

## Iraq Food Prices Analysis

### Executive summary

**Food prices in the local Iraqi markets have risen at a steeper rate than global food prices.** Iraqi food prices doubled between 2004 and 2008, while global food prices rose by 73%. The steeper rise in domestic prices was influenced by the rise in international food prices and an 800% rise in domestic fuel and light prices during the same period. It is possible that a future decrease in fuel costs would not lead to a proportionate decline in food prices.

**The rise in food prices has contributed to the increase in the Iraqi poverty rate. The resulting changes in spending and acquisition patterns have had a negative impact on nutrition.** The number of Iraqis living in “extreme poverty” rose from 15% to 18% between 2005 and 2007. In general, acquisition of most major food items decreased during this period, due to the inability of the population to maintain previous levels of acquisition. The substitution of increasingly expensive red and white meat with beans and lentils led to a 20% drop in overall protein acquisition between 2005 and 2007.

**The highly subsidized distribution of largely imported food through the Public Distribution System (PDS) places a particular strain on the fiscal budget. The rise in the government’s food import bill dwarfs the rise in revenue from marginal food exports and is a drain on foreign currency reserves.** The sharp drop in oil revenues means that the large food import bill will continue to place pressure on the fiscal budget. While the Iraqi government has made efforts to raise the value of the Iraqi Dinar against the US dollar in order to make food imports cheaper, this will also make Iraqi food exports less competitive.

**The PDS is only able to delay the impact of global price rises on the general population for up to twelve months for commodities distributed through the PDS.** For those commodities not distributed through the PDS, the impact is almost immediate.

**This has major policy implications for reform of the PDS, which needs to be targeted in order to relieve the strain on the fiscal budget, while also ensuring that food assistance is provided for Iraq’s most vulnerable.** Reducing the supply of low-cost food to the retail market would make agricultural trade more accessible to the private sector. The food price rises resulting from the reduction in supply would need to be counteracted by more sustainable economic measures to protect Iraq’s poorest consumers and farmers.

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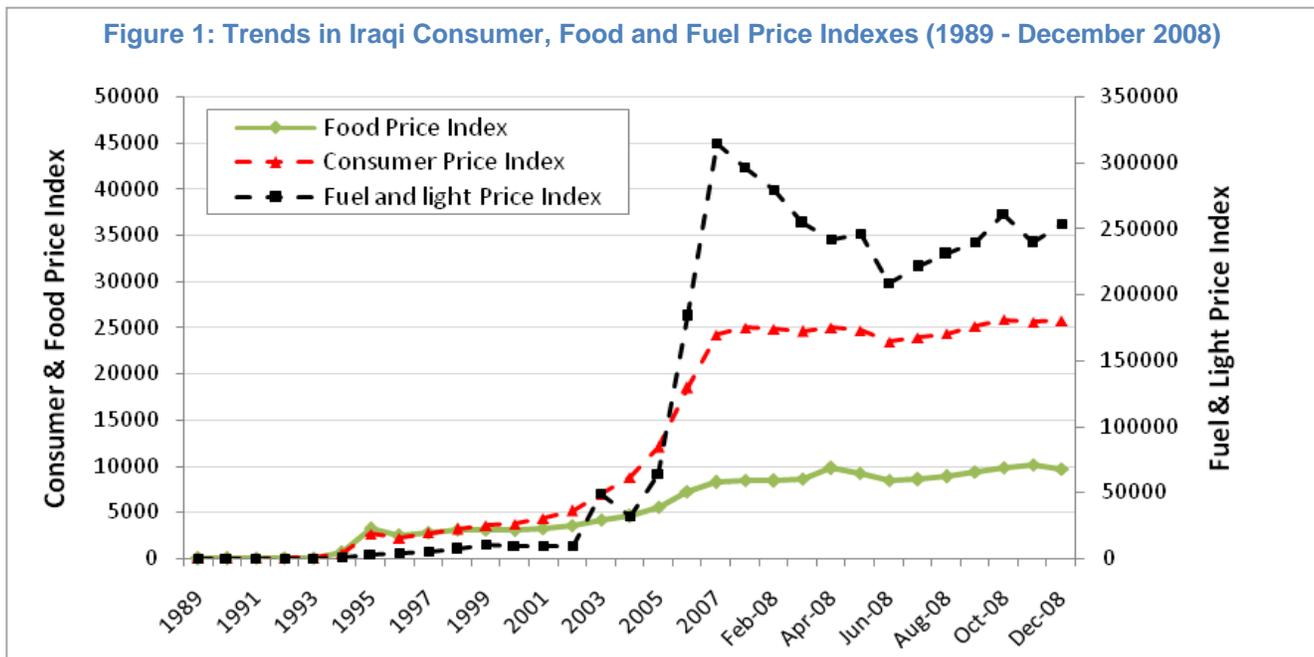
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## Food price trends in the international and Iraqi markets

