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# **PRICE CONTROLS IN JORDAN: AN ECONOMIC ASSESSMENT STUDY ON PRICE SETTING**

## Final Report

March 9, 2008

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# **PRICE CONTROLS IN JORDAN: AN ECONOMIC ASSESSMENT STUDY ON PRICE SETTING**

FINAL REPORT

SUSTAINABLE ACHIEVEMENT OF  
BUSINESS EXPANSION AND QUALITY (SABEQ)

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PRICE SETTING

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## **ABBREVIATIONS**

<b>CPI</b>	Consumer Price Index
<b>FAO</b>	Food and Agriculture Organization
<b>FDI</b>	Foreign Direct Investment
<b>FNV</b>	Federation Dutch Labor Movement
<b>GDP</b>	Gross Domestic Product
<b>JD</b>	Jordanian Dinar
<b>JE</b>	Jordan Enterprise
<b>JUMP</b>	Jordan Upgrading and Modernization Program
<b>MIT</b>	Ministry of Industry and Trade
<b>MoPIC</b>	Ministry of Planning and International Cooperation
<b>OPA</b>	Office of Price Administration
<b>OPEC</b>	Organization of the Petroleum Exporting Countries
<b>OPS</b>	Office of Price Stabilization
<b>QIZ</b>	Qualifying Industrial Zones
<b>SABEQ</b>	Sustainable Achievement of Business Expansion and Quality
<b>SER</b>	Social Economic Council
<b>US</b>	United States
<b>VNO-NCW</b>	Confederation of Netherlands Industry and Employers

## **PREFACE**

The Ministry of Industry and Trade, in response to concerns about increased inflation and renewed calls for price controls or other measures to alleviate inflationary pressures, requested EnConsult, through the USAID-funded SABEQ program, to conduct a brief assessment of the current situation in Jordan and the proposed application of price controls and/or alternative measures.

Specifically, the aim of the study is to:

- Examine and assess practices and policies in setting prices, past and present;
- Evaluate the impact of setting prices practices (successes and failures);
- Assess the current situation in Jordan, the inflationary challenge in light of other persisting challenges, including unemployment and poverty;
- Assess and evaluate the impact of inflation on the consumer;
- Assess current mechanisms, highlighting the pros and cons of each mechanism; and
- Recommend potential policy mechanisms.

## 1. INTRODUCTION

In light of the rising inflation rates, there is a growing pressure on the government in Jordan to impose general price controls. However, it will be shown in this policy paper that price controls are not the appropriate answer, particularly given the high unemployment and poverty rates in Jordan, the declining rate of growth of the GDP and the current fiscal and monetary policy constraints.

Price controls are often imposed when the public becomes alarmed that inflation is out of control, in this case Jordan is not an exception. The lure of price controls is easy to deduce, they offer easy solutions to policy makers and quell public fears in the short run. Moreover, even though price controls fail to protect many consumers and actually hurt others, controls, in addition to being easy to impose (albeit hard to effectively implement), hold out the promise of protecting low-income groups and the poor.

While the case can be made that controls have a positive psychological benefit that outweighs - at least in the short run - the costs of shortages, bureaucracy, black markets, and rationing, such benefits do not usually outweigh the emergency that brought the controls. Moreover, most inflation is due to inflationary monetary and fiscal policies rather than to panic buying. Inflation is extremely difficult to contain through price controls, in part because some prices are inevitably left uncontrolled.

*"We should move away from price controls. They do not help. It is some of these policies that are creating additional distortions,"... "We are in a globalized village. There is no country that tinkers with this kind of thing."*

Herbert Murerwa

Finance Minister, Zimbabwe

*The Herald, 23 Feb 2008, Zimbabwe*

This study is in three main parts. Chapter 2 describes the inflation, poverty and unemployment situation in Jordan and the challenges they present to policy makers. Chapter 3 provides an overview of the experience of price controls in Jordan, outlining the price liberalization drive in Jordan, consequences of price controls, economic costs associated with price controls, methods of evading controls, options to price controls and alternatives. Chapter 4 provides an assessment of currently recommended policies. Lastly, Chapter 5 presents the recommended mix of policies to be implemented in the short and long term to alleviate inflationary pressures in Jordan. All policies are presented as a mix and no one single policy is advocated alone.

## 2. SITUATION IN JORDAN

### 2.1 INFLATION IN JORDAN

Inflation in Jordan, as measured by the Consumer Price Index (CPI), only increased by 6.85% in 2007. However, this increase albeit significant need not camouflage the fact that the relative change in the CPI has been 19.62% over the period December 2004-December 2007. The majority of the increase in consumer prices occurred in 2007, and particularly in the last month of 2007.

"Dollar weakness has boosted the price of dollar-denominated commodities and helped oil to surge by more than a third since the middle of August."

Steve Hawkes

*The Times, October 31, 2007*

**Table 1: Average Consumer Price Index for December 2004-December 2007 (2002=100)**

Category and Items	Relative Imp.	Dec. 2004	Dec. 2005	Dec. 2006	Dec. 2007	% Change (2006-2007)	% Change (2004-2007)
All items	100	106.95	111.41	119.72	126.57	6.85	19.62
Food Items	39.72	107.28	115.69	129.58	141.96	12.38	34.68
Clothing & Footwear	4.85	94.77	95.81	99.90	108.87	8.97	14.1
Housing	26.40	103.85	108.38	113.25	114.93	1.68	11.08
Other Goods & Services	29.03	106.06	110.93	115.42	119.04	3.62	12.98

Source: Compiled from data provided by Jordan Department of Statistics, [www.dos.gov.jo](http://www.dos.gov.jo)

Consistent with world trends, the greatest increase occurred in prices of food items, which are of particular significance to the poor as they comprise an even greater proportion of their income than the official 39.72% used in the consumer basket in Jordan.<sup>1</sup>

This should not come as a surprise. Agricultural commodity prices rose sharply worldwide in 2006 and soared even faster in 2007. In 2007, the Food and Agriculture Organization (FAO) Food Price Index averaged 157, up 23% from 2006 and 34% from 2005. Except for sugar, prices of which declined sharply, international prices of other major food commodities rose significantly in 2007. Dairy, cereals and vegetable oils contributed the most increases in prices due to tight supply and demand.<sup>2</sup>

Tight supplies from traditional exporters, strong import demand, and the exhaustion of public stocks caused an unprecedented eruption of dairy product export prices in late 2006 and through 2007. The FAO meat price index averaged 121.5 in 2007, more than 5% above the 2006 annual average of 115.5 due to the surge in feed prices. Constant expansion in the demand for vegetable oils and fats (for food uses and also for bio-fuel generation), combined with a slowdown in production growth has resulted in a gradual tightening of global supplies, leading to a surge in prices.

Moreover, Jordan, no longer a beneficiary of oil subsidies after the invasion of Iraq in 2003, became a victim of rising oil prices and loss of subsidies. (See Annex A) Oil prices which were around US\$23 per barrel in March 2003, have since surpassed the US\$100 mark in 2008. Countries whose currencies are free floating were able to tolerate some of the oil price increase because their own currencies had evaluated against the falling US dollar.

<sup>1</sup> A review of the assigned weights in the consumer basket will most likely indicate that prices are higher than currently reported.

<sup>2</sup> Source: [http://www.fao.org/es/esc/en/15/53/59/highlight\\_529.html](http://www.fao.org/es/esc/en/15/53/59/highlight_529.html)

In fact some analysts claim that part of the increase in oil prices, denominated in US dollars was due to the falling US dollar.<sup>3</sup> Given the JD-US\$ exchange rate peg since 1995, Jordanian monetary policy could not adjust to ameliorate the cost of oil and some of the commodities. Meanwhile imports and debt denominated in world major currencies that have appreciated against the US dollar have also increased, which diminished the capacity of fiscal policy to deal with inflation.

