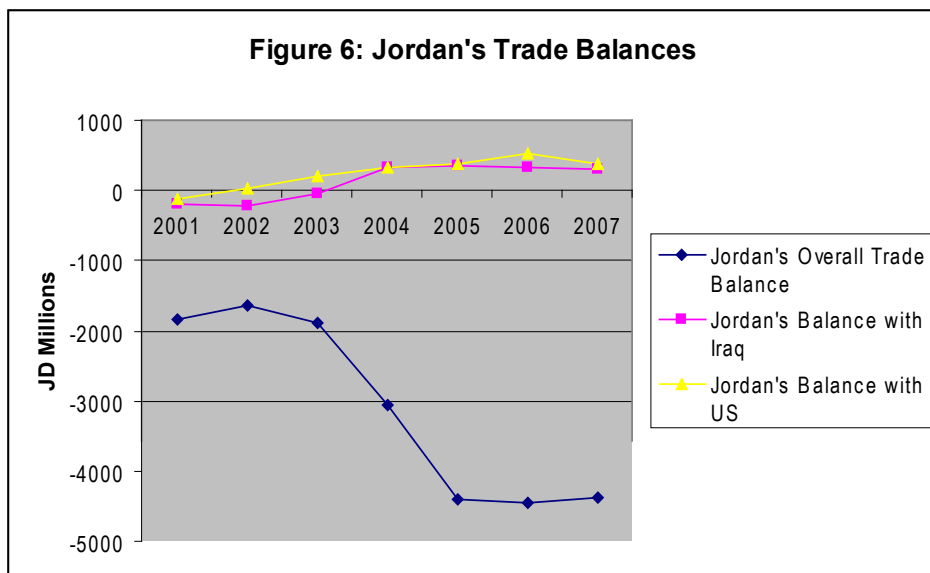
Trade Balances, Jordan-U.S. and Jordan-Iraq

Jordan has traditionally run a trade deficit, a result of its poverty in natural resources and its relatively weak manufacturing sector. Jordan's overall trade deficit increased dramatically from 2001-2006, from JD 1.8 billion to JD 4.5 billion, due to the end of subsidized fuel from Iraq, dramatically rising international fuel prices and a fast-growing population (from both natural growth and also from the influx of Iraqis) demanding additional imported goods. Though Jordan's overall trade deficit grew sharply over this period, Jordan's trade relationship with Iraq and with the U.S. went the opposite direction. Jordan almost completely stopped importing from Iraq, yet exports continued (at a higher level than ever before), making Jordan's previous trade deficit with Iraq into a trade surplus of JD 322 million in 2006. On the other hand, Jordan kept importing goods from the U.S. - but the Qualifying Industrial Zones agreement spurred a sharp growth in Jordanian manufacturing exports to the U.S. market, transforming Jordan's previous trade deficit with the U.S. into another trade surplus, of JD 520 million in 2006. See Table 3.

(in JD millions)	2001	2002	2003	2004	2005	2006	2007
Jordan's Overall Trade Balance	-1,827	-1,635	-1,887	-3,046	-4,393	-4,453	4,377
Jordan's Balance with Iraq	-187	-220	-42	316	360	322	291
Jordan's Balance with U.S.	-116	25	193	328	373	520	381

Source: Jordan's overall trade balance is from "Summary of External Trade Developments," CBJ Monthly Statistical Bulletin, Jan. 2007 and accessed online, April 25, 2007. Jordan's trade balance with Iraq and with the U.S. is from authors' calculations, based on "Geographic Distribution of Domestic Exports" and "Geographic Distribution of Imports," CBJ Monthly Statistical Bulletins, Jan. 2007 and Dec. 2007 and accessed online, April 25, 2007 and January 15, 2008.

America's replacement of Iraq as Jordan's primary trading partner has led to a clear shift in these countries' influence within Jordan. Before the war, Jordan depended upon Iraq not only as an export market for Jordanian-manufactured goods, but more importantly for subsidized oil supplies that gave Jordan fuel at a price it could afford. As a result, Iraq had a great deal of leverage over Jordan and corresponding influence within it. Now, Jordan does not depend on Iraq for any oil, only as an export market. But Jordan still imports substantial quantities of goods from the U.S., and more importantly Jordan exports even more to the U.S. due to preferential trade arrangements (the QIZs and the Free Trade Agreement). Jordan depends heavily upon this preferential access to the U.S. market, giving the U.S. much of the clout that Iraq formerly had.



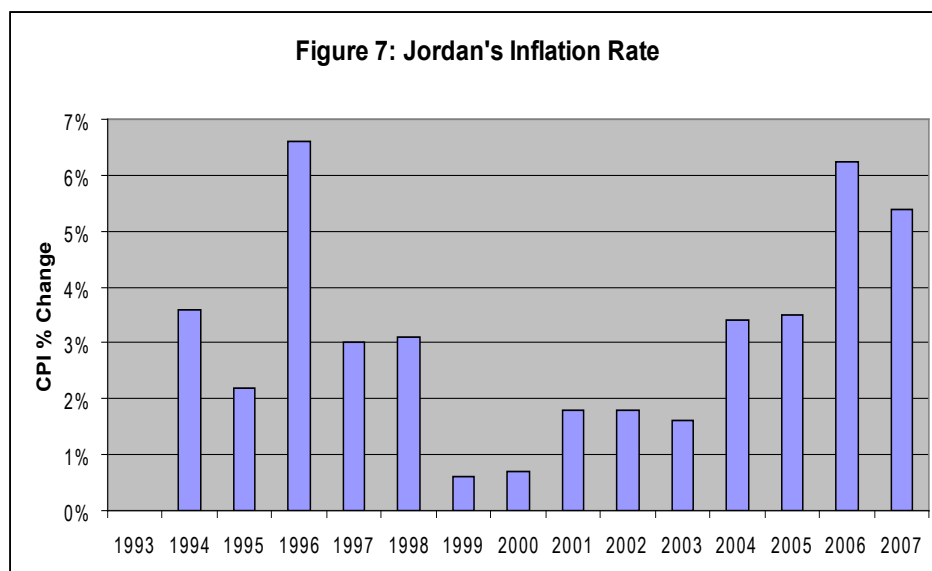
Source: See Table 3.

III. THE IRAQ WAR'S IMPACT ON INFLATION¹

Inflation rose to 6.25% in Jordan in 2006, from only 1.6% in 2003.² See Table 4 and Figure 7. The observed inflation is due to a variety of causes, some of which are related to the war: rising food prices, rising fuel prices, rising housing costs, a weaker dollar compared to other currency, rising costs of imports, rising interest rates, increased public spending, and a larger money supply.

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
3.6%	2.2%	6.6%	3.0%	3.1%	0.6%	0.7%	1.8%	1.8%	1.6%	3.4%	3.5%	6.25%	5.4%

Source: "Consumer Price Index," CBJ Monthly Statistical Bulletins, Dec. 2006, March 2002, Sept. 2000, July 1999, and accessed online, April 25, 2007 and January 23, 2008.



Source: See Table 4.

Within the consumer price index, food costs are the primary driver of increased inflation. Food items' CPI value was quite stable from 1999-2002, but in 2003 it increased 2.60%, followed by 4.58% in 2004, 5.13% in 2005 and 7.45% in 2006, for a total of 21% since 2002.³ Food items are weighted at about 40% of the CPI, making higher food prices the main cause of the overall CPI rise. In 2004 and 2005, for example, higher prices for food contributed about 2 percentage points out of the total inflation in each year, and nearly 3 points (half of total inflation) in 2006.⁴

1. Unless otherwise noted, "inflation" in this paper refers to the percentage change in the consumer price index.

2. Measured by change in the consumer price index. "Consumer Price Index," CBJ Monthly Statistical Bulletin accessed online Apr. 25, 2007.

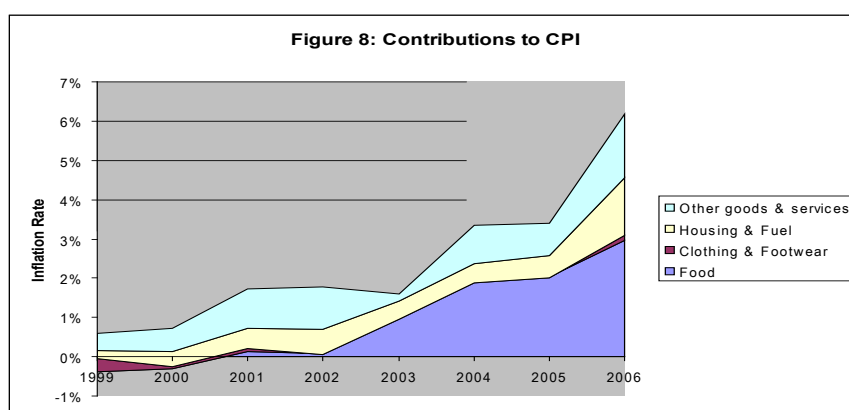
3 "Consumer Price Index," CBJ Monthly Statistical Bulletins, Jan. 2007 and March 2002.

4. Figures in this section are authors' calculations, based on "Consumer Price Index," CBJ Monthly Statistical Bulletins, Dec. 2006, March 2002, Sept. 2000, July 1999, and accessed online, April 25, 2007.

The CPI sector for housing (a broad category that includes fuel and electric costs) contributed about half a point of inflation each year from 1998-2005, as that part of the index increased annually at slightly less than 2% per year. In 2006, however, costs for housing contributed approximately 1.5 points out of Jordan's total inflation rate, a significant jump over the past. See Figure 8.

Within the broad housing category, the CPI sub-sector specifically for "housing and related expenses" has grown at a relatively steady annual average of 1.7% per year from 1998-2006. Inflation in housing costs since 2002 is not significantly higher than it was before 2002. This low level of inflation in "housing and related expenses" is surprising, because the arrival of hundreds of thousands of Iraqis in Jordan has been straining Amman's housing markets, leading to a broad popular perception that higher housing prices are driving inflation. The available statistics indicate that housing costs are not driving inflation. As will be discussed below in the section on "Housing and Real Estate," however, the CPI housing figure does not reflect the true increase in the cost of housing in Jordan, for two reasons. First, people who already own their house or apartment are not directly affected by the rising land prices.¹ Second, tenants whose leases are covered under Jordan's old restrictive landlord-tenant law are not exposed to high rent increases, since the law limits such increases.

On the other hand, also within the broad housing category, the CPI sub-sector for fuel and electric costs has shown dramatic growth. Volatility in fuel costs started even before the war; CPI fuel costs rose more than 8% in 2002, then another 4.5% in 2003, 5.1% in 2004, 9% in 2005 and an astounding 24% in 2006. Overall, the fuel and electric CPI sector has risen 54.4% since 2002. Rising fuel costs are also driving the overall CPI rise, but since fuel costs are weighted very lightly in the index (at 4.29%), they do not nearly have the overall impact that rising food prices have had. On the other hand, rising fuel prices indirectly influence almost all sectors of the economy, since most goods and services require fuel of some type as part of the cost of production.



Source: Authors' calculations, based on "Consumer Price Index," CBJ Monthly Statistical Bulletins, Dec. 2006, March 2002, Sept. 2000, July 1999, and accessed online, April 25, 2007.

1. The increase in price of property or assets for the people who own that property is classified as equity gain, rather than inflation.

Because most of the Iraqis in Jordan live in Amman, one might expect that inflation in Amman had been higher since the war than in other areas of Jordan. According to the official figures, however, the opposite is the case: Inflation in Amman since 2002 has been lower than inflation in Jordan as a whole. From 2002-2005 cumulatively, the cost of living in Amman rose 8.5%,¹ while in Jordan as a whole it rose 8.7% over the same period. In 2006, inflation in Amman was 6.1%, whereas in Jordan as a whole it was 6.3%. Table 5 shows that from 2002-2005 and in 2006, inflation in Balqa, Irbid, Mafreq, Jerash, Ajloun, Kerak, and Tafileh governorates was higher than inflation in Amman. These figures suggest that the Iraqis' arrival in Amman has not been a major cause of inflation.

Governorate	Inflation	
	2002-2005*	2006
Amman	8.5	6.1
Balqa	9.2	7.1
Zarqa	7.7	6.7
Madaba	9.4	6.0
Irbid	9.7	6.5
Mafreq	9.1	7.0
Jerash	9.1	6.9
Ajloun	10.4	6.6
Karak	9.6	6.8
Tafileh	11.3	7.5
Ma'an	7.8	6.6
Aqaba	6.6	5.5
JORDAN	8.7	6.3

Source: Figures provided by Department of Statistics.

* This is the cumulative rate of inflation from 2002-2005, not the annual rate of inflation for each year.

These figures show that consumer prices have risen more in many rural areas of Jordan than they have in Amman. One potential explanation for this unexpected finding is that two of the largest sectors driving inflation are rising food and fuel prices. In poorer areas of Jordan outside of Amman, a larger percentage of income is spent on necessities like food and fuel, and so inflation has hit people in these areas harder than it has hit Amman residents (who have a larger basket of consumption, in which food and fuel are less prominent). Even within the food sector, prices of fruits and vegetables have risen particularly sharply – meaning that people in poorer areas, for whom vegetables and fruits are more affordable than meat – are hit particularly hard.

1. Note that this is not an annual figure, but a cumulative figure for the entire rise in Amman's consumer price index from 2002-2005.

It is also important to note that measurements other than the consumer price index show even higher levels of inflation in Jordan. Jordan's wholesale price index increased 6.5% in 2006, higher than the CPI.¹ Higher prices on intermediate goods have been driving that increase; prices for goods such as fertilizers, fodder, and construction materials rose by 12% from 2002-2005 cumulatively, then rose another 8.5% in 2006. Transport equipment rose 18% cumulatively from 2002-2005, then rose another 9% in 2006.