Global food prices have risen significantly over the past few years, posing a threat to world food and nutrition security. Between 2004 and 2008, global prices increased by 73%, an average increase of 1.2% every month.<sup>1</sup> Factors contributing to this increase include unstable financial markets, high petroleum prices, weak dollar exchange rates and heightened demand for agricultural products, according to FAO Global Markets Analyses. While international commodity prices stabilized to some extent in the second half of 2008, they are expected to remain high for the medium term.

Food prices in the local Iraqi markets have grown at a steeper rate than global food price inflation. Between 2004 and 2008 food prices in Iraq increased by 101%, representing an average monthly increase of 1.7%.<sup>2</sup> This steeper rate of increase has been influenced by the rise in international prices combined with rising local fuel and light prices (see Figure 1). Between 2004 and January 2008, the Iraq fuel and light price index rose by over 800%. Despite the subsequent fall in the fuel and light price index of over 14% over the course of 2008, the average fuel and light index for that year was still far higher than in 2004.



Source: Gol COSIT, WFP, FAO Global Price Index

Fuel price increases have contributed to rising domestic food prices through a number of channels, yet a drop in fuel prices may not lead to a corresponding drop in food prices. Farm-gate prices are affected by fuel price increases as fuel is a major input for mechanized agriculture. Retail prices are also impacted by the increase in the cost of fuel inputs for transport, storage, packaging and labor. As a result, farmers obtain smaller revenues from their produce, retailers are forced to reduce profit margins, and food consumers end up paying more for the product.<sup>3</sup> The rising costs of food production may cause structural changes in agricultural production, leading market prices of food to remain high even after fuel and light prices subside.<sup>4</sup>

Non-competitive market conditions as well as security are two additional factors explaining the rises in the prices of some foods. Comparing the evolution of wholesale and retail prices between 2006 and 2007 for a selection of locally produced vegetable commodities (see Figure 2), it is apparent that a change in the wholesale price of a given commodity is not met with a proportional change in the retail price. For example, the wholesale price of locally produced tomato in the Iraqi markets declined by 3% between mid-2006 and mid-2007. At the same time, retail prices for the same commodity rose by 19%.

This asymmetry in price transmission represents imperfect market conditions in Iraq and can be attributed to non-competitive market conditions and the lack of market information that benefits producers and consumers.

### Impact of rising international food prices on the Iraqi fiscal situation

Despite the lack of food import restrictions, the Iraqi Ministry of Trade (MoT) maintains a near-complete monopoly on importing basic commodities such as wheat, rice, oil and pulses. These commodities are Iraq's largest value import, and are released by the MoT at highly subsidized prices into the local market through the PDS. Iraq is estimated to have imported US\$ 4 billion<sup>5</sup> of food in 2006 while exporting only US\$ 11 million<sup>6</sup> of food during the same year. The food Import Dependency Ratio<sup>7</sup> (IDR) for Iraq is estimated at 76% in 2008,<sup>8</sup> with the remainder covered by locally produced food.