In Jordan, the impact of rising commodity prices, fuel bill (even though oil prices were not increased in 2007), has combined with the fixity of the exchange rate of the Jordanian Dinar to the US dollar to create the current inflationary pressure in the economy. Hence the public outcries against price hike by retailers and wholesalers and the pressure on policy makers to adopt a policy of price controls. This inflationary tripod poses a significant and new challenge, not only to consumers in a country where unemployment and poverty rates have proven resilient and high but also to policy makers, particularly a new Ministerial Cabinet that inherited this triple economic burden.

## **2.2 POVERTY, UNEMPLOYMENT AND ECONOMIC GROWTH IN JORDAN**

### **2.2.1 Poverty**

Poverty in Jordan has been estimated by a study of the Ministry of Planning and International Cooperation at 13.5% with a poverty line of JD 553 per capita per year.<sup>4</sup> In the study, poverty pockets have increased to 42, a marked increase from the previously determined 20 poverty pockets based on a study conducted in 2002.<sup>5</sup>

It is likely that a new poverty line, one that takes into account the rising inflation and its aftermath on the poor and their expenditure and consumption patterns, will lead to a higher poverty line and with it the incidence on poverty in Jordan and the depth and breadth of its distribution among the affected groups, particularly women and the rural areas.

This view is supported by the findings of the Jordan Department of Statistics that indicate that the distribution of income has become less equitable in recent years.<sup>6</sup> The Gini coefficient, which measures the equality of the distribution of income (0 indicates a perfect equality, and 1 indicates perfect inequality), has increased from 0.391 in 2002 to 0.399 in 2006. Moreover, the share of the richest 10% of households of income increased from 28.1% in 2002 to 30.2% in 2006. On the other hand, the share in income of the poorest 10% of households remained unchanged at 2.7% in 2006. In terms of consumption, the share of the richest 10% of households in consumption expenditures increased from 25.1% in 2002 to 26.7% in 2006. The poorest 10% of households consumed 3.2% of total household expenditures in 2002, a share that rose slightly in 2006 to 3.3% in 2006. In other words, the richest few consume ten times the poorest segment of society, and the middle class is decreasing.

### **2.2.2 Unemployment and Economic Growth**

When one reviews the historical growth-unemployment rates of Jordan witnessed in the past four years, one notes that when the economy grows at a high rate, unemployment increases. This is the relationship demonstrated in Figure (1) below; as the economy decelerated, more Jordanians were able to find work and become gainfully employed.

<sup>3</sup> Steve Hawkes, "Does Dollar Weakness 'Cause' High Oil Prices?" The Times, October 31, 2007.

<sup>4</sup> Suhair Al Ali, "Achieving Development Results in Middle Income Countries: A New Role for Multilateral Institutions", *Development Results in Middle Income Countries*, Oct 2007. <http://www.worldbank.org/ieg/mic>.

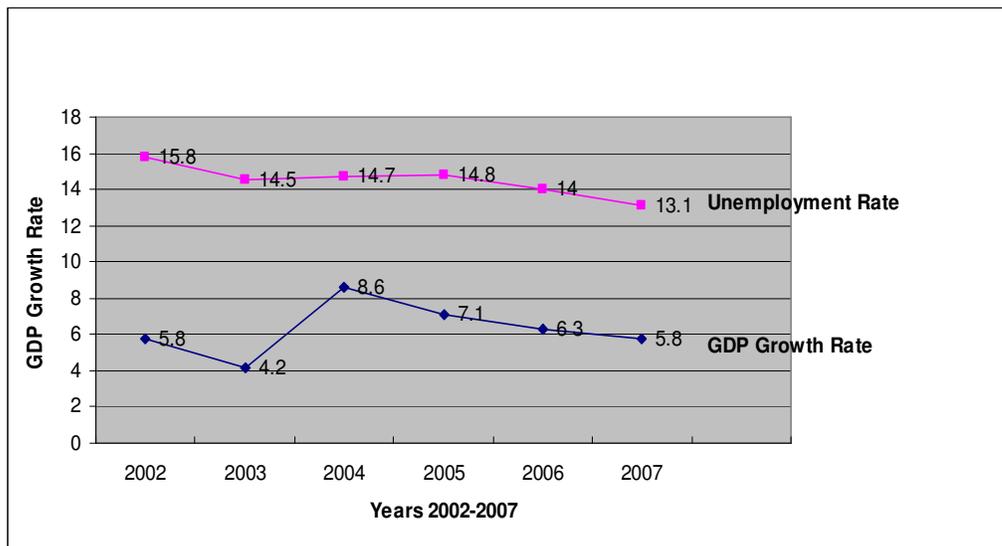
<sup>5</sup> See: <http://www.tkiyetumali.org/>. It is interesting that the *Executive Program of Kulluna Al Urdun and the Jordan National Agenda (2007-2009)*, MOPIC, Jordan 2007 places poverty at 14.7%.

<sup>6</sup> Samir Ghawi, *The Jordan Times*, 18 February 2008, <http://www.jordantimes.com>.

The unemployment rate in 2002 was 15.8% while the real GDP growth rate was 5.8%. Unemployment decreased to 14.5% as the real GDP growth fell to 4.2% in 2003; thus demonstrating the opposite of what basic economics dictates. Then in 2004, unemployment increased to 14.7% as the economy grew by 8.6%, which is extremely perplexing. In 2005, the unemployment rate increased to 14.8% as the economy, still growing strong albeit at a lower rate, decelerated to 7.1% growth rate. Therefore, one could say that in 2005, the relationship was slightly normalized. This illogical pattern returned in 2006 as the real GDP decelerated further to a growth rate of 6.3% and unemployment dropped 14%.

In 2007, the real GDP grew by 5.8%, still declining from the previous year. But this was good for Jordanians as more people went to work, and consequently unemployment decreased to 13.1%.

**Figure 1: GDP Growth and Unemployment Rates in Jordan 2002-2007**



Source: Compiled from Department of Statistics publications ([www.dos.gov.jo](http://www.dos.gov.jo)).

There may be several explanations for the phenomenon. The growth of the past years may have been primarily due to growth in building and real estate activities, which traditionally employs foreign labor and usually shies away from hiring Jordanians. As investments flocked to Jordan's most profitable enterprise; real estate, investment moved away from other sectors, thus being crowded out of the capital market while the economy grew at a fast rate. Hence, strong growth did not result in job growth for Jordanians but in greater inflation.

Another explanation, which is relevant to the previous one, is that Jordanian productivity may have declined, again because of the growth in income generated from the sale of real estate assets and stock market speculation. Decreased productivity (less growth in the real GDP) may have been also a direct consequence of the fact that machinery and equipment became more expensive as the Jordanian Dinar declined in value against major world currencies, excluding the US\$.

Moreover, decreased overall production that is coupled by increased employment may be partially due to the fact that the government increased employment in the last four years (a typical occurrence in developing countries during an expansionary phase) while its overall productivity did not increase correspondingly. Given that the government grew at a faster rate than the GDP, and since the size of government in Jordan is considerable (over half the GDP), the growth deceleration that has been twinned with falling unemployment rates can be coherently explained.

Overall, the cause of this phenomena (falling growth and decreasing unemployment rates) can be due to any one of those reasons or a combination of all of the above. At any rate, unemployment remains high.