Rising Food Prices

Figure 8 above shows that two-thirds of Jordan's inflation in 2004 and 2005, and half of its inflation in 2006, is due to rising food prices. Food prices have risen 21% since 2002. Among the sectors that have been driving food inflation is meat and poultry, the price of which has increased 23% since 2002; vegetables, which has increased 26%; cigarettes, which has increased 37%; sugar, which has also increased 37%; oils and fats, which has increased 25%; and fruits, which has increased 20%.²

Several explanations have been suggested for this dramatic rise. For example, food prices could rise as an indirect result of the rise in fuel prices, since fuel is needed to harvest crops and bring them to market. But fuel and electricity costs relative to other intermediate costs in food production stayed relatively constant from 2003-2004, the most recent year for which statistics are available.³ Though inflation jumped nearly two percentage points from 2003-2004, and the food consumer price index increased from 2.6% to 4.6%, the fuel and electricity costs as a percentage of food's intermediate production costs declined from 4.56% to 4.30%.⁴ More expensive fuel did not cause the increase in food prices in 2004.

Part of the price rise is due to higher prices on imported food. The price of food imported to Jordan has increased by almost 27% from 2003-2006.⁵ In addition, the arrival of about 800,000 Iraqis in Jordan (approximately 14% of Jordan's overall population)⁶ has increased demand for food. The amount of imported food has risen by 11% from 2003-2006.⁷

At the same time as demand for food in Jordan has grown, however, exports of Jordanian fruits, vegetables and milk to Iraq has reduced the domestic supply of food in Jordan, causing prices in Jordan to rise. This has also forced Jordanian consumers to rely more heavily on (increasingly expensive) imported food. As stated above, Jordanian fruits, vegetables and milk are being sent to Iraq to feed American military forces.⁸ While many people tend to blame the Iraqis in Jordan for increasing food prices here, American soldiers in Iraq eating Jordanian tomatoes may be a more important factor.

1. "Wholesale Price Index," CBJ Monthly Statistical Bulletin, accessed online May 23, 2007.

2. The weights of each sector vary, and have an important overall impact on the CPI. Food is weighted at 39.72% of the overall CPI. For example, meat and poultry price increases are particularly important, since they are weighted at 9% of the overall CPI (and account for approximately 1/4 of the food sector). Vegetables are weighted at 3.53% of the overall CPI and fruits are weighted at 2.44%. "Consumer Price Index," CBJ Monthly Statistical Bulletin, accessed online May 21, 2007.

3. The most recent figures available are from 2004.

4. Authors' calculations, based on figures from the Department of Statistics (DOS), Industry Survey 2004, 1999, and DOS online statistics.

5. In 2003, the price index for imported food and live animals was 101.7 (based on 1994 prices). By 2006, the price index had risen to 128.4. This appears to be a function both of rising international food prices and also a weaker exchange rate for the dollar, to which Jordan's dinar is directly tied.

6. Jordan's population was 5.6 million in 2006. "Main Economic Indicators," CBJ Monthly Statistical Bulletin, accessed May 15, 2007.

7. "Price and Quantity Indices of Imports," CBJ Monthly Statistical Bulletin, accessed May 20, 2007.

8. Telephone conversation with official in the Department of Statistics, May 23, 2007.

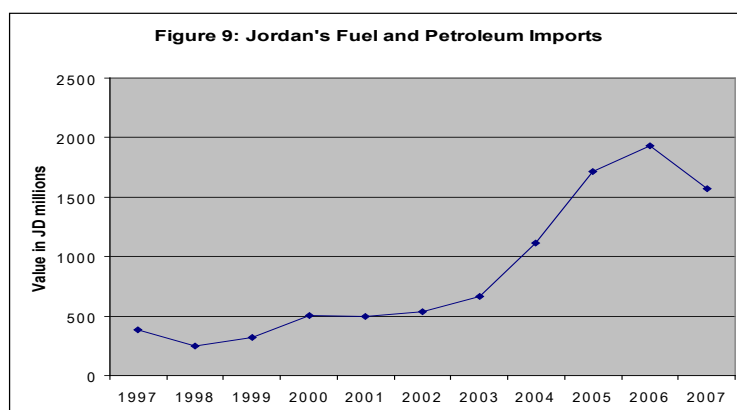
Before the economic crisis of 1989, Jordan's Ministry of Supply used to control the prices for basic foods, including wheat, bread, sugar, rice, milk, beef, lamb and poultry. These goods would be sold either above or below international prices, and the government would make a corresponding profit or loss. After 1988, the cost of subsidies rose substantially – to the point that after the economic crisis of 1989, IMF stabilization programs mandated that the Jordanian government stop controlling prices on most food items. Subsidies on many goods were restricted to low-income families in 1994, and in 1999 most price controls on food (except for 14 strategic commodities¹) was replaced by targeted assistance to needy families. Thus, since the government retains little control over food prices today (except for the strategic commodities), it is unable to use direct price control as a tool to restrain inflation.

Rising Fuel Prices and Declining Fuel Subsidies

The end of subsidized oil shipments from Iraq has meant that Jordan now must buy its oil on the world market, where prices have been high in recent years. As a consequence, the amount Jordan spends on fuel and petroleum products has skyrocketed. Table 6 and Figure 9 show that Jordan's fuel and petroleum imports have increased from JD 540 million in 2002 to JD 1.7 billion in 2005, an increase of 217% over just four years. Oil imports continued to increase in 2006, though at a slower rate of growth, to JD 1.9 billion.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Value (in JD millions)	384	252	319	509	495	540	661	1,110	1,714	1,933	1,572

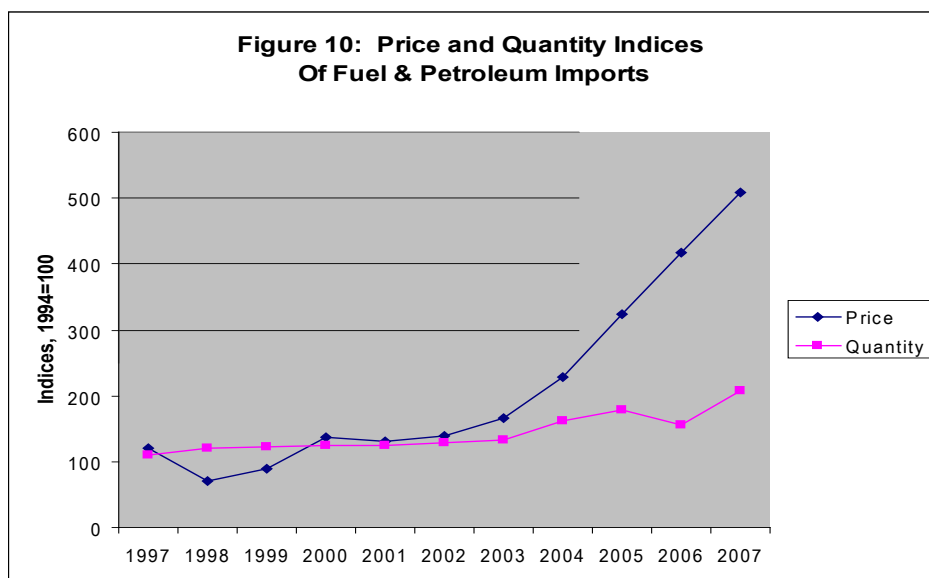
Source: "Imports by Commodity," CBJ Monthly Statistical Bulletin, Dec. 2007, Dec. 2006, March 2002, Sept. 2000, July 1999. Accessed online, April 25, 2007 and January 15, 2008.



Source: See Table 6.

1. The strategic commodities are wheat, flour, bran, barley, corn, rice, sugar, milk, imported red meat, olive oil, cement, oil and its derivatives (gasoline, etc.), and iron used for construction.

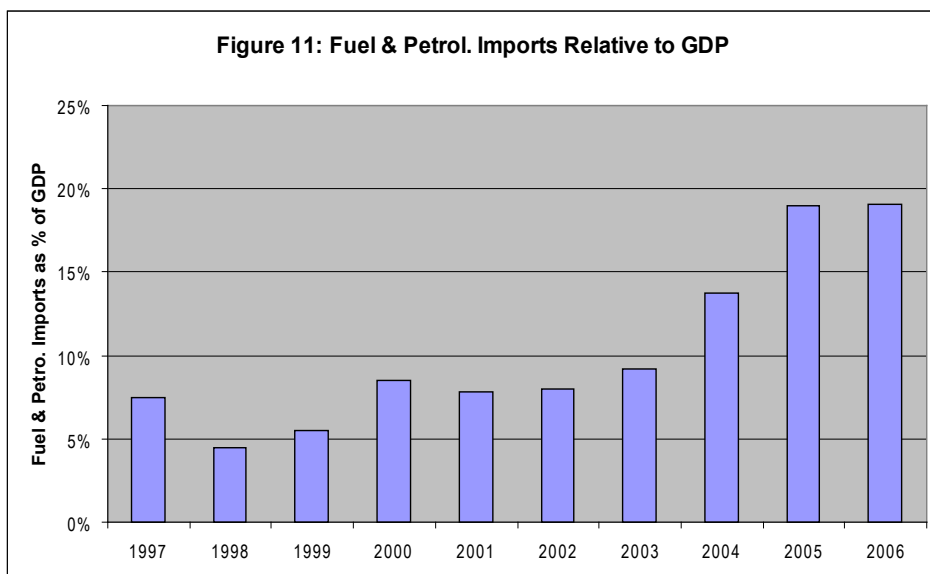
Jordan's increased spending on fuels is driven by the higher prices it has paid since the end of subsidized oil from Iraq and the Gulf. The price Jordan pays for oil increased 134% (accounting for inflation) from 2002 through 2005, and prices continue to rise – by 29% in 2006 alone. The quantity of Jordan's imports of oil from 2002-2005 also increased by 38%, though in 2006 it declined by 13% as oil became far more expensive.¹ As the following figure shows, the skyrocketing amount of money Jordan spends on fuel has been driven largely by rising oil prices rather than increased Jordanian consumption.



Source: "Price and Quantity Indices of Imports," CBJ Monthly Statistical Bulletin, Dec. 2007, Dec. 2006, March 2002, Sept. 2000, July 1999, and accessed online, April 25, 2007 and January 23, 2008.

The dramatic increase in oil prices has had an immense impact on how Jordan spends its GDP. See Figure 11. From 2003-2005, Jordan's fuel and petroleum imports doubled as a percentage of Jordan's GDP – from 9% to 19%. This means that in 2005, Jordan was spending nearly a fifth of its national income on fuel imports – double the levels it had sustained in the late 1990s. The rising oil prices had a major negative impact on Jordan's balance of payments, as its overall trade deficit increased from JD 1.9 billion in 2003 to JD 4.4 billion in 2005. In 2006, the level of fuel imports as a percentage of GDP appeared to stabilize at about 19%, suggesting that Jordan has reached a plateau in terms of its energy imports relative to the rest of the economy.

1. "Quantity Indices of Imports," CBJ Monthly Statistical Bulletin, Dec. 2006 and accessed online, April 25, 2007. 1994=100. Using figures for "mineral fuels and lubricants."



Source: Authors' calculations, based on "Main Economic Indicators" and "Imports by Commodity," CBJ Monthly Statistical Bulletins, Dec. 2006, March 2002 and accessed online, April 25, 2007.

Compared to other countries, Jordan is spending a relatively high percentage of its GDP on fuel and petroleum imports. In 2004, the most recent year for which statistics are available, Jordan's energy intensity was 10,591 Btus per U.S. dollar of GDP.¹ This is not high compared to other Middle Eastern states; it is significantly lower than the Gulf oil-exporting states and more than three times lower than Syria. Internationally, however, this is a relatively high proportion of GDP to spend on fuel imports. It is just higher than the U.S. (9,336 Btus per dollar), and significantly higher than most European states (the UK is 6,205 Btus per dollar; Turkey is 6,057 Btus per dollar), but lower than Russia (15,763 Btus per dollar). Spending such a high percentage of its GDP on fuel imports is likely to retard the Jordanian economy's growth, as businesses' costs of production are raised and fewer resources are available for investment and production elsewhere.

Since 2000, Jordan has directly subsidized consumers' fuel purchases, absorbing some of the shock of rising fuel prices.² In 2000 and 2001, the government spent over JD 100 million on fuel subsidies. See Table 7 and Figure 12. Subsidies dipped in 2002, but started rising again in 2003. In 2004 and 2005, as oil prices rose sharply, the subsidies cost the government JD 262 million and JD 531 million respectively.³ However, the Jordanian government has been steadily reducing those subsidies both for fiscal policy reasons and due to the terms of international structural adjustment programs. As the government cut subsidies in 2006, subsidies cost the

1. U.S. Energy Information Administration, International Energy Annual 2004, Table E.1p: World Energy Intensity - Total Primary Energy Consumption per Dollar of Gross Domestic Product Using Purchasing Power Parities, 1980-2004.

2. The Jordanian government compensates the Jordan Petroleum Refinery for purchases of crude oil on the international market, and then the government sets the prices for petroleum products that the refinery sells to consumers. While the prices of diesel products (including home heating oil) are subsidized, benzene is sold at international prices.