Iraq's net food importing coupled with rising global food prices caused a decline in terms of trade between 2006 and 2007. In 2006, the global food price index rose by 10% and by a further 41.3% in 2007. The consequent rise in Iraq's food import bill dwarfs the rise in revenue from Iraq's marginal food exports and is a significant net drain on foreign currency reserves acquired through petroleum exports. The decline in terms of trade of food commodities alone caused an estimated loss<sup>9</sup> of 0.6% of Iraqi GDP in 2006 and 2.3% in 2007 – roughly equivalent to US\$ 400 million in 2006 and US\$ 1.7 billion in 2007.<sup>10</sup>

Petroleum revenues have far exceeded the estimated losses, yet the impact of rising food prices and falling oil revenues is a cause for concern for the PDS in 2009. The January 2009 revised budget adjusted the allocation for the PDS down from US\$ 5.2 billion to US\$ 3.6 billion. When the Gol allocated the same amount for 2008, a WFP report concluded that such an allocation would only be enough to provide five months' worth of rations. The budget

**Figure 2: Percentage changes in farm-gate, wholesale and retail prices for selected food items between 2006 and 2007**

	Farm-gate	Wholesale	Retail
<b>Tomato</b>	5%	-3%	24%
<b>Potato</b>	21%	42%	72%
<b>Onion</b>	17%	-36%	-29%
<b>Eggplant</b>	---	-15%	-3%

Source: Gol COSIT

allocation for 2008 was subsequently revised upwards to US\$ 5.9 billion, facilitated by the large increase in oil prices. However, the government may not be able to take similar measures in 2009 following the sharp fall in oil prices during the second half of 2008.

### Impact of the PDS on local market prices

The mass supply of food items through the PDS means that international price rises for some commodities are not immediately transmitted to the local Iraqi market. However, the evidence also shows that the PDS does not make Iraqi market prices immune to international price shocks in the long run.

FAO estimates the elasticity of global price transmissions<sup>11</sup> at just above 1.0 for local prices of wheat flour and rice.<sup>12</sup> This means that a 1% increase in international wheat flour or rice prices should be matched by a 1% percent increase in the prices in local Iraqi markets.

However, the adjustment of local wheat flour prices to international shocks occurs with a delay.<sup>13</sup> No significant initial adjustments are observed, but prices adjust upwards in the long-run, rising by 68% of the increase in international prices after 5 months and nearing 100% after 12 months (see Figure 3). Given that demand for wheat flour is relatively consistent, an increase in supply for such a commodity places significant downward pressure on its market price. It is therefore likely that the release of wheat flour into the local markets through the PDS is a major factor behind the short-run lack of change in local prices following a rise in international prices. However, it is clear that the PDS is only able to shield the population from the effects of international food prices increases for a relatively short period of time.



Source: GoI COSIT

Domestic price adjustments for rice following an international price rise are more complicated, and can also show the slowing effect of the PDS on price adjustments. The initial adjustment for rice produced in Thailand of 54% of the rise in international prices increases to 81% after 5 months and nearly 100% after 12 months. For rice produced in the USA, there is an instantaneous adjustment in local prices by 97% within the first month (see figure 3). Thai rice is cheaper than USA rice on the international market (by 60% on average between 2004 and 2008), and therefore more

likely to be distributed through the PDS. As a result, the slower price transmission for Thai rice can be attributed to the large-scale supply of Thai rice at subsidized prices through the PDS.<sup>14</sup> However, the eventual full transmission of international price increases for Thai rice demonstrates that, if the PDS is able to shield the Iraqi population from the effects of international price shocks, it is only for a short period of time.

### Impact on the Iraqi population

The recent rises in the cost of living have had a detrimental effect on the population, in spite of increases in average incomes and expenditures. In 2005, 15% of the Iraqi population was living in extreme poverty – defined as a total expenditure of less than US\$ 0.5 per person per day.<sup>15</sup> By 2007, the proportion of the population with total expenditure less than US\$ 0.5 per person per day dropped dramatically, due to increased average incomes and expenditures.