One can surmise therefore that the recent growth in Jordan did not enhance the development drive. Economic development can be described as a process that influences the growth and restructuring of an economy to enhance the economic wellbeing of citizens.<sup>7</sup> "The bottom line of economic development today is about building prosperity—a high and rising standard of living. Productivity and productivity growth are the fundamental drivers of prosperity...."<sup>8</sup> It is a "long-term process of building a number of interdependent microeconomic capabilities and incentives to support more advanced forms of competition."<sup>9</sup> There are also other definitions; of course, most commonly they describe development as the creation of jobs and wealth, and the improvement of quality of life. Unfortunately, the results of the growth years in Jordan indicate that less development has occurred, not more.

Development is the interaction of individuals, firms, governments, and organizations that economic reform has to address, and how to coherently intertwine all their forces and choices to determine the way wealth is produced and distributed and, consequently, create development. It is a long-term outcome of a process that involves all these actors, which should only be sought with ardor and attended to with great diligence by all involved. It is not a product of chance or intermittent surges in the prices of resources causing high growth rates for a few years, which later subside.

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<sup>7</sup> Randall Kempner, Executive Director, Center for Regional Innovation, Council on Competitiveness: "Translating Ideas into Regional Prosperity: The Innovation Imperative", Economic Development Administration, US Department of Commerce conference, June 8-10, 2004, Washington, D.C.

<sup>8</sup> <http://www.eda.gov/AboutEDA/AbtEDA.xml>.

<sup>9</sup> Porter, Michael E. *The Competitive Advantage of Nations*, 1990.

### **3. PRICE CONTROLS IN JORDAN**

#### **3.1 HISTORY OF PRICE LIBERALIZATION IN JORDAN**

The move towards price liberalization in Jordan started in 1991 with the floating of the price for dried milk. Up until 1997, the Ministry of Supply took on the responsibility of supplying the local market with numerous basic food goods as well as setting their prices. A further move towards price liberalization took place in 1997, when the prices for even more commodities were floated. Such commodities include fruits and vegetables, rice, sugar, frozen meats, frozen fish, vegetable oil, table salt, cheeses, yellow corn, table eggs, and fresh poultry meat.

However in 1998, the minister and Ministry of Supply were cancelled with the issuance of the Industry and Trade Law. The Law provided that the duties of the former Ministry of Supply were to be transferred and undertaken by the Ministry of Industry and Trade. Such duties included the gradual freeing of all prices while allowing the Ministry of Industry and Trade the authority to recommend to the council of ministers a list of basic commodities whose prices are to be determined should it be necessary. Consequently, the year 1999 witnessed further liberalization of prices for lentil seeds, chick peas, cement, fuel extracts, fresh milk, “homus, fool, and falafel”, followed by 2005 with the freeing of prices for the transportation of goods on roads.

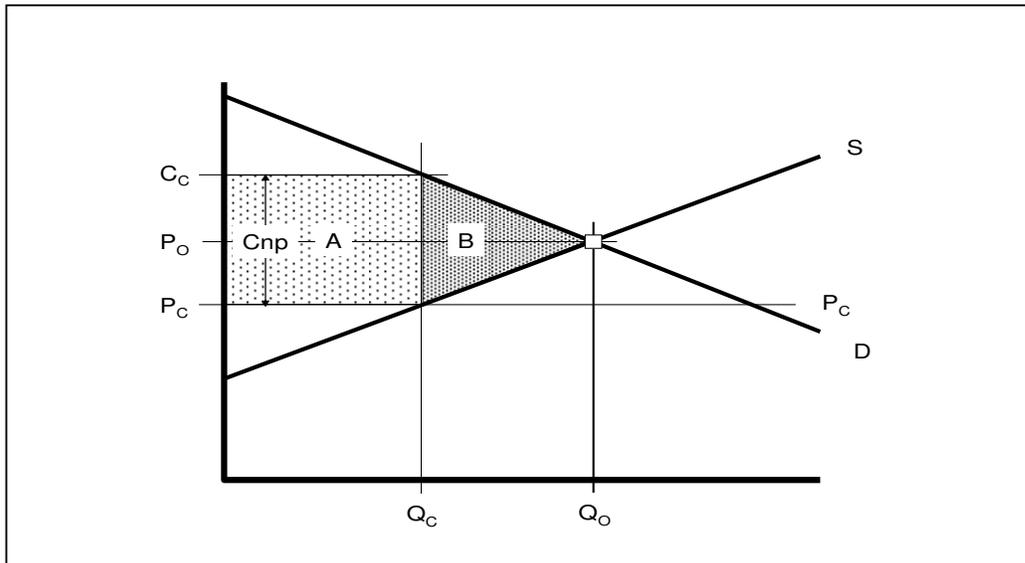
Despite the government’s adopted policy towards price liberalization, the prices for goods and services in various economic sectors are still determined through the provisions of applicable laws, rules and regulations. These include and are not limited to:

- Medical Doctor’s Syndicate Law (No. 18/1985) – Setting of doctor fees
- Drug and Pharmacy Law (No. 80/2001) – Setting the prices of sold medicines
- Public Transport Law (No. 39/2006) – Setting prices for the public transportation of passengers
- Central Bank of Jordan Law (No. 93/1966) – Setting the price of buying and selling foreign currencies
- Tourism Law (No. 10/1968) – Setting the prices and fees for tourism services
- Civil Aviation Law (No. 26/1982) – Setting the wages and prices for air transport
- General Electricity Law (Temporary law No. 64/2002) – Setting the tariff for electricity services

#### **3.2 ECONOMIC COSTS ASSOCIATED WITH PRICE CONTROLS**

The simple supply and demand paradigm may be used to demonstrate the costs of price controls. The negatively sloped demand curve shows the important price-quantity demanded relationship whereby consumers are willing and able to buy more at lower prices. The supply curve is usually positively sloped indicating that more and more producers will produce the good as its price increases.

**Figure 2: Costs of Price Controls**



A price control ( $P_c$ ) is usually placed at below the market price, which is considered very high by the government and hence the control is placed below it. Consequently, at the  $P_c$ , consumers are willing and able to buy more of the product, while producers offer less of it. Hence, only  $Q_c$ —which is less than  $Q_o$ —, is available in the market, indicating that a shortage occurs. At  $Q_c$ , the corresponding price (black market price or added cost of queuing or search) is  $C_c$ . Area B is a net loss of surplus due to reduced quantity produced and consumed. A is the non-pecuniary cost if there is no rationing.

In addition to shortages, which may impose a great risk to the strategic storage of selected commodities, there are a number of other negative consequences of price controls, including:

- *Quality deterioration of goods and services:* While prices are kept artificially low by the government through price controls, producers, importers and traders reduce their costs at the expense of quality in order to maintain their profit margins.
- *Limiting consumer choice:* Some producers, traders and importers (those dealing with high quality commodities) may avoid dealing with such commodities once their profit margins drop thus limiting choices available to consumers.
- *Inducing monopolies:* the market for basic commodities can become monopolized by a limited number of producers/ or traders/ or importers able to benefit from scale economies in the initial stage and then, once the smaller competitors are driven out, increase prices even beyond the market rates.

Examples of deteriorating quality by sellers to counter the controls come from the US. In the United States during World War II, fat was added to hamburger, candy bars were made smaller and of inferior ingredients, and landlords reduced their maintenance of rent-controlled apartments in New York.