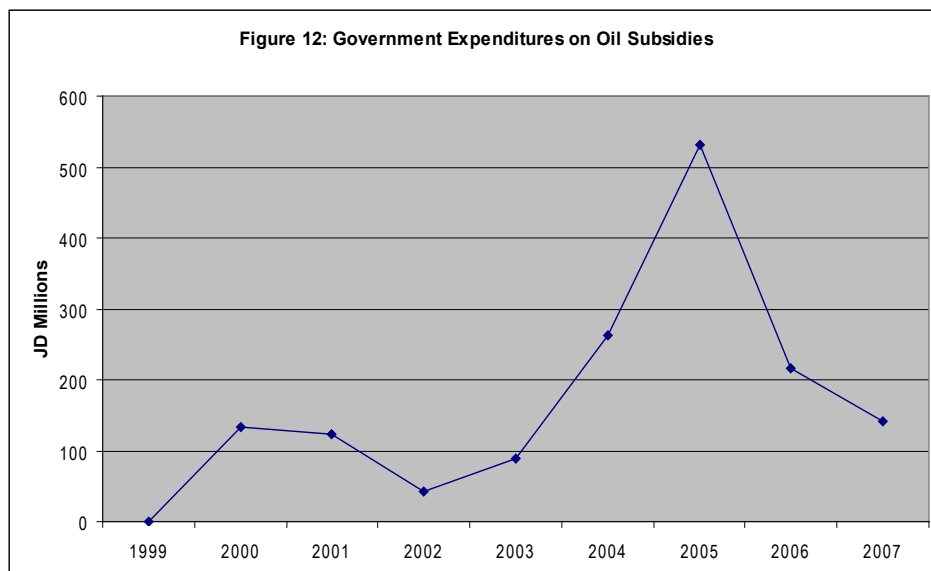
3. Preliminary figures. Ministry of Finance, Government Finance Bulletin, March 2007 (Table 4).

government only JD 216 million.¹ As a result, gasoline, cooking gas and home heating oil prices for Jordanian consumers have risen dramatically – the fuel and electric component of Jordan’s CPI was 54.4% higher than its 2002 level as of March 2007.²

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Expenditures (JD mil- lions)	0.0	133.0	124.0	42.0	88.7	262.4	530.8	215.7	140.6

Source: Ministry of Finance, Government Finance Bulletin, Dec. 2007, March 2007, Nov. 2006 (Table 4) and Jan 2005 (Table 6).

* We should note that there were two supplements to the budget in 2007. real figures regarding oil subsidies are far more than the JDs 140.6 million. It I estimated at about JDs 740 million.



Source: See Table 7.

Housing and Real Estate

The presence of numerous Iraqi migrants in Jordan has enhanced inflationary pressures in the housing market, many of which are difficult to capture in official figures. There is no question that Amman housing prices have risen dramatically, as the supply of housing has been unable to keep pace with the hundreds of Iraqis arriving in Jordan each day before November 2006.³ It is important to distinguish, however, between increases in housing prices and increase in the housing component of Jordan’s CPI.

1. Preliminary figure, *ibid.*

2. “Consumer Price Index,” CBJ Monthly Statistical Bulletin, accessed online May 23, 2007.

3. Unfortunately, there appears to be no reliable index of the price of land in Amman or in Jordan.

The housing component of Jordan's CPI in March 2007 stood at 7.1% above its 2002 level. It is important to note that this relatively low figure does not, however, reflect how much it costs to buy land, a house, or an apartment, for a variety of reasons. First, Jordan's Department of Statistics acknowledges that the CPI under-estimates rent in its calculations, and the department is investigating ways to address the issue.¹ Second, rising real estate prices do not directly affect Jordanians who already own land, an apartment or a house. They do not pay higher monthly rent fees as a result of the rising housing prices, and so their housing expenditures have not increased. Third, Jordan's landlord-tenant law gives favorable terms to tenants who continue to live in the same apartment, limiting the amount that their rents can be raised.² As a result, although rents for unoccupied apartments have risen dramatically, the rents most tenants are actually paying are far lower. The people who are suffering most harshly from higher real estate prices are young people hoping to buy or rent their first apartment or house.³

The number and value of Iraqi transactions has skyrocketed since 2002. See Table 8 and Figure 13. The value of Iraqi transactions in the Jordanian housing market has doubled each year since 2002, going from a miniscule JD 4.9 million in 2002 to JD 100 million in 2005. From 2003-2004 alone, the value of Iraqi real estate transactions in Jordan tripled, from JD 13.2 million in 2003 to JD 41.2 million in 2004, as the following figure shows. The value of Iraqi real estate transactions relative to other foreign transactions also continues to increase dramatically, from 21% in 2002 to 68% in 2005. See Figure 14.

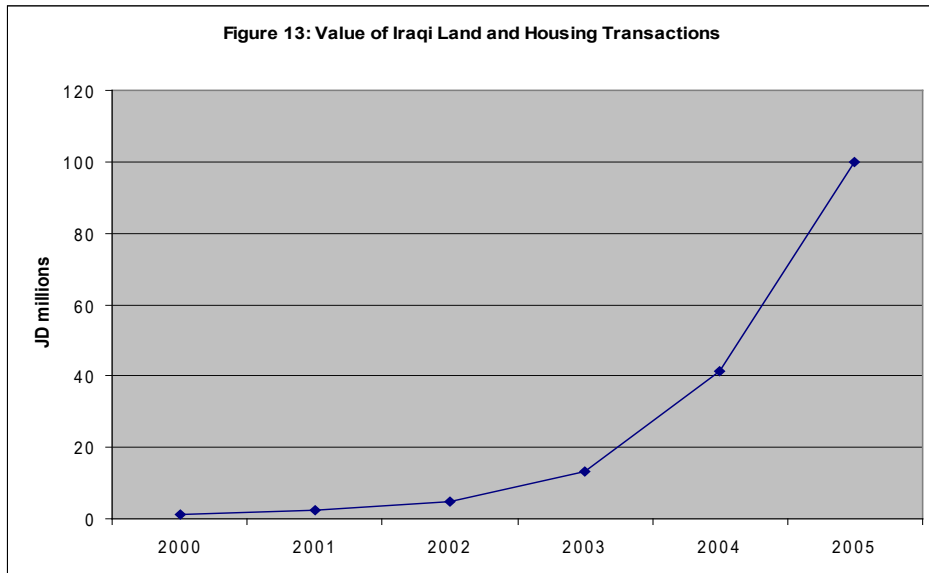
	2000	2001	2002	2003	2004	2005
Number of Transactions	56	59	125	202	730	1,811
Value (JD millions)	1.4	2.3	4.9	13.2	41.2	100

Source: Land Administration, and The Iraqi Status and its Effects on the Jordanian Economy, Friedrich Ebert Stiftung, June 2005.

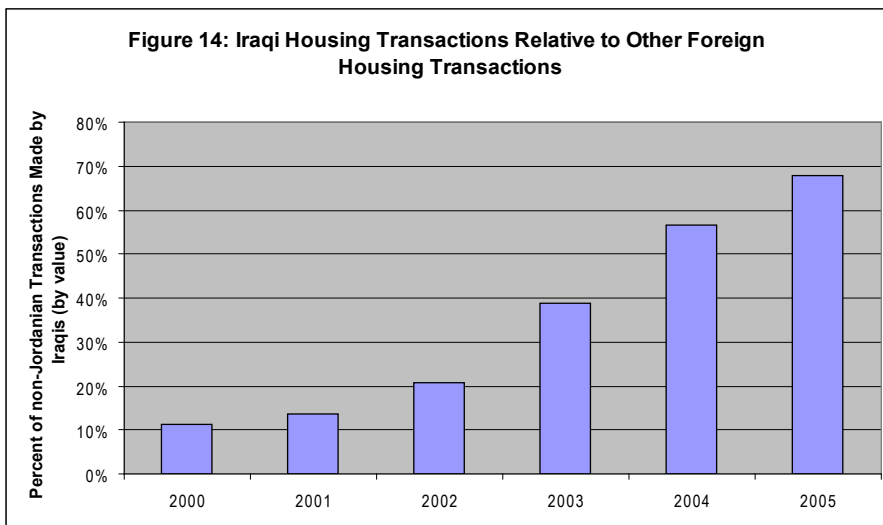
1. Comments from Dr. Ghazi Shbeikat, in roundtable discussion at the Center for Strategic Studies, May 24, 2007.

2. Telephone conversation with official in the Department of Statistics, May 23, 2007.

3. This has significant social implications, since most "young people" are actually young recently married couples. Since the ability to provide independent living arrangements may be a prerequisite to marriage for many couples, rising housing prices have in a sense raised the "cost of marriage."



Source: See Table 8.



Source: Land Administration, and The Iraqi Status and its Effects on the Jordanian Economy, Friedrich Ebert Stiftung, June 2005.

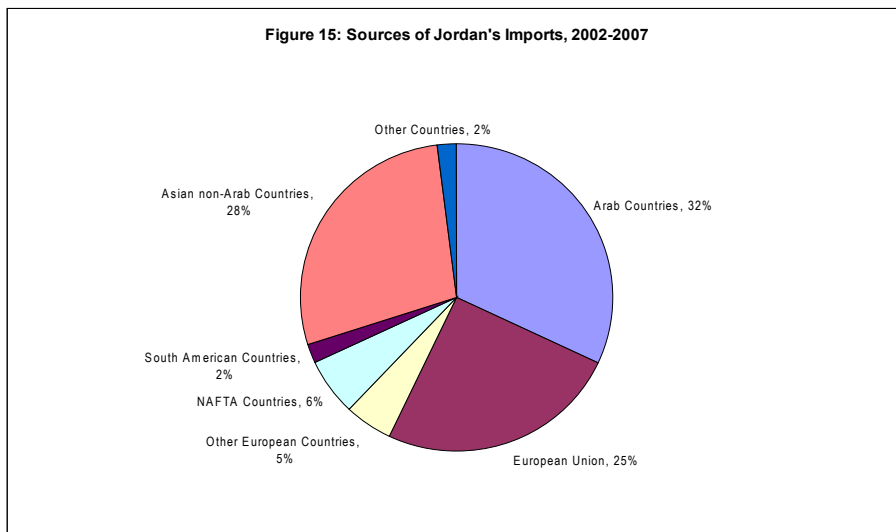
Though housing transactions by Iraqis are increasing greatly relative to other non-Jordanian housing transactions, they still represent a very small percentage of all housing transactions in Jordan. Of all housing transactions in Jordan in 2005, only 2.6% of them (by value) were

made by non-Jordanians, and 1.8% of them were made by Iraqis.¹ This figure does not include, however, transactions where land was bought or sold by a foreigner, but the transaction was made by a Jordanian agent.

Exchange Rates

One quarter of Jordan's total imports from 2002-2006 came from European Union countries.² Jordan imports mostly machinery, transport equipment, and chemicals from Europe, including cars, telecommunications equipment, and pharmaceutical products. This heavy dependence on Europe for imports means that exchange rate fluctuations between the Jordanian dinar and the Euro have a heavy impact on the price of imported goods within Jordan.

Europe is not the only important source of imports for Jordan. Jordan imported an average of 32% of its imports from Arab countries from 2002-2005, but the vast majority of that was fuel, the price fluctuations of which have already been discussed above. Twenty-eight percent of Jordan's imports came from Asian countries, of which China was the largest exporter to Jordan. Asia is the only other source of non-oil exports to Jordan that compares in significance to the European Union. See Figure 15.



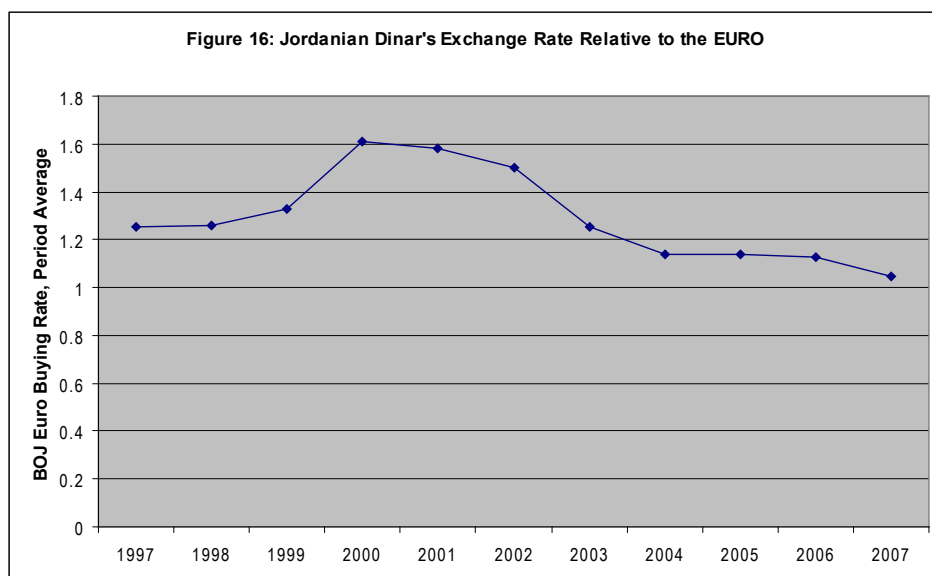
The majority of Jordan's imports from Arab countries consists of fuel. Authors' calculations, based on «Geographic Distribution of Imports,» CBJ Monthly Statistical Bulletin, accessed online May 27, 2007 and January 15, 2008.

In recent years, the appreciation of the Euro relative to the dollar (and, thus, the dinar) has made buying imported EU commodities more expensive in Jordan. From 1997-2000, the dinar rose in value relative to the EURO, making imports from Europe cheaper for Jordanian consumers. But the dinar's sharp relative decline in value since 2001 has again made European imports expensive for Jordanians. The official buying rate for the Euro decreased from

1. Authors' calculations from figures provided by the Land Administration, Table 2, "Land and Housing Sales to non-Jordanians."

2. Authors' calculations, based on "Geographic Distribution of Imports," CBJ Monthly Statistical Bulletin, accessed online May 27, 2007.

an average of 1.580 in 2001 to 1.137 in 2005, a drop of 28%.¹ See Figure 16. European products are now even more expensive for Jordanians than in the late 1990s, before the dinar gained relative to the Euro.



Source: "Exchange Rates of Major Foreign Currencies Announced by the CBJ," CBJ Monthly Statistical Bulletin, Dec. 2007, Dec. 2006 and March 2002 and accessed online January 23, 2008.

The EU accounts for about a quarter of Jordan's imports,² and the resulting price increases on EU products have reinforced inflation in Jordan. The impact of the Euro exchange rate upon inflation in Jordan appears to be limited, however, because the exchange rate worsened sharply for Jordan from 2001-2003 when overall inflation was relatively low. From 2004-2006, the exchange rate has held relatively steady, yet in this period inflation has accelerated.