However, during this period, the cost of living in Iraq increased. Between 2005 and 2007 the average Consumer Price Index rose by 100%, driven by a 48% rise in food prices during this period.<sup>16</sup> As a result, “extreme poverty” was defined in 2007 as spending an average of US\$ 1.0 per person per day<sup>17</sup>. Taking this into account, the proportion of population living in the Iraqi extreme poverty increased from 15% in mid-2005 to 18% in late 2007.<sup>18</sup> In general, acquisition of most major food items has gone down, due to the inability of the population to maintain previous levels of acquisition (see Figure 4). Between 2005 and 2007, the average price of beans and lentils increased by 87%, vegetable oil and animal fat by 64% and bread by 59%.

For other commodities, price increases directly influence both expenditure and consumption patterns as households seek to substitute expensive food items with cheaper alternatives. This trend is especially evident for protein sources, and this has had a detrimental effect on protein consumption. Expenditures on red meat fell by 5% while acquisition fell by 28%, and expenditures on white meat actually rose by 23% but acquisition still fell by 9%. During the same period, expenditures on beans and lentils rose by 338% and acquisition increased by 134%. This implies that, for some Iraqi households, red meat has been substituted by white meat as a source of protein; and, for less fortunate households, pulses have replaced meat as a source of protein. As a result of this substitution, average protein consumption<sup>19</sup> during this period dropped by 20%.

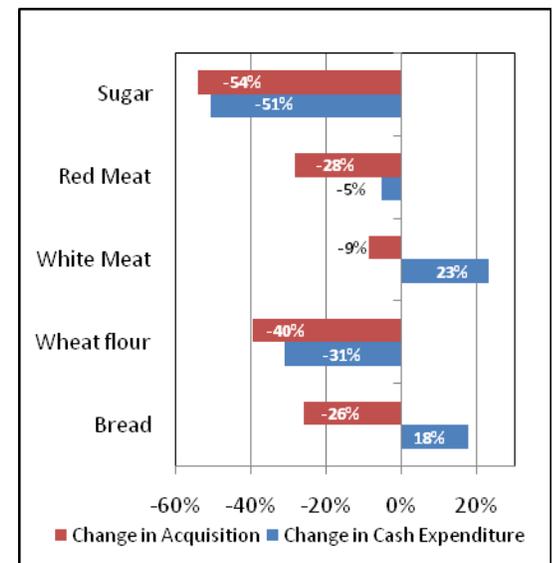
Figure 4:

#### Change in select food prices 2005-2007

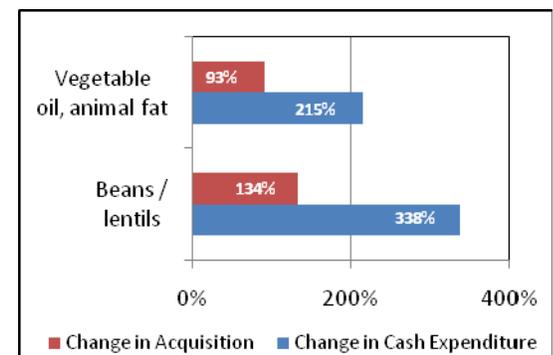
Item	Change in Price
Bread	59%
Wheat flour	14%
Vegetable oil, animal fat	64%
White Meat	35%
Red Meat	32%
Beans / lentils	87%
Sugar	7%

#### Change in expenditure and acquisition (kg) 2005-2007

- Reduced acquisition:



- Increased acquisition:



Source: GoI COSIT

Micronutrient deficiency is commonly quoted as a driving force behind the high prevalence of malnutrition among Iraqi children under the age of 5 years. The latest figures indicate that 21.8% of Iraqi children suffer from chronic malnutrition.<sup>20</sup> Women also depend on micronutrients such as iron in meat and vegetables: iron deficiency (anaemia) was affecting over a third of all Iraqi women in 2007,<sup>21</sup> and is still a leading cause of maternal deaths and low birth weight in Iraq.