### 3.3 EVADING PRICE CONTROLS 10

In addition to the costs associated with price controls, there are a number of ways in which both producers and consumers may evade such controls. The forms that evasion that can take place with price controls are limitless. The precise form of evasion depends on:

- *Nature of good or service*: whether the good is a necessity or a luxury affects the seller strategy regarding price controls. The more a necessity the good is and the more storable, the more likely the seller will try to charge a higher price. In cases where the consumer is unable to determine the quality of the good prior to purchase or immediately before consumption, the seller may opt to lower the quality of the good or service and thus continue to make a profit margin in spite of the price control. To counter quality deterioration, the government has to become larger, more intrusive and more costly to the whole economy.
- *Organization of the industry*: the greater the level of competition in the country, the more likely the sellers will not hike prices. However, with the existence of cartels and monopolies, sellers may collude or act as monopolies of a necessary item and hike the real price to the consumer.
- *Degree of government enforcement*: This depends not only on how vigilant the government is but also on the level of corruption of government officials. Low paid public sector employees may be tempted to turn a blind eye to an offender given that the person is willing to pay the bribe.
- *Margin between market price and the price ceiling*: The higher the profit from breaking the ceiling, the greater the incentive to cheat. Under this rule, the lower the prices, the more incentive for sellers to attempt to make more from selling the controlled commodities. Thus, the more severe the price controls the more likely sellers will cheat; a demonstration of a case of moral hazard, whereby government economic policy encourages people to do wrong.

These are but few of the causes for a certain type of price evasion instead of another. Of course in any one situation, a combination of all these causes can come into play.

#### 3.3.1 Forms of evasion

There are several forms of evasion of price controls. The following is a sample of some of these forms; however, since there is no limit to the ingenuity of market actors to evade such controls, the list below is non-exhaustive:

- **Black Market**: Some consumers may have an incentive to pay high prices to avoid long queues or lines, or supply disruption. The result may be payments on the side to distributors or it may be a full-fledged black market in which goods are bought and sold clandestinely. Prices in black markets may be above not only the official price, but even the price that would prevail in a free market, because the buyers are unusually desperate and because both buyers and sellers face penalties if their transactions are detected. According to an ILO study published in 2002, the size of the informal market in Jordan is over 20% of the GDP. A policy that leads to the creation of black markets will further exacerbate the informal economy problem.
- **Tie-in sale**: sellers require buyers to purchase quantities of other commodities in order to buy the commodity whose price is fixed at the set price. For example during World War I, in order to buy wheat flour at the official price, consumers were often required to purchase unwanted quantities of rye or potato flour.

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<sup>10</sup> Hugh Rockoff, "Price Controls", *The Encyclopedia of Economics*, [www.Econlib.org/library/cee.htm](http://www.Econlib.org/library/cee.htm).

- **Forced up-trading:** In this case, producers sell only the high quality commodity type at a higher price and refuse to sell the lower quality commodity type. Suppose a manufacturer produces a lower-quality, lower-priced line sold in large volumes at a small markup, and a higher-priced, higher-quality line sold in small quantities at a high markup. When the government introduces price ceilings and causes a shortage of both lines, the manufacturer may discontinue the lower-priced line, forcing the consumer to "trade up" to the higher-priced line. In World War II, the US government made numerous attempts to force clothing manufacturers to continue lower-priced lines. Under the controls imposed by President Nixon in the early seventies, steel manufacturers eliminated a middle grade of steel sheet, allegedly with the intention of inducing buyers to purchase a more expensive grade.

### 3.4 ALTERNATIVE PRICE CONTROL MECHANISMS

#### 3.4.1 Price Controls of Some “Strategic Goods”

Some policy makers may opt to control only a few goods that are viewed as strategic in the sense that controlling their prices is sufficient to control the whole price level or is sufficient to hold crisis. However, the major flow of this policy is that demand tends to shift from the controlled to the uncontrolled sector, with the result that prices in the uncontrolled sectors rise even faster than before. Resources follow prices, and supplies tend to rise in the uncontrolled sector at the expense of supplies in the controlled sector. Because the controlled sector was originally chosen to include goods thought to be crucial inputs for many production processes, the reduction in the amount of these inputs is particularly galling. Thus, eventually the controls spread across the board, especially when price controls are maintained for a long time.

#### 3.4.2 Dynamic Price Controls

In order for the price control system to be fair and efficient, some governments attempt to maintain flexibility in the price controls in order to adjust prices upwards and downwards in line with world market dictates as would be in the case of Jordan. However, adjusting prices in such a manner subjects the government to even more complaints of unfairness and lobbying by special interest groups.

In the eyes of the public, price controls free the monetary authority from responsibility for inflation. As a result the pressures on the Fed to avoid recession may lead to a continuation or even acceleration of excessive growth in the money supply. The painkiller is mistaken for the cure. Something very like this happened in the United States under the controls imposed by President Nixon in 1971. Although controls were justified on the grounds that they were being used to "buy time" while more fundamental cures for inflation were put in place, monetary policy continued to be expansionary, perhaps even more so than before.

#### 3.4.3 Rationing as an Alternative

Rationing is a mechanism that is often suggested to deal with inflation. The obvious costs of queuing, evasion, and black markets often lead governments to impose some form of rationing. The simplest is a coupon issued to consumers entitling them to buy a fixed quantity of the controlled good. For example, each motorist might receive a coupon permitting the purchase of one set of new tires.

Rationing solves some of the shortage problems created by controls since producers no longer find it easy to divert supplies to the black market since they must have ration tickets to match their production; distributors no longer have as much incentive to accept bribes or

demand tie-in purchases; consumers no longer have as much incentive to pay excessive prices since they are assured a minimum amount.

However, rationing has its own problems. The government must undertake the cumbersome task of adjusting rations to reflect fluctuating supplies and demands and the needs of individual consumers. While an equal ration for each consumer makes sense in a few cases (such as bread rationing in a city at war or under siege), most rationing programs have to deal with the problem that consumers have varying tastes and needs. Some motorists drive large vehicles while others drive small ones. Some live far from their places of work, while others live close. Hence, one possible solution is to tailor the ration to the needs of individual consumers. However, this seemingly simple solution can easily lead to the pervasiveness of favoritism and corruption. In order to mitigate some of the problems generated by rationing some suggest the creation of a free market in ration tickets. The free exchange of ration tickets has the advantage of providing additional income for consumers who sell their extra tickets and also improves the well-being of those who buy.

A recent, though not immediately obvious, example of this in Jordan was the gift given to security and army personnel of tax and customs waivers coupons for the purchase of automobiles. The recipient of the tax waiver coupon could sell it and the buyer benefits by paying a lower total price for the vehicle. However, such a trade does not create an increase in supplies, in our example, consumers became confused and sales slowed while some still view the prices of European vehicles as being too high, even with the rationed tax exemption.

## 4. ASSESSMENT OF SUGGESTED POLICIES IN JORDAN

The following presents an assessment of suggested policies and mechanisms to alleviate current inflationary pressures in Jordan.

### 4.1 FIX THE PRICES OF BASIC COMMODITIES

Fixing the prices of basic commodities has been suggested and indeed in some cases the government has fixed prices. The short term relief incurred by such a policy has been twinned with increased search costs, complicated monitoring mechanisms, increased inspection efforts and rising numbers of violators, shortages in some areas of basic commodities, and rising real costs to consumers due to waiting and search times. Moreover, inflation spread into other commodities and, hence, the public has been asking for increasing the list of commodities that are being controlled, a typical request experienced in other countries. *(See for example the US experience with price controls under the Nixon Administration in the 1970s, Annex B)*

### 4.2 EXPANDING THE ROLE OF CO-OPS

In order to enable competition to price gougers, civil and military personnel co-ops that are controlled by the government have increased their supplies and offerings of basic commodities. Co-ops typically operate under lower price markups than private sector retailers, and have the capacity to buy wholesale and hence bypass the wholesaler markups thus passing some of the savings to consumers.