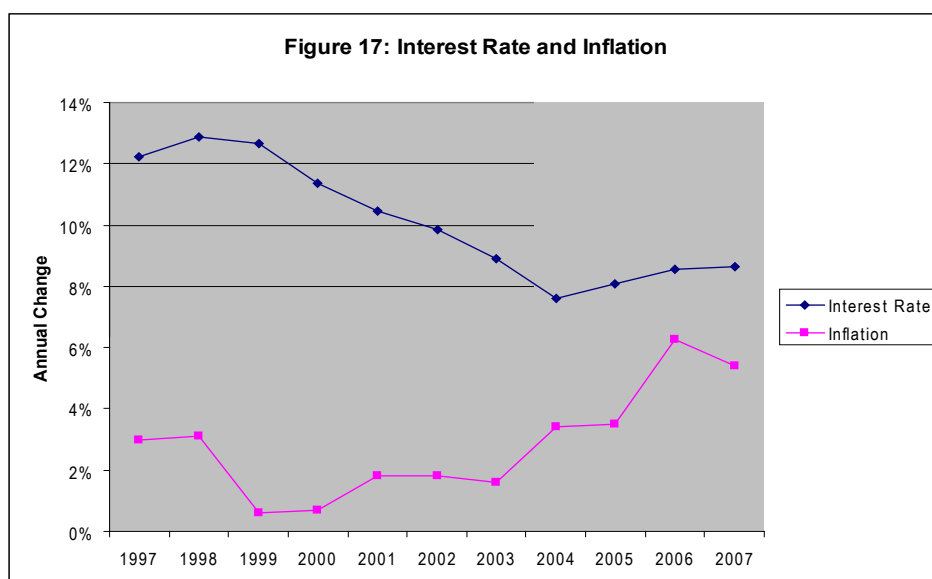
Interest Rate

Increasing real interest rates means that the cost of borrowing becomes more expensive, hence increasing the cost of doing business. Normally, this monetary tool is utilized to control inflation, but when an expanded credit market already exists, some sectors suffer. This is particularly true in housing markets; an increase in interest rates will be reflected in higher costs for borrowers and hence higher rent for the new tenants. This is one factor that has contributed to higher rent in Jordan over the last few years. Additionally, an increase in the interest rate will reduce demand on new mortgage lending from commercial banks, thus reducing the available supply of properties for rent.

1. "Exchange Rates of Major Foreign Currencies Announced by the CBJ," CBJ Monthly Statistical Bulletin, Dec. 2006.

2. "Geographic Distribution of Imports," CBJ Monthly Statistical Bulletin, Dec. 2006.

Jordan's interest rate for loans and advances in 2006 was 8.56%.¹ See Figure 17. This is low compared to interest rates over the last ten years, though the interest rate has increased steadily since it hit a low of 7.59% in 2004. The figure below demonstrates how the inflation rate and interest rate have corresponded since 2004, in defiance of the conventional wisdom about the negative relationship between the two variables, which was clearly the case prior to 2004.



Source: "Interest Rates Structure," CBJ Monthly Statistical Bulletins, January 2007, February 2002 and accessed online, May 10, 2007 and January 25, 2008.

IV. GROWTH: LOCAL AND FOREIGN DIRECT INVESTMENT IN JORDAN

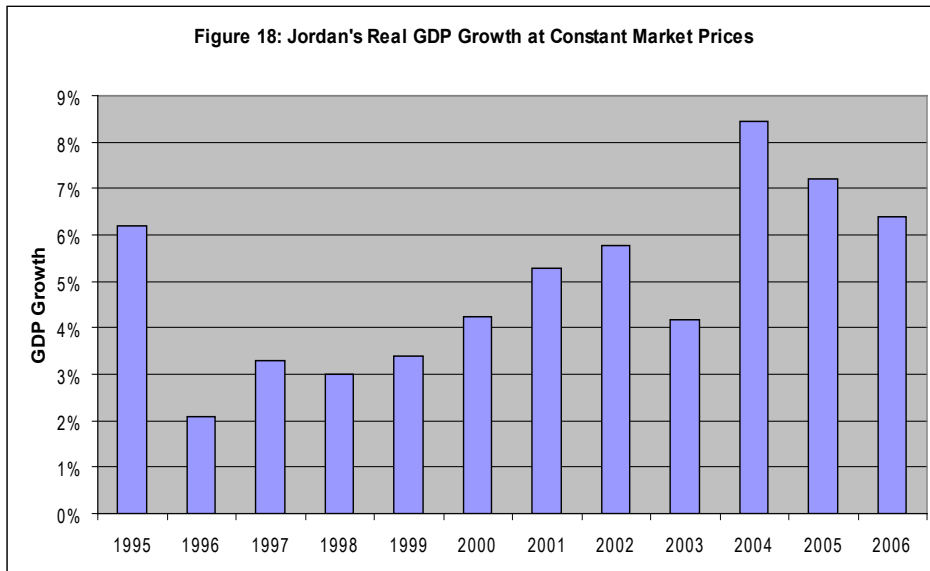
Iraqis in Jordan are quick to point out the strong growth that their consumption and investments have brought to the Jordanian economy. And indeed, Jordan's real GDP has grown substantially since the war. Growth from the late 1990s to 2003 had increased from about 3% to nearly 6%, and after dipping in 2003, it accelerated dramatically to over 8% in 2004. Since then it has declined slowly, to 7.2% in 2005 and 6.4% in 2006. See Table 9.

Table 9: Jordan's Real GDP Growth

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
6.2%	2.1%	3.3%	3.0%	3.4%	4.3%	5.3%	5.8%	4.2%	8.4%	7.2%	6.4%

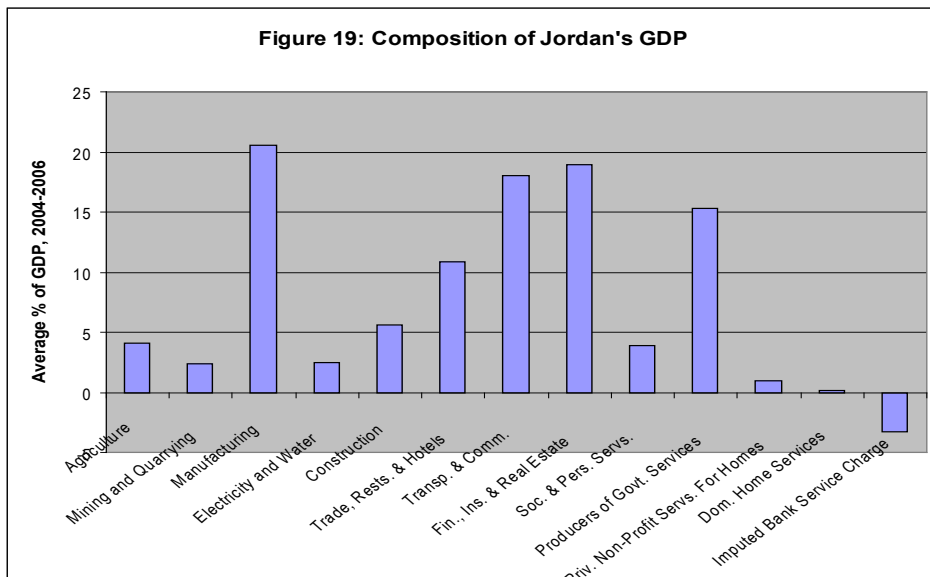
Source: CBJ Yearly Statistical Series and "Industrial Origins of Gross Domestic Product at Current Prices," CBJ Monthly Bulletin accessed online, April 26, 2007.

1. "Interest Rates Structure," CBJ Monthly Statistical Bulletins, January 2007, February 2002 and accessed online, May 10, 2007.



Source: See Table 9.

Jordan's economy is dominated by several sectors: manufacturing (21.3% of GDP), finance, insurance and real estate (18.6% of GDP), transport and communications (18.1% of GDP), and government services (14.8% of GDP). The sectors of retail trade, restaurants and hotels (11% of GDP) and construction (5.8% of GDP) also play a significant role. See Figure 19.

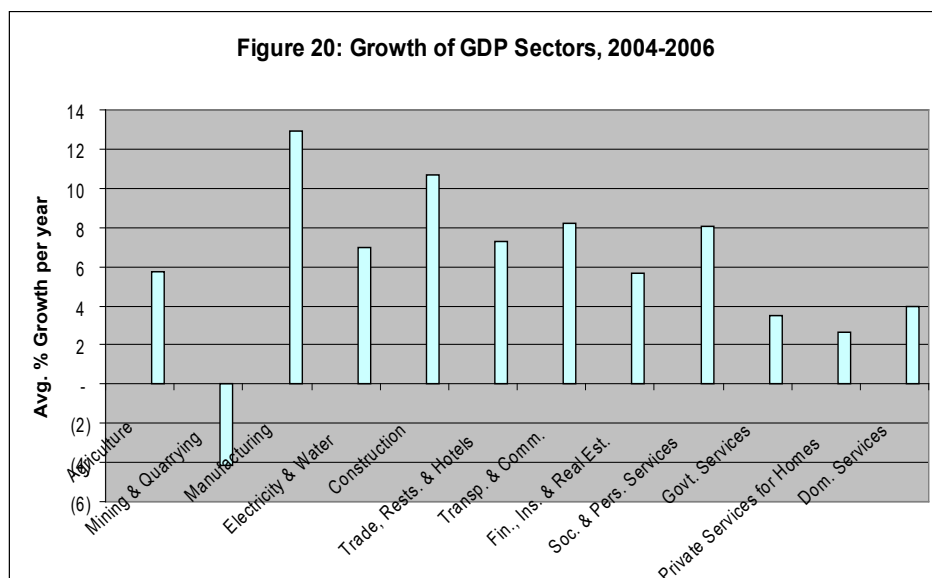


Source: "Sectoral Relative Importance of Gross Domestic Product at (1994) Prices," CBJ Monthly Statistical Bulletin, accessed online, May 16, 2007.

Since 2003, two sectors stand out as driving Jordan's economic growth: manufacturing and construction. Manufacturing was the fastest-growing sector, at an average of 12.9% per year from 2004-2006.¹ It grew a staggering 16.9% in 2004, and has cooled off slightly since then, to a rate of 10.6% in 2006. See Figure 20. Manufacturing growth is largely fueled by Jordan's enormous exports from Qualifying Industrial Zones to the U.S., rather than by factors related to the Iraq war.

Jordan's construction sector has grown by an average of 10.7% each year since 2003, which can be directly traced to the increased demand for the housing of about 800,000 Iraqis in Jordan. Growth in this largely non-tradeable sector may have implications for the competitiveness of Jordan's manufacturing exports.

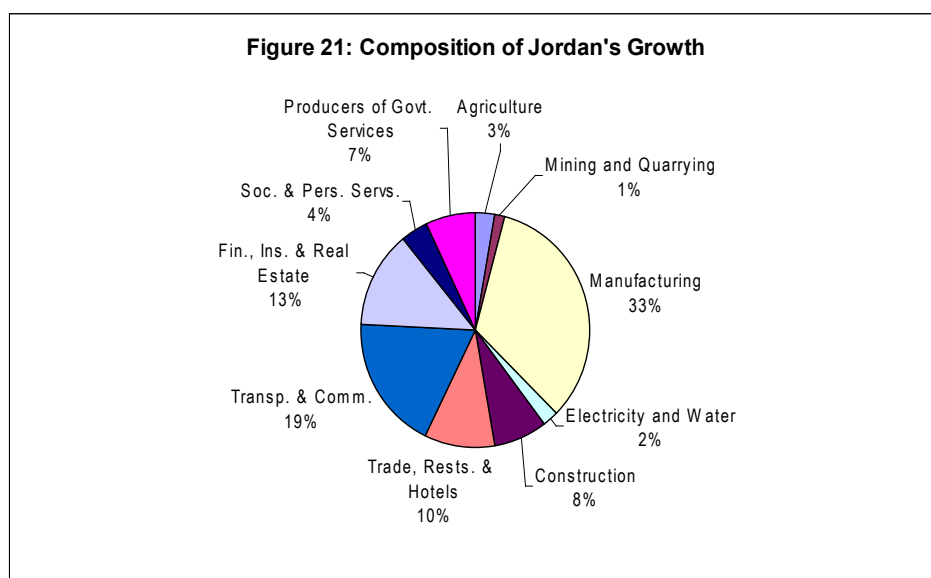
Other sectors that were likely impacted by the war include finance, insurance and real estate (average 5.6% growth since 2003), transportation and communication (average 8.2% growth), retail trade, hotels and restaurants (average 7.3% growth), and water & electricity (average 7% growth).



Source: Authors' calculations, based on "Sectoral Percentage Changes of Gross Domestic Product at (1994) Prices," CBJ Monthly Statistical Bulletin, accessed online, April 26, 2007.

1. Authors' calculations, based on "Sectoral Percentage Changes of Gross Domestic Product at (1994) Prices," CBJ Monthly Statistical Bulletin, accessed online, April 26, 2007.

By multiplying the weight of each sector by its growth from 2004-2006, we can illuminate how much each economic sector contributed to Jordan's annual economic growth during this period. Jordan's GDP grew by an average of 7.6% per year from 2004-2006, of which almost half (2.7 points) were due to growth in the manufacturing sector.¹ Other sectors contributing strongly to annual growth were transportation and communication (1.5 points), finance, insurance and real estate (1.1 points), trade, restaurants and hotels (0.8 points), construction (0.6 points) and government services (0.5 points). In relative terms, this means that manufacturing contributed 33% of Jordan's growth from 2004-2006, transport and communication contributed 19%, finance, insurance and real estate contributed 13%, retail trade, hotels and restaurants 10%, and construction 8%. See Figure 21.



Source: Authors' calculations based on Figures 19 and 20. Sectors contributing less than 1% to growth are omitted.

This breakdown of annual growth shows that the construction sector, which is often associated with increased Iraqi investment, actually contributed relatively little to Jordan's economic growth from 2004-2006. The retail trade, restaurant and hotel sector, which is similarly associated with increased Iraqi consumption, also fueled relatively little of the growth.² Larger sectors like manufacturing and transport contributed far more GDP growth. As shown below, however, Iraqis have invested in Jordanian manufacturing, so their investments contributed to GDP growth through this pathway.