## Global Food Prices Outlook for the second half of 2009

By February 2009, global food prices had dropped by 35% from their peak in mid-2008, reaching their lowest point since April 2007.<sup>22</sup> Nonetheless, global prices remain volatile: as of May 2009, prices had increased by 9% since February. The downward pressure on global food prices exerted by the easing of the supply/demand balance due to record cereal production in 2008 is not sure to persist for the remainder of 2009. Moreover, a number of factors exist that could lead to further increases in food prices. These include drought in major food commodity producing countries, financial disincentives to production and lack of credit.

Major drought conditions registered across many regions have affected some of the world's largest agricultural producers. Drought conditions have been recorded – to varying degrees – in China, USA, Australia, South America, Central Asia, Middle East and the Horn of Africa.

Farmers, especially in developed countries, depend upon access to formal credit sources to procure essential agricultural inputs such as seeds and fertilizers. The credit crisis could thus lead to reduced production, as banks are currently reluctant to extend credit despite financial stimulus packages offered by many governments.

Finally, reduced prices also lead to reduced production. Farmers faced with lower financial prospects have reduced planted areas especially as high prices of essential inputs such as fertilizer and seeds persist while food prices drop. The FAO Crop Prospects and Food Situation<sup>23</sup> report indicates the most significant reduction in planted area in the United States and European CIS

## Policy implications for PDS reform

The PDS is causing a strain on the public budget, while not providing long-term protection to the Iraqi population from the effects of global price rises. The Ministry of Trade needs to consider ways in which the PDS can be reformed in order to maintain expenditure at a sustainable level while still satisfying the needs of Iraq's most vulnerable. Targeting the PDS in order to provide assistance only to those Iraqis who need it would reduce the food import bill and transport and labor costs, whilst also ensuring that the most vulnerable are able to survive.

Targeting of the PDS would also benefit the private sector. The government currently guarantees international prices of strategic crops such as rice and wheat for domestic cultivators, and distributes these crops through the PDS. The mass supply of these commodities for almost no charge also lowers their market price. This has a negative impact on the private sector agricultural traders, who cannot afford to buy at international prices and sell at the low prevailing market prices. Targeting of the PDS would reduce the low-cost supply of key crops onto the market, thereby making the market more profitable for the private sector.

If the coverage of the PDS is reduced, the decreased supply of low-cost key food commodities into the market would place upward pressure on retail prices for those commodities. The GoI would therefore have to institute other market price control mechanisms in order to prevent future price rises from inflicting further expense on the Iraqi population.

## Measures taken by the Government of Iraq

The Central Bank of Iraq has been taking steps to control inflation. Since early 2007, the Central Bank of Iraq has worked to appreciate the value of the Iraqi Dinar against the US Dollar. By the end of 2008, the value of the Iraqi Dinar had risen against the Dollar by 10%. Given Iraq's current food trade status as a net food importer with only marginal food exports, the appreciation of the Iraqi currency is expected to have eased the impact of the rise in international food prices on the Iraqi food import bill in the short term. In the long term, however, the appreciation of the Iraqi currency limits the already weak competitiveness of Iraqi food commodities in the international markets and further undermines the potential for food exports as a source of foreign currency.

In order to increase the supply of food products in the Iraqi market, thus reducing food prices, the Iraqi Ministry of Agriculture (MoA) has developed a midterm Strategic Plan to achieve the Strategic Priorities of agricultural development, increased self sufficiency and improved livelihoods and national food security. The plan aims to encourage increases in production of plant and animal products through expanding cropped areas and improving yields.