The action does offer temporary relief to consumers by offering options and infusing competition to weaken price gouging. With increased stocks, resources allocated to co-ops will have to be increased. Thus, even if this initiative is nationally successful, government co-ops will have to constantly increase their stocks and become a government monopoly that drives the private sector (including the non-evaders of the price controls) out of the market, which is contrary to the declared principles of reform. The upshot is that the co-ops will grow in strength and size, the business environment may denigrate to pre reform practices.

### 4.3 FIX THE WHOLESALER-RETAILER MARKUP

Amidst complaints that it was the retailers that are placing exuberant markups on their goods, one policy suggestion was to impose a mark-up on the whole sale price per each commodity. The lure of the idea stems from the fact that wholesalers' costs are known based on their import documents, which are typically presented and availed at the Customs Department. Thus, the government issues indicative lists of the prices, based on markups added to wholesale prices through a committee.

The seeming simplicity of the suggestion is not without its own drawbacks and pitfalls:

- Costs of retailers vary across the economic landscape. The cost of doing business (rent, fixtures, fees, even employees) to a retailer in a high income area such as Abdoun is different from the cost in an area such as downtown. The same goes for a shop in areas such as Tafileh and Mafrq vis-à-vis Amman. These cost variances are what decides the retailers' margins. Assuming that these costs are equal across the country leads to injustices and increasing complaints by sellers.
- Some wholesalers resort to double billing whereby the bills presented to customs officials are lower than the real prices of paid by the importers. This was

"No tax or duty may be imposed except by law. Taxes and duties shall not include the various kinds of fees which the Treasury charges in respect of services rendered to members of the public by Government Departments or in consideration of benefits accruing to them from the State Domain. In imposing taxes, the Government shall be guided by the principles of progressive taxation, coupled with the attainment of equality and social Justice, provided that taxation shall not exceed the capacity of taxpayers or the State's requirements for funds."

done to lower the customs fees and taxes paid by the importers.

- As observed recently from wholesalers' complaints, several importers claimed (correctly) that they purchase the commodities months in advance. Commodities that are sold today have been purchased several months in advance and take months to arrive in Jordan. A policy that determines their prices based on today's international prices would not be realistic.
- Commodity purchases benefit from quantity discounts, a buyer who purchases a smaller quantity usually pays higher prices. Hence, even though the commodity itself is homogeneous, its price may vary according to the size of purchase and hence deciding one price may hurt the low volume buyers and encourage the survival of only the largest importers and thus encourage the creation of more natural monopolies in the commodities market.
- The underlying assumption for the success of this policy is that the government is able to know the actual prices paid by wholesalers/importers, can publish these prices in a timely manner, and can determine the equitable retail markup.

All these underpinnings are extremely difficult to determine in practice.

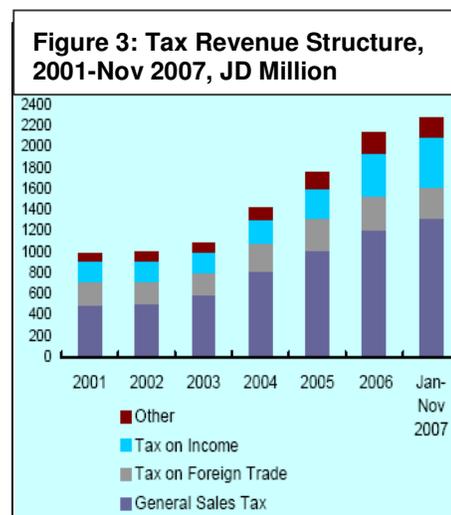
#### 4.4 REDUCE TAXES AND CUSTOMS ON BASIC COMMODITIES

One suggestion was to reduce customs and taxes on basic commodities. In other words, attempt to solve the inflationary impact through fiscal policy (reducing taxes or increasing government spending).

There are several types of taxation in Jordan, primarily: Corporate Income Tax, Personal Income Tax, and Sales Tax. The Graph shows the growth in revenues from the various taxes.<sup>11</sup> The implementation of the general sales tax started in 1994 and covered importers, manufacturers and providers of certain services.

In mid-2000, the General Sales Tax Directorate became an independent department directly linked to the Ministry of Finance. Subsequently, with the General Sales Tax (GST) Law of 2000 GST was partially converted into VAT covering also wholesale and retail traders and other traders that are within the registration threshold. Under the new law, all goods and services were liable for sales tax, except for certain goods and services that were exempt or zero-rated. The General Sales Tax is by far the most important revenue contributor to the Jordanian treasury.<sup>12</sup>

On 28 March 2004, the parliament endorsed a 3% increase on the sales tax bringing it from 13 to 16% as part of a government-imposed price and tax hike package negotiated with lawmakers earlier in 2004.<sup>13</sup> Thus, the sales tax has continued to expand in terms of percentage and coverage from the initial 7% and a few luxury goods into 16% covering all types of products and services to cover budgetary deficits. This occurred in spite of the fact



<sup>11</sup> Central Bank of Jordan, *Recent Monetary and Economic Developments in Jordan*, Research Department, Monthly Report, January 2008.

<sup>12</sup> [http://ec.europa.eu/world/enp/pdf/country/jordan\\_enp\\_country\\_report\\_2004\\_en.pdf](http://ec.europa.eu/world/enp/pdf/country/jordan_enp_country_report_2004_en.pdf)

<sup>13</sup> "House approves 3% increase on sales tax", Jordan Times, Monday, March 29, 2004

that it is a regressive tax; has a lower impact on the rich than the poor. According to some analysts this is in contradiction with Article 111 of the Constitution.

Reducing customs and sales tax would be a welcome intervention by government since both taxes penalize consumption. However, the government position is to do so for only the basic commodities. The pitfalls of this approach include:

- Selective exemptions lead to distortions and with distortions resources will follow, creating additional market distortions. This is contrary to the reform drive in Jordan and may be border line violations of WTO commitments which required harmonizing the sales tax on imports and domestically produced goods.
- Consumers will demand similar reductions on other goods and the list of basic commodities will most likely expand.
- Focusing on specific goods ignores the fact that inflation spreads into other commodities, therefore, regardless of the impact on the poor, the general price level of other commodities will continue to increase, albeit at a slower rate.
- The policy diverts attention from monetary policy as the proper tool for dealing with inflation and places the onus on fiscal policy, which will lead among other things to decreasing government revenues.

The Contracting Parties recognize that internal maximum price control measures, even though conforming to the other provisions of this Article, can have effects prejudicial to the interests of contracting parties supplying imported products. Accordingly, contracting parties applying such measures shall take into account the interests of exporting contracting parties with a view to avoiding to the fullest practicable extent such prejudicial effects.

Article 3, Paragraph 9, The *GATT*

#### 4.5 CREATING PARALLEL MARKETS

The Ministry of Planning and International Cooperation (MOPIC) signed separate agreements with the mayors of Mafraq, Jerash, Kufranjeh, Ain Al Basha, Central Shuneh, Theeban, Mutah and Mazar, Qadisiyeh, Husseiniyeh and Muath Ben Jabal on Wednesday, under which the ministry will finance the building of a bazaar in each of their municipalities (parallel markets), starting early April. The first group of municipalities was given priority on the basis of set criteria including low poverty rate, high population density and average family size.<sup>14</sup>

The idea behind parallel markets is to offer citizens essential commodities, especially vegetables and fruits, at prices lower than the regular market by bypassing middlemen and selling directly to consumers. MOPIC has allocated JD2 million for the project, while the municipalities agreed to be in charge of managing and sustaining the facilities. The municipalities, under this initiative, agreed with MOPIC that a municipal official will be appointed as a director in each of the planned markets to supervise day-to-day business, helped by other staff members. The leaseholders will pay “competitive rents”, which will be used to defray the expenses of the infrastructure and operational costs of these markets.<sup>15</sup> There are plans to set up similar markets in other municipalities before the end of 2008.