1. Authors' calculations based on CBJ Monthly Statistical Bulletin, accessed online, May 16, 2007.

2. Another way to analyze the growth and potential for growth in the retail trade and banking sectors would be to measure Iraqi bank deposits in Jordanian banks, as a measure of Iraqis' spending power. Unfortunately, the Central Bank of Jordan claims that it does not keep figures on Iraqi bank deposits. Letter to authors, May 2007. Nevertheless, it has been reported that to obtain residency in Jordan, an Iraqi must deposit about \$150,000 in a Jordanian bank, half of which remains frozen to guarantee a secure source of income. HRW, "The Silent Treatment," p. 51. This gives an indication of the volume of Iraqi deposits in Jordanian banks.

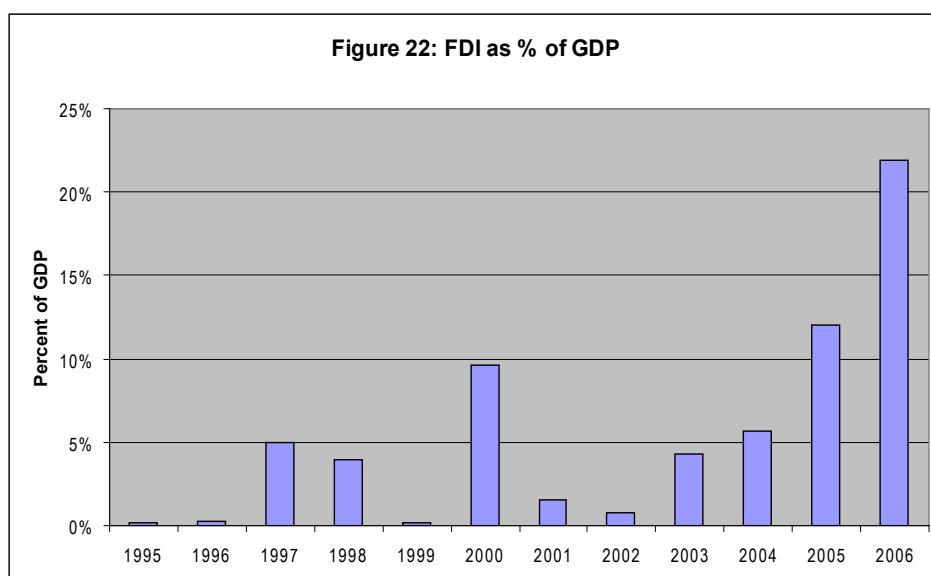
Foreign Direct Investment

There has been a stunning boom in foreign direct investment in Jordan since 2003. In 2002, FDI flows to Jordan were only JD 52.8 million. In 2003, they jumped nearly sixfold to JD 309.3 million, increased to JD 461.6 million in 2004, and then doubled again in 2005 to a stunning JD 1.086 billion. In 2006 they doubled yet again, to JD 2.2 billion.¹ See Table 10. Its importance relative to GDP has similarly increased, to over 20% of GDP in 2006. See Figure 22. This massive influx of foreign investment has dramatically increased demand for a wide variety of products in Jordan.

Table 10: Foreign Direct Investment in Jordan

	1995	1996	1997	1998	1999	2000	2001	2002	2002	2004	2005	2006
FDI	9	11	256	220	12	578	98	53	309	462	1086	2213
GDP	4,561	4,711	5,138	5,610	5,767	5,992	6,384	6,794	7,229	8,081	9,012	10,109
FDI as % GDP	0.2%	0.2%	5.0%	3.9%	0.2%	9.6%	1.5%	0.8%	4.3%	5.7%	12.1%	21.9%

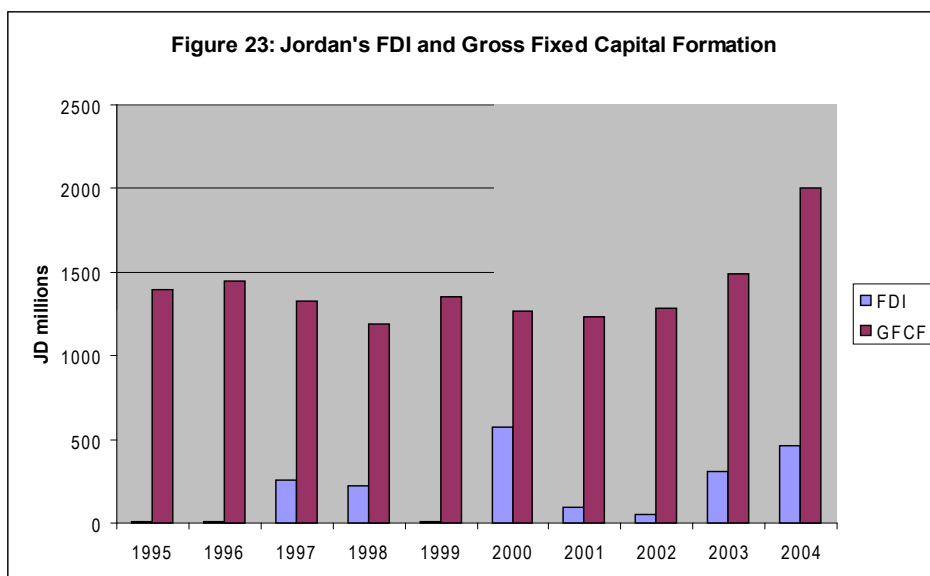
Source: Authors' calculations, based on CBJ Monthly Statistical Bulletins and UNCTAD, World Investment Report 2006. Figures are in JD millions.



Source: Authors' calculations. GDP is from "Main Economic Indicators," CBJ Monthly Statistical Bulletin, Dec. 2006, March 2002, and accessed online, April 26, 2007. FDI is from UNCTAD World Investment Report 2006.

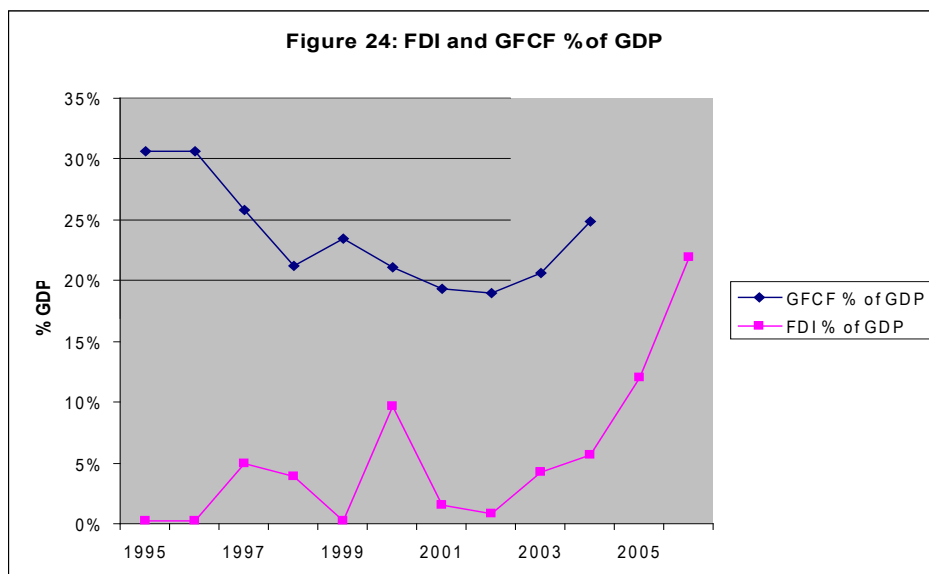
1. "Main Economic Indicators," CBJ Monthly Statistical Bulletin, Dec. 2006.

Over the last four years, not only has FDI jumped remarkably, but its importance relative to local Jordanian investment has increased. From 1995-2002, FDI in Jordan was low (less than 1% of total investment), with the exception of aberrational years like 2000 in which the privatization of public sector entities was recorded as foreign investment. In 2002, FDI accounted for 3.9% of total investment in Jordan, and its proportion has increased markedly since – to 17% of total investment in 2003 and 18% of total investment in 2004, the most recent year for which gross fixed capital formation figures are available. See Figure 23. Considering the massive absolute growth in FDI in 2005 and 2006, it is almost certain that FDI has continued to contribute a greater percentage of investment in Jordan than ever before.



Source: Gross Fixed Capital Formation (GFCF) is from "Total Demand and Total Supply," CBJ Monthly Statistical Bulletin, March 2002 and Dec. 2006. FDI 2001-2005 is from "Main Economic Indicators," CBJ Monthly Statistical Bulletin, March 2002 and Dec. 2006. FDI 1995-2000 is from UNCTAD, "World Investment Report 2006" and converted into JDs at a rate of .709.

Both FDI and Jordanian investment have increased in recent years relative to Jordan's fast-growing GDP. See Figure 24.



Source: Authors' calculations. Gross Fixed Capital Formation (GFCF) is from "Total Demand and Total Supply," CBJ Monthly Statistical Bulletin, March 2002 and Dec. 2006. FDI 2001-2005 is from "Main Economic Indicators," CBJ Monthly Statistical Bulletin, March 2002 and Dec. 2006. FDI 1995-2000 is from UNCTAD, "World Investment Report 2006" and converted into JDs at a rate of .709. GDP is from "Main Economic Indicators," CBJ Monthly Statistical Bulletin, March 2002 and Dec. 2006.

Iraqi Investments Benefiting from Investment Promotion Law

This surge of FDI has come increasingly from Arab investments in Jordan, rather than from Jordanian local investment or from foreign non-Arab investment. But while Iraqi investment increased twenty-fold from 2004-2006, it is still small compared to investment from other Arabs.

Investment in large-scale projects in Jordan grew dramatically from 2004-2006.¹ Total investment benefiting from the investment promotion law nearly doubled from 2004-2005 (from JD 418 million to JD 749 million), and then it doubled from 2005-2006 (to JD 1.833 billion). See Table 11. Investment in manufacturing constituted 75% of overall investment, with investment in hotels at 11%, investment in transportation and distribution of water, gas and oil at 7%, and investment in agriculture at 4%.

While local investment has increased over these three years, the vast majority of the growth has been driven by non-Jordanian Arab investment. Arab (excluding Iraqi) investment in Jordan benefiting from the investment promotion law grew from 5.7% of total investment in 2004 (JD 23.7 million) to 20.8% of investment in 2005 (JD 155.8 million), and to 36.8% of total investment in 2006 (JD 675.2 million). See Figure 25. Correspondingly, though local

1. Figures provided by the Jordan Investment Board. These figures include investments that benefited from Jordan's Investment Promotion Law, which gives tax incentives to major investors. While this does not include all FDI invested in Jordan, it covers most major sectors except construction. One should take into account that Iraqis may be particularly active in the construction sector.

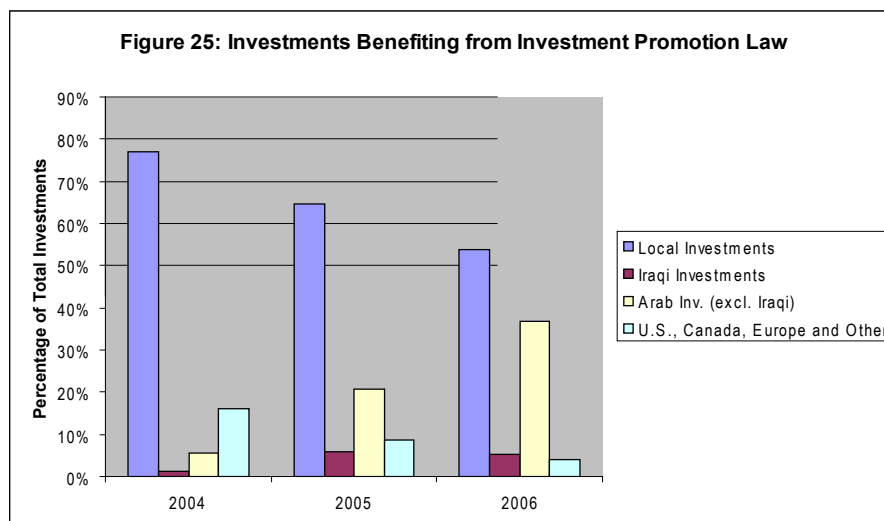
Jordanian investment grew in absolute terms from JD 322.7 million in 2004 to JD 988 million in 2006, it decreased in relative terms from 77.1% of overall investment to 53.9%.

Like Arab investment, Iraqi investment rose staggeringly from 2004 to 2006. Iraqi investment was only 1.1% of overall investment in 2004, at JD 4.6 million. But it quadrupled by 2005 to JD 45.2 million, making it 6% of overall investment. Then it doubled in absolute terms from 2005-2006, to JD 98.5 million, though as a percentage of overall investment it declined to 5.4%. Overall, from, from January 13, 2004 through November 27, 2006, Iraqi investment benefiting from the Investment Promotion Law amounted to JD 148 million – about 14.5% of total Arab investment¹ and about 5% of total investment in Jordan.

Table 11: Local and Foreign Investment in Jordan Benefiting from Investment Promotion Law

	Local	Arab (Excl. Iraq)	Iraq	US & Canada	Europe	Other Countries	Total
2004	322,674,046	23,671,117	4,591,462	12,259,215	5,807,889	49,323,120	418,326,849
2005	483,694,140	155,753,378	45,180,620	11,444,319	39,159,010	14,751,667	749,983,134
2006	987,993,342	675,228,573	98,486,782	21,595,000	8,924,168	41,413,555	1,833,641,420
TOTAL	1,794,361,528	854,653,068	148,258,864	45,298,534	53,891,067	105,488,342	3,001,951,403

Source: Figures provided by Jordan Investment Board.



Source: Authors' calculations, based on figures provided by the Jordan Investment Board.