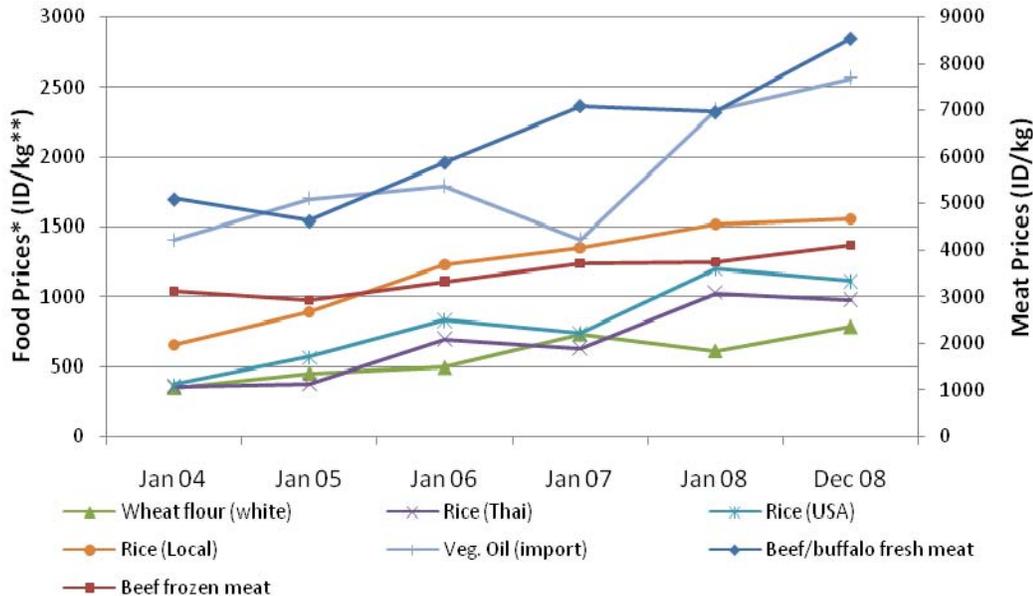
The MoA budget grew by 76% from the actual 2008 budget to that proposed 2009, with a 277% increase in the MoA capital budget accounting for most of the increase in MoA financial needs. This, along with the revitalization of the Agricultural Bank, for which the MoA has requested a separate budget of over US\$ 200 million, is further evidence of the Gol's emphasis on investing in the Iraqi agriculture sector, meeting food demand with local products and stabilizing food prices.

## End Notes

<sup>1</sup> Prices for staples such as cereals, oil and dairy rose by 122%, 101% and 86% respectively during the same period.

<sup>2</sup> The rise in cost of individual commodities varies considerably (see figure below). In that period, the cost of white wheat flour rose by 68%. The greatest price spike taking place in January 2007 during which the price rose by 71% percent compared to June 2006. The cost of rice rose during the same period by 175% for imported Thai rice, by 202% for imported US rice and by 136% for local Anber rice. The greatest price spikes for rice prices took place in January 2008.

### Changes in prices of individual food items in Iraqi markets:



\* Excludes meat items

\*\* except for Veg. Oil where prices are in ID/ltr

Source: Gol COSIT

<sup>3</sup> Wholesale price fluctuations varied considerably by food item between 2005 and 2007. There is no verifiable trend which explains the varying fluctuations. However, it is evident that wholesale price changes were not always transmitted proportionally to retail prices.

<sup>4</sup> For example, heightened cost of basic agricultural inputs may cause a reduction in supply of agricultural products as farmers reduce cultivated areas in accordance with their resources. The reduced supply leads to increased prices. Eventually, these expenses are passed on to the consumer and become “built in” to the production-purchase cycle.

<sup>5</sup> While no reliable sources of data exist on the volume or value of Iraqi food import, the Iraqi Minister of Trade stated in an interview that Iraqi food import bill reached US\$ 4 billion in 2006. ([http://www.iraquupdates.com/p\\_articles.php/article/5750](http://www.iraquupdates.com/p_articles.php/article/5750))

<sup>6</sup> Data on the value of food exports is extracted from the Central Office of Statistics and Information Technology Annual Statistical Yearbook. (<http://cosit.gov.iq/english/index.php>)

<sup>7</sup> Measured in Metric Tonnes

<sup>8</sup> Iraq Private Sector Growth and Employment Generation. USAID Izdihar Project.