If executed properly, consumers can benefit from decreased prices as sellers’ savings are passed on in terms of lower prices. From a purely economic perspective, this is probably the most optimal of the approaches:

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<sup>14</sup> Creating Parallel Markets, 25 Feb 2008, [www.mop.gov.jo](http://www.mop.gov.jo).

<sup>15</sup> The recent parallel market experience, which was launched during Ramadan in 2007, did not yield the desirable results, simply because the municipalities did not manage the facilities with a hands-on approach.

- The government, thus, has taken an active role in lowering barriers to entry (cost of rent, registration, etc.) without other negative impacts, provided that funding and execution time are appropriate.
- The approach also provides a competition to price setters in that lower income citizens whose time value is consequently low can choose to shop elsewhere.
- The approach is superior to the Co-op enhanced role approach in that the Bazaars provide opportunities for gainful employment and market entry for low capital retailers.

Unless greater funding and fast implementation are adopted within this approach, the intervention may be too limited in impact.

## 5. RECOMMENDATIONS: THE OPTIMAL POLICY MIX IN DEALING WITH INFLATION

An optimal policy regarding inflation in Jordan must combine a set of actions that possess the following basic characteristics:

1. Relieve the impact on the poor
2. Utilize the tools of monetary policy
3. Avoid market disruptions and the creation of distortions

Moreover, there are certain actions that can be taken immediately (in the short run), and others that will require more time (long run). We will commence with the short term activities.

### 5.1 SHORT-TERM RECOMMENDATIONS

#### 5.1.1 Revise the Peg

Jordan's inflation is not home grown, it is imported. Basic international trade and international finance theory refer to adjustment of the exchange rate in direct consequence of trade. Currencies appreciate or depreciate against other currencies depending upon the direction of trade. Pegged currencies are unable to adjust by definition with trade fluctuations, which places pressure on monetary authorities (central banks) to buy and sell currencies in order to maintain the peg. Dollar pegs restrict central banks' ability to fight inflation by forcing them to shadow US monetary policy at a time when the Federal Reserve is cutting rates in an attempt to ward off recession. Jordan is not the exception to this rule.

"Costs of Gulf imports denominated in euros have risen on average more than 20% this year",

"They have come up with a lot of solutions but it seems that all of them won't stop inflation unless they do something about the currencies..."

*Elyas Al-Gaseer, Middle East Head of Capital Markets, Calyon*

*Arabian Business, Feb 28 2008*

In an address to an investment conference in Jeddah on 25 Feb 2008, former Federal Reserve Chairman Alan Greenspan said that near-record Gulf Arab inflation would fall "significantly" were the oil producers to drop their dollar pegs. "In the short term, free floating... will not fully dissipate inflationary pressure, although it would significantly do so." The pegs restrict the Gulf's ability to fight inflation by forcing them to shadow US monetary policy when the Fed is cutting rates to ward off recession and Gulf economies are surging on a near five-fold jump in oil prices since 2002.

The JD, pegged to the US\$ since 1995, has lost over 60% of its value against the Euro since the introduction of the latter in 2000. The US economy is currently at its weakest in years and there are ample indications that it will continue the weak performance this year; it is poised for further slow down. As the US economy weakens so will the US\$, and with it the JD, through no fault of the Jordanian economy.

Jordanian exports were JD2929.3 million in 2006; they became JD3179.6 million in 2007, or exactly one third of imports. Even though the US\$ fell by 17% in 2007 alone against the Euro, and thus one would expect that exports would increase significantly, exports only increased by 8.5% in 2007 from their level in 2006.

Clothes items, which make up roughly one third of all exports and exported mainly to the US from the QIZs, dropped by 4.4% due to investors relocating to low-wage countries such as Vietnam and Egypt, which is expected in this wage sensitive, labor-intensive industry. It is worth noting that the national value added in these exports is arguably extremely low.

On the other hand, pharmaceutical exports (9.4% of exports) increased by 42%, agricultural products (8% of exports) increased by 70%, fertilizers (8.6% of exports) increased by 20.6%, potash (7% of exports) increased by 26%, phosphate (5% of exports) increased by 22.5%, and all other goods (36% of exports) decreased by 2.2%. The total sum of the low value-added products (with the exception of pharmaceuticals) is 55% of total exports. In other words, their increase or decrease has little effect on the wages of labor and interest on capital.

**Table 2: External Trade According to Key Commodities, 2006-2007**

National Exports				Imports			
Commodity	2006 (JD million)	2007 (JD million)	Growth Rate (%)	Commodity	2006 (JD million)	2007 (JD million)	Growth Rate (%)
Clothing & Accessories	881.7	842.5	4.4 -	Fuels including Crude Petroleum	1435.2	1465.1	2.1
Pharmaceutical Products	210.2	298.7	42.1	Automated Machinery, Tools & Parts thereof	600.3	827.4	37.8
Vegetables	154.4	262.4	69.9	Electrical Machinery, Equipment, & Parts thereof	599.6	839.8	40.1
Fertilizers	227.7	274.7	20.6	Vehicles, Motor bikes & Parts	719.9	693.7	3.6 -
Crude Potassium	181.2	227.6	25.6	Iron & Articles thereof	405.6	517.3	27.5
Crude Phosphate	112.9	138.3	22.5	Cereals	266.0	466.3	75.3
Other Materials	1161.2	1135.4	2.2-	Other Materials	4161.1	4783.9	15.0
Total	2929.3	3179.6	8.5	Total	8187.7	9593.5	17.2

Source: Compiled from publications of Jordan Department of Statistics, [www.dos.gov.jo](http://www.dos.gov.jo)

Imports on the other hand increased by 17.2% in the last two years from JD8187.7 million in 2006 to JD9593.5 million in 2007. Contrary to public opinion Jordanian imports of oil (13% of total imports) only increased by 2.1%. In spite of the rise in the cost of imports due to the falling currency value, imports of machinery and equipment increased by 39% to constitute one fifth of all imports. Imports of vehicles (6% of total imports) declined by 3.6% while imports of steel increased by 27.5%, and imports of grains increased by 75.3%. All other imports (50% of total imports) increased by 15%.

Did the fall in the value of the US\$ and the JD increase production in Jordan and improve its competitiveness? It is clear that people did not import more in terms of real goods but they paid more for the same goods. Note that most of imports are also inputs in the production process. Prices of industrial production increased by 8.2% last year from the previous year, while industrial output grew by only 2.2%, which is lower than the GDP growth rate of 5.8% in 2007; hence, Jordan neither increased production nor grew more competitive.

It is also clear that the imports are three times the exports and that the trade deficit in 2007 was over JD6400 million, or JD1200 million higher than it was in 2006. In other words, the trade deficit grew by more than 10% of the GDP in 2007, which is almost the size of the budget deficit this year.

Qatar is studying revaluing its riyal among options to fight inflation. The US\$-Riyal exchange rate peg contributes to about 40% of inflation in Qatar, where the currency is 30% undervalued.

*Sheikh Hamad bin Jassim bin Jabr Al-Thani, Qatari Prime Minister, in a statement to Reuters on 1 March 2008*

Now, what would happen if the JD were to evaluate upward by 10% while maintaining the peg? Jordanians would buy slightly more but they would pay much less. The majority of exports being raw materials and low value added products would decline slightly. Imports will not increase because factories have been producing at below capacity and therefore would not go out and import new machines until they reach full employment. Also consumers of vehicles and large ticket items will not, due to a 10% decrease, go and purchase more cars and electronic equipment. Why? Because these items make a large chunk of their incomes which reduces the responsiveness of consumers to slight price discounts.