1. This calculation includes Iraqi investment within total Arab investment.

The vast majority of Iraqi investment tracked by the Jordan Investment Board has been and continues to be in industry. Iraqi investment from 1996 through February 2007 totaled JD 218 million, of which JD 203 million was invested in industry, JD 9 million in hotels, JD 3 million in hospitals and JD 2 million in agriculture.¹ Since the vast majority of Iraqi investment is in industry, we calculate that Iraqi investment in industry from 2004-2006 was approximately 6.5% of total investment in Jordanian industry during that period.

Iraqi Investments in the Jordanian Capital Market

In order to evaluate the impact that specifically Iraqi investment has had on Jordan's economic growth, we begin by analyzing the amount of Iraqi investment in Jordan's capital market. Large new investments in Jordan's capital market would be expected to make more capital available for Jordanian businesses to grow and expand, allowing them to hire more workers and produce more goods, thereby multiplying the impact of this investment throughout society.

At the end of 2005, Iraqis invested just over JD 250 million in the Amman Stock Exchange, which accounted for 0.9% of the stock exchange's total value (JD 26.5 billion). See Table 12. 2,076 Iraqi shareholders accounted for this investment, and they held just over 28 million shares. At the end of 2006, as the value of the stock exchange had dropped to JD 21.7 billion, and the value of Iraqi investments had dropped to JD 204.7 million, but the Iraqi investments stayed constant as a percentage of the total at 0.9%. See Table 13. Iraqi investment accounted for only 2.3% of all non-Jordanian investment. The number of Iraqi investors doubled, to 3,935, and the number of shares they held increased to 38 million. In 2007, Iraqi investments totaled 64 million Jordanian dinar.²

Table 12: Investments in Jordan's Stock Exchange, 2005

Nationality	Shareholders		Number of Stocks		Total Value	
	Number	Pct.	Number	Pct.	Value	Pct.
Jordanian	523,735	94.95%	2,762,279,732	77.05%	15,319,931,622	57.66%
Arab (non-Iraqi)	23,189	4.20%	593,878,621	16.56%	9,110,290,211	34.29%
Iraqi	2,076	0.38%	28,090,041	0.78%	250,551,868	0.94%
Foreign	2,578	0.47%	200,982,135	5.61%	1,889,804,763	7.11%
TOTAL	551,578	100.00%	3,585,230,529	100.00%	26,570,578,464	100.00%

Table 13: Investments in Jordan's Stock Exchange, 2006

Nationality	Shareholders		Number of Stocks		Total Value	
	Number	Pct.	Number	Pct.	Value	Pct.
Jordanian	979,209	95.44%	3,694,836,771	72.56%	12,591,806,036	58.00%
Arab (non-Iraqi)	39,288	3.83%	1,040,630,712	20.44%	7,062,917,835	32.53%
Iraqi	3,935	0.38%	38,178,159	0.75%	204,698,211	0.94%
Foreign	3,605	0.35%	318,272,916	6.25%	1,851,683,777	8.53%
TOTAL	1,026,037	100.00%	5,091,918,558	100.00%	21,711,105,859	100.00%

Source: Figures provided by Amman Stock Exchange.

1. Figures provided to authors by JIB, "International Investment: Iraq."

2. Data provided by the Jordan Investment Board, January 23, 2008.

From the figures as of April 8, 2007, we can see that Iraqi investment in Jordan's stock exchange is relatively small – only JD 211 million, or 0.88% of the overall value of the exchange. Iraqi investment in manufacturing is relatively higher than Iraqi investment in other areas, at 1.5% of total investment in manufacturing, but it is still relatively minor. Overall, Iraqis seem to be investing their money elsewhere than the stock exchange. See Table 14.

Table 14: Investments in Jordan's Stock Exchange as of April 8, 2007

		Shareholders		Number of Stocks		Total Value	
		Number	Pct.	Number	Pct.	Value	Pct.
Banking	<i>Iraqi</i>	687	0.71%	10,036,091	0.68%	89,729,858	0.68%
	<i>Non-Iraqi</i>	95,902	99.29%	1,465,784,462	99.32%	13,122,637,071	99.32%
	<i>Total</i>	96,589	100.00%	1,475,820,553	100.00%	13,212,366,929	100.00%
Services	<i>Iraqi</i>	2,619	0.44%	18,503,064	0.73%	58,893,389	0.95%
	<i>Non-Iraqi</i>	589,308	99.56%	2,508,200,930	99.27%	6,146,277,156	99.05%
	<i>Total</i>	591,927	100.00%	2,526,703,994	100.00%	6,205,170,545	100.00%
Insurance	<i>Iraqi</i>	59	0.26%	108,317	0.05%	159,370	0.03%
	<i>Non-Iraqi</i>	22,709	99.74%	214,672,160	99.95%	512,233,471	99.97%
	<i>Total</i>	22,768	100.00%	214,780,477	100.00%	512,392,841	100.00%
Manufacturing	<i>Iraqi</i>	465	0.17%	8,800,161	0.88%	62,271,194	1.49%
	<i>Non-Iraqi</i>	277,898	99.83%	988,354,596	99.12%	4,113,245,497	98.51%
	<i>Total</i>	278,363	100.00%	997,154,757	100.00%	4,175,516,691	100.00%
Total Iraqi		3,830	0.39%	37,447,633	0.72%	211,053,811	0.88%
Total Non-Iraqi		985,817	99.61%	5,177,012,148	99.28%	23,894,393,196	99.12%
OVERALL							
TOTAL		989,647	100.00%	5,214,459,781	100.00%	24,105,447,007	100.00%

Source: Figures provided by Amman Stock Exchange.

Registered Capital in Jordan

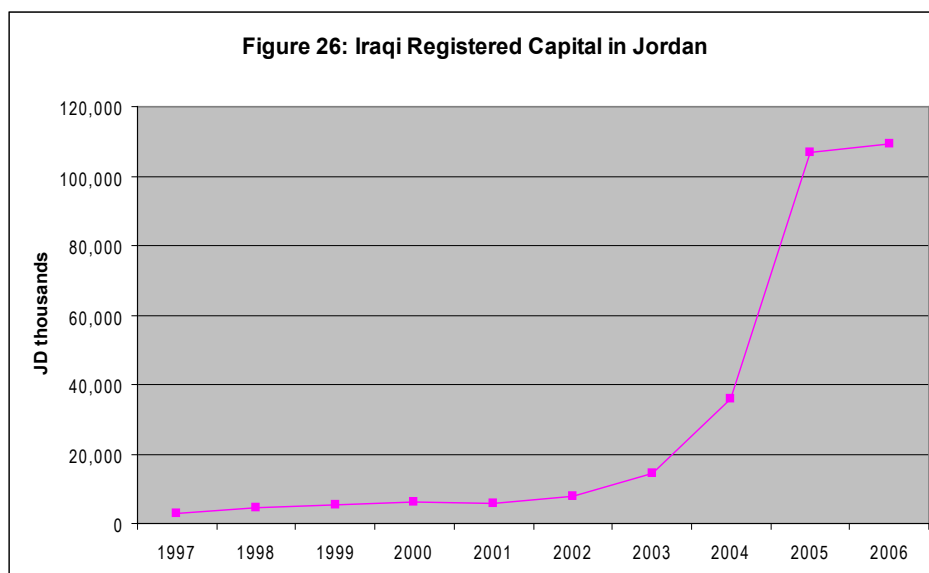
Though Iraqis appear to have invested little in the Jordan stock exchange, Iraqi registered capital in companies in Jordan has increased dramatically since 2003.¹ From 1995-2002, Iraqi registered capital in Jordan averaged about JD 5.5 million and was never higher than JD 8 million. But since 2003, the value of Iraqi registered capital has skyrocketed – first to JD 14.4 million in 2003, then to JD 35.7 million in 2004 and JD 106.8 million in 2005. The acceleration in the level of registered capital leveled off at JD 109.3 million in 2006. See Table 15.

1. The figure for registered capital does not represent, however, the actual amount of Iraqi investment in companies in Jordan. In order to start a company, the owner need only invest a percentage of the registered capital; the rest may be contributed by outside investors or may not be present at all. Thus, though the number and value of Iraqi companies has clearly increased dramatically, it may not have reached the level that the statistics in this section would imply.

Sector	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Agriculture							50.0	1,000.0	8,842.8	6,662.5
Construction								75.0	1,130.0	2,236.9
Industry	1,632.9	385.0	3,519.9	1,859.0	2,459.0	1,578.2	1,500.1	4,108.0	14,001.2	18,661.6
Services	138.4	1,755.8	470.5	301.5	252.5	2,690.2	1,300.0	13,585.5	55,741.2	47,913.1
Trade	1,187.0	2,452.3	1,386.4	4,065.7	2,865.3	3,730.5	11,579.7	16,972.9	27,042.6	33,807.0
TOTAL	2,958.3	4,593.0	5,376.7	6,226.2	5,576.8	7,998.9	14,429.8	35,741.4	106,757.7	109,281.1

Source: Ministry of Industry and Trade, Trade & Investment Information System, accessed online April 26, 2007.

Most of the Iraqi registered capital is concentrated in the trade and service sectors. The trade sector was the first to grow, in 2003, when it grew threefold from JD 3.7 million to JD 11.6 million. Iraqi investment in trade continued to expand in 2004, to JD 16.9 million, at the same time as Iraqi investment in the service sector exploded – a tenfold increase from JD 1.3 million to JD 13.6 million. From 2004 to 2005, Iraqi registered capital in every sector expanded dramatically: an eightfold expansion in agriculture (to JD 8.8 million), a tenfold increase in construction (to JD 1.1 million), a threefold increase in industry (to JD 14 million), a threefold increase in services (to JD 55.7 million), and a near-doubling in trade (to JD 27 million). See Figure 26. It is possible that the expansion in trade-related activities reflects activities that grew to cater to the Iraqi market by using Jordan as a transit country.

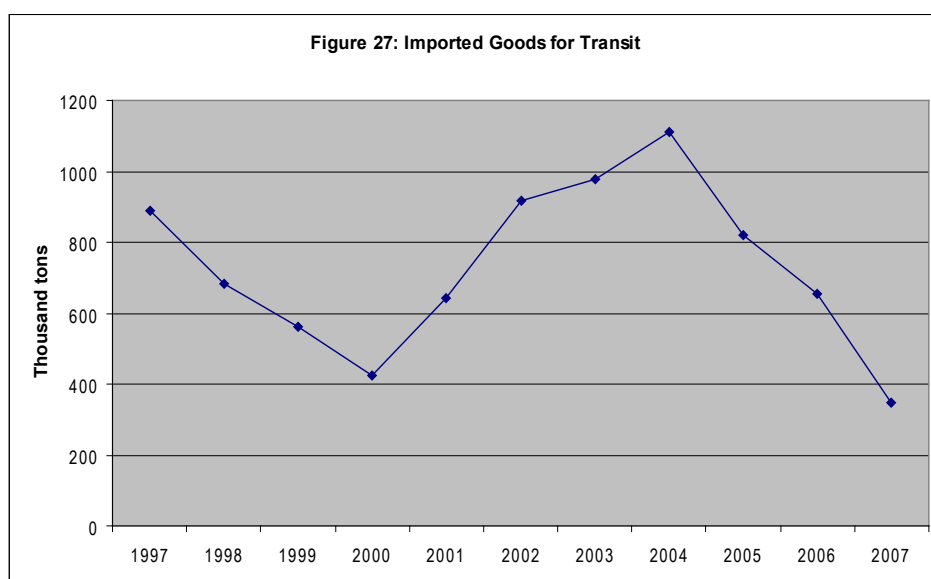


Source: See Table 15.

Imported Goods for Transit

Prior to the war in 2003, Jordan was the main entry point for trade shipments headed to Iraq. Shipments were limited, however, under the UN sanctions regime of the 1990s and early 2000s. After the war, trade was reopened with Iraq, and goods started to flow in not only through Jordan but also through Syria, Iran and Turkey.

The Jordanian transportation sector benefits from goods imported to Jordan for transit to Iraq, and Jordan benefits also from fees imposed on transiting goods. But while the amount of goods transiting Jordan has fluctuated strongly since 2000, the Iraq war seems to have had little direct impact on that amount. Goods imported to Jordan for transit declined steadily from 888,000 tons in 1997 to only 425,000 tons in 2000. In 2001 and 2002, the amount of goods for transit rose sharply, to 919,000 tons. The amount topped 1.1 million tons in 2004, only to fall to 819,000 tons in 2005. See Figure 27. The fluctuations in imported goods for transit began two years before the Iraq war began, and were lower in 2005 than they were in 2003, indicating that the Iraq war has not spurred major growth in Jordan's imports for transit.



Source: «Aqaba Port Activity,» CBJ Monthly Statistical Bulletin, accessed online Dec. 2007, May 28, 2007 and January 23, 2008.

V. The Iraq War's Impact on Jordan's Public Spending and Labor Market

The previous sections of the paper have analyzed the Iraq war's impact on inflation and growth in Jordan. In addition, the Iraq war has had serious impacts on other aspects of Jordan's economy, including Jordan's national budget and its labor market. While these topics are not the main focus of this paper, we address them briefly here.

Iraqis in Jordan and their Characteristics

Looking at general welfare indicators, such as sources of income, levels of wealth, education, skills and health, of the Iraqi population in Jordan allows us to assess the challenges it poses on public spending and infrastructure. A household survey on Iraqis in Jordan¹ found that migration of Iraqis into Jordan was primarily a migration of families. The highest volume of movement of population took place between 2004 and 2005. The survey found that 79.3 percent of Iraqis reside in Amman; where 98 percent of the wealthiest households live in Amman and 59.2 percent of the poorest households live outside Amman. Thus the population is almost exclusively urban and is benefiting from the infrastructure, including water, sewage systems and electricity, in Amman and other Jordanian cities. Results of the survey in fact show that almost all Iraqi household are connected to the public electricity network, the water network and the sewage network.² Even if Iraqis are in Jordan on a temporary basis, 25% own their own dwellings and 75% rent their dwelling. The percentage of ownership amongst Iraqis is relatively higher for the wealthier segment of the population, whereby 59.9 percent of the wealthiest households own their dwelling.