<sup>9</sup> The effect of declining terms of trade for food commodities estimated as a percent of Iraqi GDP using the following equation:

$$\text{terms of trade effect} = \frac{[\sum x_f (\Delta p_f / p_f) - \sum m_f (\Delta p_f / p_f)]}{\text{GDP}}$$

Where:

$X_f$  is the value of food exports,

$\Delta P_f$

$P_f$  is global food price inflation as measured by the FAO global food price index,

$m_f$  is the value of food imports, and

GDP is Gross Domestic Product.

<sup>10</sup> Assuming the volume of imports and exports remained constant.

<sup>11</sup> The estimate for elasticity of global price transmission is obtained using the Generalized Least Square Regression model with Prais-Winsten transformation for serial correlation. The GLS model specification is as follows:

$$\ln P_{i,t}^{loc} = \beta (\ln P_{i,t-1}^{int}) + \varepsilon$$

Where:

$\ln P_{i,t}^{loc}$  is the natural log of average monthly local Iraqi monthly prices (wheat flour, USA and Thai rice),

$\ln P_{i,t-1}^{int}$  is the natural log of one month lagged average monthly prices (wheat flour, USA and Thai rice),

$\varepsilon$  is the error term.

<sup>12</sup> Specifically, 1.08 for wheat flour originating in the EU, 1.11 for Turkish wheat flour, 1.14 for Thai rice and 1.08 for American rice.

<sup>13</sup> Short and Long run adjustments are estimated using the following Error Correction Model:

$$(\ln [P_i(t)^{loc}] - \ln [P_i(t-1)^{loc}]) = \alpha + \gamma (\ln [P_i(t-1)^{int}] - \ln [P_i(t-1)^{loc}]) + \beta (\ln [P_i(t)^{int}] - \ln [P_i(t-1)^{int}]) + \varepsilon$$

Where:

$\alpha$  and  $\varepsilon$  are the constant and error term, respectively,

$\ln P_{i,t}^{loc}$  is the natural log of average monthly local Iraqi monthly wheat flour prices,

$\ln P_{i,t-1}^{loc}$  is the natural log of one month lagged average monthly local Iraqi wheat flour prices,

$\ln P_{i,t}^{int}$  is the natural log of average monthly international wheat flour prices, and

$\ln P_{i,t-1}^{int}$  is the natural log of one month lagged average monthly international wheat flour prices.

<sup>14</sup> The near-instant adjustment for USA rice prices can be attributed to high demand for USA rice among Iraqis.

<sup>15</sup> "Food Security and Vulnerability Analysis in Iraq". WFP and COSIT, 2006. The US\$ 0.5 extreme poverty line was estimated by WFP in 2005 as the value of the basic food items distributed through the Public Distribution System.

<sup>16</sup> The 2005 average Consumer Price Index stood at 12073.8, rising to 24205.5 in 2007. Food prices are given a 63.2% weighting for calculating the Consumer Price Index.

<sup>17</sup> Update of the "Extreme poverty line" set by WFP in 2005 to reflect the cost of living in 2007 is completed according

to the following formula  $Pov_{2007} = Pov_{2005} * \left( \frac{CPI_{2007}}{CPI_{2005}} \right)$ .

<sup>18</sup> Using the definition of extreme poverty defined by WFP in 2005. Caution is advised as a comparison between the 2005 and 2007 results is not entirely valid without accounting for differences in the survey samples of both years. The 2005 sample covered 16 governorates whereas the 2007 sample covered all 18 governorates of Iraq.

<sup>19</sup> Measured in grams of protein per person per day

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<sup>20</sup> WFP CFSVA 2008

<sup>21</sup> WHO/MoH/MoPDC Iraq Family Health Survey 2006/2007

<sup>22</sup> Peak 2008 prices were registered in June (FAO FPI = 215.2). By December 2008 the FAO FPI fell to 145.7 and rose only slightly to 146.1 in January 2009.

<sup>23</sup> February 2009. <http://www.fao.org/GIEWS/english/index.htm>