The overall net gain to a country whose trade deficit is more than 50% of its GDP will be significant. As the value of imports falls, so will the demand for increased reserves. Jordanians will require fewer dollars for their purchases and the Central bank would also require fewer reserves to exchange Dinars for other currencies. The impact, therefore, on foreign reserves would be negligible and may even be positive.

### **5.1.2 Reduce Customs Duties, Sales Tax and other Taxes on Basic Commodities**

It is advisable that taxes that directly impact consumption be revised. The revision should include a wide spectrum of goods and commodities that are primarily consumed by the poor and low income groups.

### **5.1.3 Increase Awareness**

Government can help reduce the market information asymmetry by publishing indicative and wholesale prices in the newspapers on weekly basis. These prices are simply indicative and non-binding on retailers. This way, consumers are made aware of the price differentials and become partners in monitoring the market. Sellers will have less of an incentive to hike prices when the consumer is well informed.

### **5.1.4 Allow Imports of Goods that Suffer from Domestic Protection**

All goods that have enjoyed protection under current regulations should be allowed to compete with imports. Competition has the basic advantage of lowering the price or improving the quality.

### **5.1.5 Avail Alternative Markets (Co-ops and Bazaars)**

Expand the MOPIC initiative and continue the policy of availing goods at co-ops. Alternative markets allow options, increase competition, and transfer savings directly to the consumer. This action should be done in combination with other actions to avoid heightened pressure at co-ops. Bazaars are to be expanded and properly regulated in order to allow entry by the private sector and alleviate some of the pressure on co-ops. The savings from set up costs should translate into lower prices to consumers.

### **5.1.6 Encourage the Creation of Import-boards to Help Break Import Monopolies (Monopsonies)**

The Ministry of Industry and Trade (MIT) through JE and JUMP has a significant experience in creating import and export boards; that is, encouraging a cluster of companies to export or import jointly in order to benefit from economies of scale. In this case, the MIT can help create import boards so that a group of importers can purchase large quantities of certain products and receive the relevant quantity discounts, which translate into savings to consumers in the form of lower prices.

## 5.2 LONG-TERM RECOMMENDATIONS

### 5.2.1 Introduce the Consumer Protection Law

The Consumer Protection Law is long overdue, although already drafted. However, in order to avoid creating a legal monopoly in the body of the present Consumer Protection Association, the law should allow the creation of several (more than one association). The government can advertise its intent and invite NGOs and civil society bodies to assume this role. Competition to the consumer protection society will prove beneficial in the long run as it will have to compete thus in terms of quality research, lobbying and information dissemination.

MIT can encourage the creation of a consumer protection magazine and website. Already several newspapers have consumer sections but they are not enough. However, the effort has been recognized as valid by newspapers and attracts readership. A consumer magazine that is funded by subscriptions, donors and government but not through ads (to maintain the neutrality of reporting) will prove a valid instrument for enhancing consumer knowledge of products and markets.

### 5.2.2 Convert the Competition Directorate into a Commission

The National Agenda suggested that the government study converting the Competition Directorate into a Commission. Independence and enhanced resources of the Directorate will increase the capacity of this important body that is charged with monitoring competition and investigating monopolies, cartels and abuse of market power.

### 5.2.3 Improve the Business Environment (Easy In, Easy Out)

The ranking of Jordan in the Doing Business Report of the World Bank has regressed substantially in the last three years. The Table below shows where Jordan's rank has deteriorated.

**Table 3: Jordan Ranks in the Doing Business Report**

Item	2008 Report Rank (out of 178 economies)	2007 Report Rank (out of 175 countries)	2006 Report Rank (out of 155 countries)*	Change in Rank
Doing Business	80	78	73	-7
Starting a Business	133	133	127	-6
Dealing with Licenses	71	70	68	-3
Employing Workers	45	30	30	-15
Registering Property	109	110	110	1
Getting Credit	84	83	76	-8
Protecting Investors	107	118	114	7
Paying Taxes	19	18	16	-3
Trading Across Borders	59	78	85	26
Enforcing Contracts	128	75	72	-56
Closing a Business	87	84	79	-8

Enabling the private sector to enter and exit the market easily can expand the productive base in the economy and encourage competition. A case in point is the case of the mobile telephony market, the most competitive market in Jordan. Competition has lowered prices

and improved the quality and variety of services offered. Jordan now enjoys one of the lowest mobile telephony rates thanks to competition.

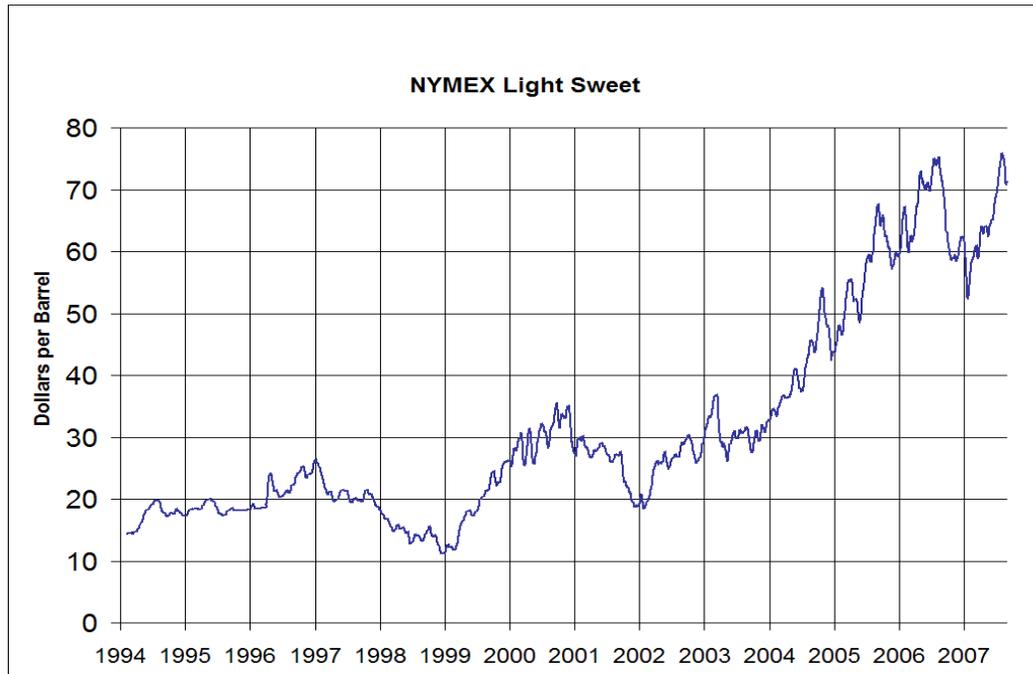
## 6. ANNEX A—WILL OIL PRICES CONTINUE TO RISE?

From Yusuf Mansur, "Will Oil Prices Rise?" *Venture Magazine*, November 2007.

Predicting whether oil prices will continue to rise or ultimately fall is probably the first necessary step in designing a strategy for dealing with the nation's fuel shortage. Beyond that it is up to decision makers to come up with a cohesive plan for strategically ameliorating the adverse impact of continuing high prices and benefiting from future falls, if and when they occur.

The oil price has surpassed recently the US\$88 per barrel at the New York Commodities Exchange. This is a significant increase over the US\$20 per barrel in 2002 and the US\$23 per barrel in March 2003, days before the invasion of Iraq when oil prices started to skyrocket. Analysts are fast adjusting their expectations that oil prices may hit the US\$100 per barrel before the end of the year.