Iraqis in Jordan are well educated with 46% of the adult population holding a Bachelor's degree or higher qualification, and within that group 42% of adult women have a university degree. Most Iraqi families live on savings and receive transfers from Iraq. The wealthiest segments of the population rely on self-employment and transfers from abroad as the main sources of income, while the poorest segments depend on employment as the main source of income. The table below exhibits income sources for Iraqis in Jordan according to their wealth status.

In comparison the richest segments of the Jordanian population are mostly employers and /or high ranking employees such as senior officials, managers and professionals. Dependence on transfers is also comparatively low among wealthy Jordanians as they comprise only 20.8 percent of the richest 40 percent's total income.³ The middle stratum of the population obtains the least income from employment and it is thus most dependent on transfers from Iraq and elsewhere. This means that they are extremely vulnerable to the security situation in Iraq and depleting savings.

1. The following paragraphs draw on the findings of the Norwegian Research Institute, FAFO report «Iraqis in Jordan: Their Numbers and Characteristics» May 2007

2. Ibid p11

3. Ibid.

Income Sources broken down on wealth

	Employment Income	Income from Self Employment	Property Income	Interest Income	Transfer from within Jordan	Transfer from Iraq	Transfer from Abroad (except Iraq)	Other Income
Total	40.7	24.3	5.4	4.4	11.3	41.7	22.3	4.5
Lowest Wealth	48.8	18.1	1.1	0.9	21.9	26.5	24.6	8.6
Low Wealth	54.2	9.9	2.7	1.1	14.4	33.7	23.1	6.1
Middle Wealth	35.7	15.7	2.9	2.2	11.6	49.2	25.4	1.6
High Wealth	35.2	19.8	9.4	4.3	8.3	51.0	23.1	6.3
Highest Wealth	31.5	41.4	9.4	9.3	3.7	50.0	19.0	1.4

Source: Extracted from FAFO Study, Ibid. p 13

The War's Impact on Jordan's National Budget

Because Jordan subsidizes a variety of public services, including education, health care, fuel consumption, and water consumption, the increased demand on these services from Iraqis in Jordan has meant higher government expenditures on subsidies. On the other hand, the Jordanian government has received additional revenue related to the Iraq war from several sources, including foreign assistance and fees.

Overall, most of the Iraqis in Jordan are urban and living in the big cities. The existing infrastructure in terms of roads, electricity and water system barely meets the demand of Jordanians, with population growth estimated at about 2.5 per cent annually.

The addition of 500,000 Iraqis, as roughly estimated, represents a 10 percent increase in population. This means that the existing infrastructure came under severe and sudden pressure. It has been difficult to respond to this pressure without new investment given the fact that there is no excess capacity. While it is difficult to estimate the cost of, for example road usage or the depreciation of other utilities, it is evident that the government budget has increased allocation to infrastructure sectors such as roads, water and electricity. It is difficult to distinguish the increase in allocation as a result of the Iraqis presence and the natural increase as a result of the population growth.

Over the period 2005-07 capital expenditures witnesses a substantial and unprecedented increase.. In 2006 growth in capital expenditures registered 26%, reaching 794 million JDs, this was followed by another 6 percent growth in 2007. It is estimated that capital expenditures will grow by 35 percent in 2008, to reach a level of 1.158 billion. Taken together, clearly the government has increased capital expenditures partly to accommodate non-Jordanians including Iraqis. It is also worth noting the increase in expenditure allocated to the provision of public services between 2005 and 2007. This has witnessed a significant growth from 387 million JDs in 2005 to a level of 652 and 748 million JDs in 2007 and 2008 respectively.¹

Jordan's policy toward Iraqi children enrolling in Jordanian schools is ambiguous, perhaps deliberately. Government officials have been quoted in a published report as saying that 60,000 Iraqi children enrolled in Jordanian public schools during the 2005-2006 school year, greatly straining government resources.² The Jordanian Ministry of Education's per-pupil expenditure for 2005-2006 was JD 226 per student,³ and thus according to these figures the ministry spent about JD 13.5 million educating the Iraqi children last academic year. For the 2006-2007 academic year, the Ministry of Education said that 10,000 Iraqi students were enrolled in Jordan's public schools, mostly in Amman.⁴ The ministry estimated the per-pupil cost for Iraqis in public schools at JD 560 – meaning that according to its calculations, the government spent up to JD 5.6 million educating Iraqi children in 2006-2007. It is not clear why the estimated cost for Iraqi pupils is double that of their Jordanians counterpart unless there is new investment in new schools or proper infrastructure. However, Iraqis in Jordan are mostly present on a temporary basis and there is no reason to establish permanent facilities to accommodate them in particular. Hence, a more reasonable estimate for the cost per pupil is the lower figure.

According to the FAFO survey of the total population of Iraqi Children i between 6 and 17 years old, 78 percent are currently enrolled in school (including both public and private education facilities). This is much lower rate than the Jordanian enrollment rate of 93 percent for the same age group.

Low enrolment rate is particularly prevalent among poorest segment of the Iraqis. The FAFO survey shows that only about 60 percent of the Iraqis children in the poorest wealth group are enrolled in school. The survey also shows low enrollment among those that took residence in Jordan recently; this may be due to difficulties of enrollment in the middle of the school year. There was also some confusion during the school year 2006/07 as to whether Iraqi children without a valid permit to stay in Jordan were allowed to register for schools. The majority of those who are not attending schools said they are attending school because the family is displaced due to war, or they cannot afford to pay for schooling for their children.

1. Government Financial Bulletin <http://www.mof.gov.jo/LinkClick.aspx?fileticket=hdjb1jXonzs%3d&tabid=74&mid=851>

2. There were 1,056,470 students in Jordanian kindergarten, primary and secondary schools in 2005-2006, meaning that the 60,000 Iraqi students were about 5.7% of the total. Authors' calculations, based on Ministry of Education, "Education Survey for the 2005-2006 Academic Year," accessed on May 16, 2007. The number of Iraqi students in Jordanian schools is from Mukhaimar Abu Jamous, Secretary-General of the Ministry of Interior, cited in HRW, "The Silent Treatment," p. 60. This number is assumed by Human Rights Watch to refer to Iraqi children who possessed residence permits in Jordan.

3. Authors' calculations. The per-pupil expenditure was calculated by dividing the Ministry of Education's 2005 budget by the total number of public school students that year.

4. Iraqis account for about 25% of all foreign students in Jordanian schools. Telephone conversation with official in the Ministry of Education, May 23, 2007.

Amongst Iraqis (6-17) attending school one in four attend public school, 20 percent attend private school and 80 percent attend public school amongst Jordanians. The reasons for the high prevalence of private school attendance among Iraqi children vary; the parents may be sufficiently well off financially so that they chose to send their children to private schools, it may also be easier to find space for their children in private schools than in government schools who are already under pressure from an increased number of Jordanian students.¹ Enrollment in private schools is also found among the very poorest segments of the Iraqi population.

Government estimates claim that an additional USD\$290 million will be required for the construction and expansion of schools to meet the added demands on public schools.² Given the number of Iraqi children enrolled in Jordanian schools, even if we take the highest estimates of the numbers, the cost of accommodating Iraqi students will not exceed that for Jordanians and the total cost would be far less than the official estimates. According to the financial bulletin of the government allocation to education increased from 384 million JDs in 2005 to a level of 411 million JDs in 2006 and 562 million JDs in 2007. Relative to the total current expenditures the ratio ranged from 13 percent in 2005 to 15 percent in 2007.

As for medical care, Jordan's public healthcare system is open to both Jordanian citizens and foreigners equally.³ Iraqis pay the same government-subsidized rates as others do, increasing costs to the Jordanian government. According to the 2007 budget, health expenditures reached 334 million JDs representing 9.3 percent of the total government current expenditures. This is similar to the rate of 2006, though one must note that health expenditures grew by a hefty 33 percent in 2006.

With regards to health indicators, there is consistent reporting of higher percentages of chronic illnesses among Iraqis (11%) in comparison to Jordanians (8%). However, the Iraqi population most often uses the private sector health care system indicated in the findings that more than 90 percent of those that spent one or more nights in a hospital did so in a private one and only 8 percent were in contact with a public hospital.⁴

According to the Ministry of Planning's report (2007), the increased numbers of Iraqis benefiting from the public healthcare system is placing pressure on already crowded health providers in Amman, Zarqa and Irbid. The Ministry estimates an amount of USD\$132 million is required to expand the current health service providers in Jordan and USD\$44 million in current expenditure is needed annually to maintain these new expansions.⁵ Though Iraqis have not cost Jordan that level of expenditures, the health system still needs to be upgraded and be ready of the worst case scenario. As such, it is understandable that the Ministry of Health issues such high estimates, which cover the indirect costs of maintaining the health system's preparedness.

1. FAFO «Iraqis in Jordan: Their Numbers and Characteristics» May 2007 pp21

2. Ministry of Planning The Impact of the Influx of Iraqis on the Jordanian Economy (November, 2007)

3. HRW, "The Silent Treatment," p. 63.

4. Fafo «Iraqis in Jordan: Their Numbers and Characteristics» May 2007 pp19-20

5. It must be noted that government expenditure on health constitutes 48% of total health expenditure and 4.3% of total GDP. This means that the private sector generates over 50% of total health expenditures (Author's calculations, data taken from World Health Organization National Health Accounts Series: Jordan August, 2007). Official estimates on health costs take into account plans for expanding health service providers in Amman, Zarqa and Irbid, thus do not provide an accurate value of the direct cost of Iraqis using the public health service.

One must admit also that not all the budgeted costs are related to Iraqi presence in Jordan. According to the Minister of Health, the cost of adding one individual to the health system is about 150 JDs annually, hence, to prepare the system to absorb all Iraqis the total cost will be less than the officially reported figures. However, this per-capita cost assumes that the existing facilities can absorb the new numbers. It is well known that there is a genuine need to establish new facilities in the health system, such as building hospitals and health centers. These projects are associated with high capital and current expenditures for which the rigid general budget can allocate only very limited resources.

In addition, until last year, the Jordanian government subsidized consumers' fuel purchases by capping fuel prices and compensating the Jordan Petroleum Refinery for the difference between the capped price and the market price. Because consumer prices are capped, these government subsidies are available to all consumers regardless of nationality. Iraqis who buy diesel products in Jordan, including home heating fuel, benefit from the subsidies as much as Jordanians do. This increased demand for fuel caused by the presence of Iraqis adds another source of stress on the central government budget. Fuel imports have increased from 6.1 million tons of oil in 2004 to 7.51 million tons of oil in 2007. Official figures estimate that out of those, 650 thousand tons of oil equivalent are imported to meet the demands of Iraqis residing in Jordan. That is to say that Iraqis in Jordan account for 9 percent of Jordan's total oil imports or USD \$250 million annually. It is also claimed that Iraqi households are annually consuming 887 GW of electricity, and so accounting for 8% of total electricity consumption.¹

Jordan is a water scarce country, Iraqi consumption of that water adds more pressure on already limited resources. The FAFO household survey results show that almost all Iraqi households are connected to the water network.² Based on this, official figures estimate that Iraqi demand for water constitutes 70 million cubic meters annually.

The issues of water do not only relate to the presence of Iraqis. It is well documented that the per-capita water resources available in Jordan for its own citizens are one of the lowest in the world. As such, the economic value of the water exceeds its direct cost. In order for Jordan to avoid any future shortages, the government has recently launched the El-Disi project with an estimated cost of 1 billion JD. Again this is not directly related to Iraqis, though more consumption and the limited sources may have expedited the adoption of the project.

Regional insecurity as a result of the Iraq War has necessitated increased security measures in Jordan. Over the past two years, security manpower has increased by 20%. These increases have been rendered visible by added security personnel at hotels, main roads, malls and government offices. Furthermore, border patrols and information systems have been upgraded. All in all, the additional security measures have increased Jordan's security spending by US\$312 million. While increased spending is related to border security,

1. Ministry of Planning and International Cooperation The Impact of the Influx of Iraqis on the Jordanian Economy (November 2007) p2

2. Fafo report «Iraqis in Jordan p11

many of the new security measures have come as a response to the Amman hotel bombings on November 9th 2006; both of these are related to war as Jordan's border's required fortification after the bombers were able to enter into the country through the Iraqi border. Increased security spending is difficult to assigned to a certain event, but the deteriorating security situation in the region has necessitated the allocation of additional resources in the budget.

The Ministry of Planning estimates that US\$1.6 billion is required to mitigate the direct impact of the influx of Iraqis on the Jordanian economy. This estimate however, also takes into account plans for construction of new health, education, water sanitation and electricity generation facilities, which are costly and may not be due solely to the direct impact of Iraqi refugees as opposed to general rise in Jordan's mainly youthful population. It is difficult to estimate the direct cost related to Iraqis in Jordan, but given their number and their profile, the direct cost associated with hosting them would be less than the official estimates particularly in health and education. However, as far as security is concerned, one can justify the high cost associated with hosting Iraqis whom the government knows very little about when they enter the country. Enhancing security is not selective; meaning there is a need to enhance the overall security in the country.

On the other hand, Jordan receives substantial foreign assistance from the U.S. and other donors, some of which is related to the Iraq war. Since 2002, Jordan has received about \$450 million each year in regular economic and military aid from the U.S.¹ In 2003, Jordan received an additional \$1.1 billion in supplemental aid related to the Iraq war. Some aid has been specifically targeted to Jordanian communities affected by the Iraq war; an American appropriations bill passed in May 2007, for instance, includes \$10 million in assistance for Jordanian communities affected by an influx of Iraqi refugees.² This amount was received by the ministry of finance and was allocated according the governments' priorities as part of its social packages.³ Jordan also receives revenue from operating a training center for Iraqi police. Revenue from these sources helps to partly offset the impact on Jordan's national budget.

Iraqis with or without status in Jordan also offset some of these costs by paying bureaucratic fees and taxes. Iraqis with status in Jordan pay visa fees, work permit fees, and residence permit fees. Those who overstay their visas and lose their status pay the equivalent of \$2 per day for each day they overstay their visa.⁴ In addition, all consumers in Jordan pay Jordan's hefty sales tax, so increased consumption by Iraqis has meant increased tax receipts.