**Figure 4: Oil Prices, 1994-2007 (Current US\$ not adjusted to inflation)**



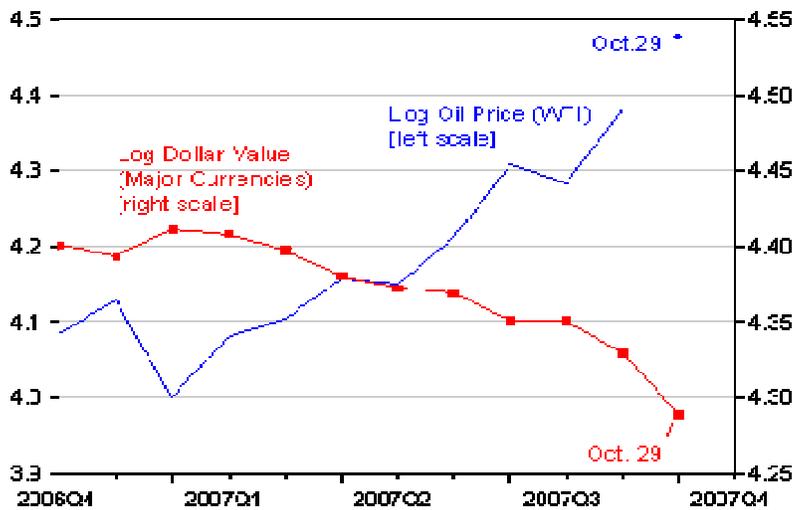
As shown above, oil prices were steadily rising since the start of the Iraq invasion. Regional turmoil in the Middle East has been undoubtedly behind the oil price increase, which went to benefit the large oil firms and several oil producing nations. The news of a rising possibility of conflict between Kurds in the North of Iraq and Turkey helped jump the price by several dollars last week. The belief among analysts that further sanctions on Iran or a military conflict with the US will occur in the near future, and consequently, disruptions of oil supply from a major oil exporter such as Iran will most likely increase prices further. Other oil producing nations have experienced similar problems, such as the recent strikes in Venezuela and potential instability in West Africa.

Beyond expectations and geopolitics, there are causes for the rise in oil prices that relate to the industry itself. Namely, the cost of oil production is on the rise as the world witnesses bouts of inflationary pressure affecting the oil industry itself. Further, oil companies have to

drill deeper to extract oil than before. Even though the Organization of the Petroleum Exporting Countries (OPEC) announced its intent to increase production by 500,000 barrels per day, oil prices continued to rise. One reason for the imperceptible effect is that many of the non-OPEC oil exporting countries have limited production capacities due to shortfalls in investment in upgrading the machinery and equipment used in oil production.

The worsening exchange rate of the dollar against major currencies did not help either. Many speculators have jumped into the fray of investing in oil not only because oil prices have been on the rise for such a long time, but also because their dollar purchases of oil have become cheaper relative to purchases in their own currencies which have evaluated against the dollar.

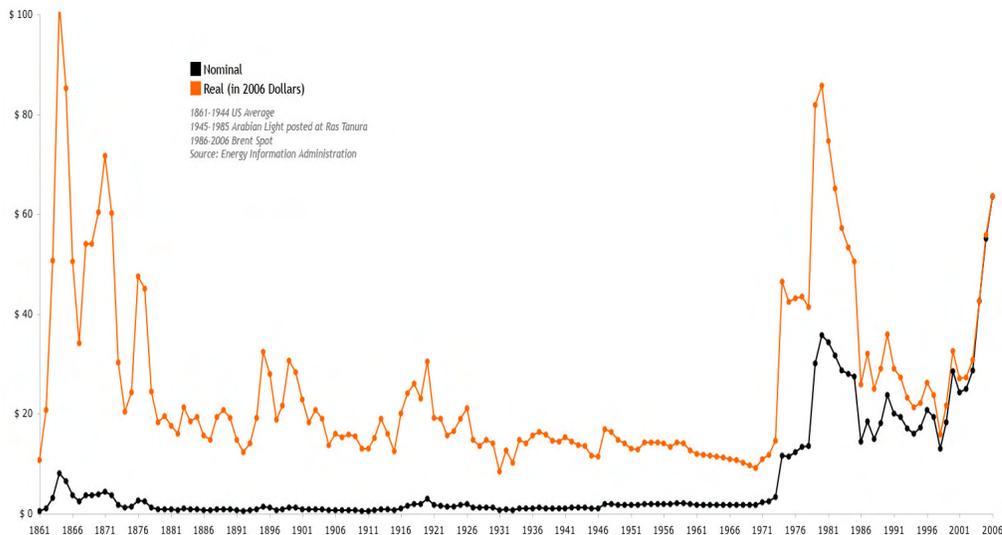
**Figure 5: Log Oil Price per Barrel (WTI) (blue) and Log Fed Major Currencies dollar Value (red), daily averages except for October (Oct. 29)**



Source: St. Louis Fed FRED II.

As the index of the dollar's value declines, the oil price ascends. Moreover, oil prices which had been kept artificially low through pressure on OPEC and developing countries, and due to increases in supply worldwide as more reserves were discovered are finally catching up with world inflation. This is why many analysts believe that oil prices, when adjusted to inflation have still room to rise as shown in the figure below.

**Figure 6: Nominal Vs. Real Oil Prices (in 2006 US\$)**



Historically, supply disruptions have been behind the increase in prices. However, in recent years, the rise of the economies of two giants (China and India) and their entry into the global market is causing the demand to rise. The global warming which is playing havoc with winters across the globe and making them colder each year is also likely to increase the demand.

It is no wonder then that analysts predict that the oil prices will surpass US\$90 per barrel before the end of the year. But what can be done in Jordan to mitigate the impact of the oil price increase?

In the seventies, when OPEC raised the price of oil, to US\$70-US\$80 per barrel, after adjusting to inflation, Jordan witnessed a golden era of economic growth. When the oil dipped below US\$20 per barrel (in today's dollars) between 1986 and 1998, the Jordanian economy witnessed a downward spiral with the exception of 1992-1995 as the savings of repatriated Jordanians from the Gulf and those of Iraqi immigrants boosted supply and demand.

Jordan became linked to the oil economies of the region since the seventies in two ways: its sizable Jordanian workforce in the Gulf who remitted their savings faithfully; ample support from the Gulf governments until the early eighties; and a significant buffering from oil price fluctuations through aid which came through oil grants and significant subsidies of oil. Thus, Jordan enjoyed a business cycle that was identical, albeit smaller in magnitude, to those of the oil producers of the region.

From 2003-2007, the economy in Jordan witnessed a trend similar to that of the oil economies with one marked difference, oil was no longer cheaply bought. Meanwhile, Jordan continued to benefit in terms of Foreign Direct Investment (FDI) inflows from the Gulf economies, as the Gulf economies continued to expand with the meteoric rise of oil prices, and from the remittances of Jordanians working there.

Let's take note from the largest economy in the world: The USA. Even though the prices of oil increased by 70% per year since 2005 in the US, the price of gasoline has recently declined due to the refineries slashing their profit margins per gallon by 78%. Furthermore, the US gave several tax and customs incentives to consumers and producers that rationalize their consumption. It is not surprising therefore that the price rise was not felt in recent months by consumers.

Jordan in addition to adopting similar incentives can look into other energy sources such as bio-fuels, shale oil of which it has commercially viable reserves, and wind and solar power in addition to nuclear energy. On the production of fuel, there is no greater recourse for improving efficiency than to speedily allow for and introduce competition to the Jordan Petroleum Refinery Company.

In conclusion oil prices will continue to rise. Jordan, a consumer of 100,000 barrels per day, will have to come up with a comprehensive strategy to deal with oil; otherwise insurmountable pressures and painful consequences will emerge.

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