1. Prados, Alfred B. "Jordan: U.S. Relations and Bilateral Issues." U.S. Congressional Research Service, April 26, 2006, p. 11.

2. House Resolution 2206, passed by the U.S. House and Senate on May 24, 2006.

3. Interview with the ministry of finance, General Budget Department.

4. The \$2 per day penalty is usually assessed when the Iraqi leaves Jordan. Failure to pay the fine often results in a passport stamp prohibiting the person from reentering Jordan for five years or for life. HRW, "The Silent Treatment," p. 32

Iraqis Working in Jordan

The education level among the Iraqis in Jordan is very high. Nearly half (46 percent) of the adult population (16 years and older) have completed education on Bachelor level or higher with higher percent amongst men than women. The other half possess different kinds of qualifications. Those with vocational training represent 9.5 percent . The other important segments are those with secondary education (11.3 percent and intermediate diploma (10.9 percent). Qualifications possessed by Iraqi population could exerts pressure on the labor market by increasing the supply of the labor force in Jordan. Indeed unemployment amongst Jordanian youth (15-29) who have finished vocational training (14.8 percent) represents the highest male unemployment rate in Jordan. Female unemployment is the highest amongst those with a Bachelor's degree (24 percent) while it reaches 23 percent for women with an intermediate diploma.

Unemployment Rate (Jordanians) by Sex and Education

	2002	2003	2004	2005	2006	Avg.
Total	15.3	14.5	12.5	14.8	14.0	14.2
Illiterate	10.9	9.8	8.9	9.2	9.3	9.6
Less than secondary	17.0	15.6	13.8	15.0	13.7	15.0
Secondary	13.5	12.1	9.3	11.1	11.6	11.5
Intermediate diploma	14.2	13.2	11.8	14.4	13.9	13.5
Bachelor's degree or higher	13.3	14.7	11.9	17.7	16.5	14.8
Male	14.0	13.4	11.8	12.8	11.9	12.8
Illiterate	11.5	10.8	9.5	9.4	9.8	10.2
Less than secondary	16.6	15.5	13.9	14.6	13.5	14.8
Secondary	11.8	11.4	9.0	9.8	10.1	10.4
Intermediate diploma	8.4	8.7	8.0	8.7	6.8	8.1
Bachelor's degree or higher	10.3	10.7	9.2	12.0	11.0	10.6
Female	21.9	20.8	16.5	25.9	25.0	22.0
Illiterate	6.4	2.3	3.8	7.5	3.1	4.6
Less than secondary	23.5	18.2	10.8	22.3	17.9	18.5
Secondary	23.1	16.8	12.1	22.0	22.4	19.3
Intermediate diploma	23.3	20.9	19.9	24.5	26.3	23.0
Bachelor's degree or higher	20.4	24.0	18.1	29.5	27.6	23.9

Source: Department of Statistics, Employment and Unemployment Surveys, several bulletins.

The Iraqi population has a low participation rate in the labor force, at about 30 percent compared to 40 percent for the Jordanian population. Of those Iraqis who work, 60% are employed by someone else. The FAFO study states that one in ten of Iraqis with current employment would like to change their job if they could, the main reason given by most is that the income in the current job is insufficient; another important reason stated is that “the current job does not fit my qualifications”, while poorer segments of the population stated inadequate working conditions as a main reason for wanting to change jobs.¹ The majority of the Iraqi population is in fact out of the labor force and is living on savings or transfers either from within or from abroad.

Head of Household Employment Status

	Employed	Unemployed	Out of Workforce
Lowest Wealth Group	51.7	6.7	41.5
Low Wealth Group	49.1	8.0	42.9
Middle Wealth Group	34.7	15.8	49.6
High Wealth Group	46.7	6.5	46.8
Highest Wealth Group	58.8	4.8	36.4
Total	50.8	7.5	36.4

Source: Extracted from FAFO survey.

Iraqis, regardless of their residency status, are not allowed to work in Jordan without a work permit. Work permits are only issued for jobs that are listed by the Ministry of Interior as open to foreigners (i.e. jobs for which there are insufficient Jordanians, or which Jordanians are unwilling to perform), and in order to obtain the permit, a worker must find an employer willing to offer him or her a contract. In practice Iraqis could obtain this permission in the open sectors and then work in other sectors. This is standard practice for example by Egyptian who obtain permission for the agricultural sector but work in services or construction. Authorities in Jordan have historically turned a blind eye to this practice because the labor market needs these employees. However, it is far easier for Egyptians to obtain such permission when compared with Iraqis.

Due to this strict and lengthy process, few Iraqis seek or receive work permits. Approximately 1,700 Iraqis had valid work permits in Jordan as of the week of May 14-18, 2007, according to the Ministry of Labor.² The total number of valid foreign worker permits at that time was 291,000.³ Iraqis are thus less than 1% of the officially employed foreign workforce. Since the government certifies jobs for which it issues foreign work permits as being not in competition with Jordanian workers, such jobs ought not to impact the Jordanian unemployment rate.

1. Fafo «Iraqis in Jordan: Their Numbers and Characteristics» May 2007 pp24-25

2. Statistics provided to authors by the Ministry of Labor in telephone conversation, May 23, 2007.

3. 200,000 of the permits were given to Egyptians.

Most of the Iraqis working in Jordan are doing so informally, without work permits. This subjects them to the possibility of abuse and unfair treatment, since as illegal workers they have no legal recourse. Iraqis report that they have been refused pay after finishing work and discriminated against in pay compared to Jordanian co-workers.¹ Nevertheless, because Jordan has a relatively high unemployment rate, estimated at 13.1%, in 2007, some Jordanians perceive Iraqis working illegally as taking jobs that would otherwise be done by Jordanians.² Indeed unemployment in Amman, the capital where most of the Iraqis are residing, is less than the national average and estimated at the same period at about 10.7 indicating that, unemployment in the capital has not increased despite the large number of Iraqis in Amman. This is related to the low participation of Iraqis in Jordan's labor market and the fact that they are not actively seeking employment.

According to the Household Budget Survey (2008) it was estimated that Iraqis represent nearly 1.1 percent of the entire population. There is good reason to believe that their share in the labor market formally and informally will not exceed that level given the restrictions and the number of official permits given to them.

This simply means that Iraqi involvement in the labor market is rather limited. Their presence has increased the supply of labor, theoretically, and hence weakened Jordanian bargaining power; however, the fact that there are more than 290,000 Egyptians working legally in Jordan means that Jordan is adopting an open labor market policy despite the high rate of unemployment. The Iraqi population would not add that much to alter this reality.

VI. CONCLUSION

The popular perception in Jordan is that the approximately 800,000 Iraqis who have fled there country have single-handedly caused rampant inflation. Our research tells a different story. The Iraq war in a broad sense has, in many ways, caused Jordan's inflation rate to rise – but the presence of the Iraqis in Jordan, and the associated rising real estate prices, have relatively little to do with it. It appears instead that the end of subsidized fuel from Iraq, high international oil prices, exports of the domestic food supply, rising costs of food imports and unfavorable exchange rates have done far more to spur inflation in Jordan over the last two years.

The breakdown of inflation by governorate supports this conclusion. If the Iraqis in Jordan have been a main cause of inflation, then inflation in Amman (where most Iraqis are located) should have outpaced inflation in the rest of Jordan. But contrary to expectations, inflation in Amman from 2002-2005 and in 2006 was lower than inflation in Jordan as a whole. Inflation in Amman for these periods was also lower than inflation in the governorates of Balqa, Irbid, Mafraq, Jerash, Ajloun, Kerak, and Tafleh.

1. HRW, "The Silent Treatment," pp. 52-58.

2. Department of Statistics, "14.3% the Unemployment Rate During the First Quarter of 2007," accessed May 16, 2007.

Higher inflation in rural areas is only half of the issue. Whereas businesses is brisk in Amman's restaurants and hotels, which have benefited handsomely from the Iraqis' spending, rural areas have seen little of that economic growth. Rural areas have borne the brunt of the negative economic consequences of the Iraq war, and have received little in return.

Dramatically rising food and fuel prices have caused most of the inflation increase. Food prices have risen largely because Jordan has been exporting fruits, vegetables and milk to Iraq while imported food has become more expensive. American soldiers in Iraq consuming Jordanian tomatoes appear to be contributing more to Jordan's inflation than the Iraqis in Amman. In addition, in the food and fuel sectors, the government has relatively recently cut its consumer subsidies. Whereas in the past the Jordanian government would have absorbed much of the cost of rising international fuel and food prices, today Jordanian citizens are being forced to bear that burden.

Though the war temporarily disrupted Jordan's exports to Iraq, Jordanian producers now send more goods to Iraq than they did before the war began. Though Iraq's relative importance as an export destination has paled in comparison to America, Iraq remains an essential market for Jordanian goods. Trade statistics for 2006, however, show exports to Iraq declining. If Iraq proves not to be a sustainable market for Jordanian exports because of ongoing instability, Jordan's already serious trade deficit would worsen and Jordanian producers and workers would suffer.

The 2003 war meant the end of subsidized oil coming from Iraq to Jordan. Jordan's growing manufacturing sector, growing population and high international fuel prices all mean that Jordan is paying more for fuel than ever before. In 2005, Jordan was spending nearly a fifth of its national income on fuel imports – double the levels it had sustained in the late 1990s. The rising oil prices had a major negative impact on Jordan's balance of payments. High fuel prices will have a negative impact on the economy as a whole compared to its potential. However, in 2006, the level of fuel imports appeared to stabilize at about 19% of GDP, suggesting that Jordan has reached a plateau in terms of its energy imports relative to the rest of the economy.

Iraqi investment in Jordan since 2003 has been significant, but Jordan's economic growth over the past three years appears to be due largely to other factors. Iraqi investment pales in comparison to investment that has come from other Arab sources. Iraqi capital invested in the manufacturing sector in Jordan has been one of the factors behind that sector's rapid growth, but not a decisive factor. The construction sector, often associated with major Iraqi investments, actually contributed relatively little to overall Jordan's economic growth.

Iraqis have invested over JD 200 million in the Jordanian stock market, and they have registered capital of over JD 100 million. All this indicates that while there were some adverse economic ramifications as a result of the Iraq presence in Jordan, their presence was also associated with some positive outcomes that resulted from their direct investment. The fact remains that the Iraqi presence in Jordan and the impact of the war on the Jordanian economy has been overstated, both in terms of its negative and positive effects.

Iraqis in Jordan have had an impact on the national budget, since some of them have enrolled in Jordanian schools, used Jordanian hospitals, and consumed government-subsidized fuel and water. The Ministry of Planning estimates that US\$1.6 billion is required to mitigate the direct impact of the influx of Iraqis on the Jordanian economy. However results of an independent study¹ as well as author's calculations in this study, show that this estimate includes costs that cannot solely attributed to influx of Iraqis in Jordan as much of it includes plans for expanding public infrastructure. This added spending, among other reasons, made Jordan's 2007 budget an expansionary one which suffers from a relatively high budget deficit - estimated at 5.6 of the GDP after accounting for grants.

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VII. Appendix

Table A: Jordan's Exports to Iraq

	1997	1998	2000	2001	2002	2003	2004	2005	2006	TOTAL
Food & Beverages	92,256,943	69,637,568	57,809,183	58,677,090	76,244,161	61,025,876	146,187,737	162,084,055	117,025,212	840,947,825
Cigarettes				14,325,451	23,928,479	26,635,329	28,727,740	23,205,521	33,436,968	150,259,488
Crude Materials	919,181		767,971	1,845,438	1,513,363	5,580,253	12,644,185	6,479,386	2,565,499	32,315,276
Fuels						4,341,404	14,887,881	4,190,801	1,314,462	24,734,548
Chemicals	48,881,117	36,516,189	41,476,253	88,373,079	95,671,722	74,887,503	81,810,231	93,258,635	79,253,276	640,128,005
MFG -- Rubber, Wood				481,131	17,293,340	5,400,556	6,953,760	778,117	294,177	31,201,081
MFG -- Paper				22,724,715	11,937,314	6,140,303	8,029,211	13,048,276	16,798,955	78,678,774
MFG -- Clothes				11,592,422	6,568,614	3,014,067	1,695,508	3,226,813	1,980,121	28,077,545
MFG -- Steel, etc.				36,063,301	24,997,210	11,320,125	21,048,129	34,496,825	46,527,287	174,452,877
Machinery				45,201,435	36,270,435	18,468,913	27,490,894	26,239,167	19,533,405	173,204,249
Transport Eqpt.				18,397,988	14,749,073	1,515,284	3,042,883	2,117,361	7,486,481	47,309,070
Prof. Instruments				156,245	891,834	157,910	1,071,950			2,277,939
Furniture				1,516,766	1,770,369	5,494,557	8,324,911	10,465,239	7,486,481	35,058,323
TOTAL:	142,057,241	106,153,757	100,053,407	299,355,061	311,835,914	223,982,080	361,915,020	379,590,196	333,702,325	

Figures for 1999 unavailable.

Table B: Jordan's Imports from Iraq (JD millions)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	TOTAL
Fuels	364.3	235.7	296.0	483.9	469.3	510.6	258.9	27.2	2.9	0.0	2,649
Food & Live Animals	0.0	0.0		0.0	16.2	20.4	5.2	0.8	0.5	0.6	44
Crude Materials	0.0	0.0		0.0	0.0	0.8	0.0	0.3	0.2	0.0	1
Chemicals	0.0	0.0		0.0	0.0	0.5	0.9	8.3	8.3	4.8	23
Manufactures & other	0.0	0.0		0.0	0.0	0.0	0.4	9.2	7.9	1.9	19
TOTAL:	0.0	0.0		0.0	16.2	21.7	6.5	18.6	16.9	7.3	

Source for Tables I & II: Figures provided by Department of Statistics, External Trade section.