Market Assessment / Trader Survey

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Prepared by Oscar Maria Caccavale and Tobias Flämig

This report is part of a broader feasibility assessment for Cash and Voucher Transfers, which also includes an assessment of financial capacities of traders by Barbara Clemens, a cost-efficiency analysis by David Ryckembusch and an IT assessment by Paul McCann available as separate documents.

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All errors remain with the authors.

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ACRONYMS

CAPMAS	Central Agency for Public Mobilization and Statistics
CDC	Cairo Demographic Centre
CO	Country Office
CPI	Consumer Price Index
EGP	Egyptian Pounds
GoE	Government of Egypt
GSI	Grand Seasonal Index
HIECS	Household Income Expenditure Survey
HQ	Headquarters
IDR	Import Dependency Ratio
MT	Metric Tonnes
SFD	Social Fund for Development
SSR	Self Sufficiency Ratio
WFP	World Food Programme

EXECUTIVE SUMMARY

i. The WFP Country Office Egypt (CO) aims at piloting a cash and voucher project to support early childhood nutrition programme for infants as well as pregnant and lactating women. Possible scaling-up would eventually include take-home-ration of the school feeding activities.

ii. This report assesses the market functioning and traders' response capacity in selected governorates in Upper and Lower Egypt (Al Monofia and Al Beheira in the former, Assiut, Souhag and Aswan in the latter) to evaluate the feasibility of a cash and voucher. A traders' survey was therefore conducted as well as secondary data review and field interviews. Primary data collection relied on questionnaires submitted to 130 retailers and 55 wholesalers across the selected governorates, covering a list of main caloric contributors to food consumption and other protein and micronutrient-rich commodities.

iii. The governorates were selected based on cross-tabulation of caloric deprivation, income poverty and dietary diversity. With the exception of Al Beheira, the remaining governorates were already prioritized areas for food assistance interventions.

iv. The economy has been negatively affected by uncertainty related to recent political events. In the past years, increasing inflation and unemployment rates have been negatively impacting households' purchasing power. As a matter of fact, the Government of Egypt implements a social safety system which includes three main elements, namely the Social Fund for Development, the direct cash transfer program of the Ministry of Social Solidarity, and the subsidy system of basic food commodities.

v. Egypt largely depends on cereal imports, making the country prone to global cereal price vagaries. The high import dependency for wheat and coarse grains may pose a challenge to the import bill but has not yet negatively affected the availability of cereals. Rice on the other hand is locally produced thus posing Egypt into self-sufficiency.

vi. International cereal price shocks do not fully transmit to domestic prices, the correlation being between 65-75% for wheat and rice.

vii. In the 2-year period 2010-2011 inflation showed a quite substantial pace, mostly driven by food prices and especially in urban settings. Commodity prices have quite similar patterns, showing increasing trends since 2006. Noticeable, the price increase relented during the first quarter of 2012.

viii. The volatility of prices under investigation ranges between 17% to 32%, showing an increase in 2010 and an overall slowdown in 2011. The seasonal aspect is naturally more pronounced for vegetables than for other commodities. In terms of the transfer value to potential beneficiaries, the prices of some commodities are quite time inelastic (lentils, rice and white chicken), while wheat flour, macaroni, fava beans and dietary products prices achieve their peaks at the end of the year, having their lower bound in May and June.

ix. Market integration is the pre-condition to avoid that increased liquidity deriving from cash-based interventions would trigger into higher inflation. In general, prices in the selected governorates display high correlations for most of the commodities and price trends show similar patterns, confirming the assumption of a good spatial integration of markets. Yet, no information on commodity flows was disclosed in the assessment. Apparently, market forecasts in Lower Egypt are supposed to be more determined by rural markets while the

contrary is true for Upper Egypt. The risk that specific markets show isolated price behaviours and no efficient functioning is low.

x. The market structure in Egypt consists in supply chains that differ significantly between Upper and Lower Egypt, predominantly based on the road network and geographical conditions. The retail sector is quite fragmented, being characterized by very different actors, including *tamween* shops dealing with subsidized commodities, supermarkets, and petty traders.

xi. Retail services are led by the informal sector, showing a lack of compliance with the tax system, while health, safety and quality control regulations being generally inadequate in terms of storage, chilling and collection centres. Rates of wastage or post-harvest losses are considerable.

xii. The wholesale sector is controlled by larger firms, while the producer sector in major commodities such as rice or wheat is largely controlled by a low number of companies.

xiii. Only one-fifth of retailers interviewed trade subsidized commodities (rice, macaroni, wheat, oil, tea, sugar), which are relevant both for their portfolio and the degree of their business specialisation. Hence their ability to expand the range of commodities in view of a more diversified food basket needs to be verified during the selection process of C&V participating shops.

xiv. Retailers predominantly source their products within their district or governorate whilst wholesalers have a larger geographical reach.

xv. Given currently low proportions of retailers supplying frozen animal protein products like fish fillet, poultry or minced meat, but also pulses and fresh or UHT milk, the inclusion of these products into a potential WFP food basket requires careful review in order to avoid supply constraints at retail level. Frozen products can be considered questionable with regard to beneficiaries' preferences.

xvi. Customer numbers per shop and week declined by a third compared to one year ago, especially at retail and factory levels.

xvii. Compared to last year, sales volumes have significantly decreased for a large proportion of traders in Al Monofia, Souhag and Assiut. Traders explain such shrinkage with a reduction in demand, mostly due to declining purchasing power, i.e., consumers' income patterns not changing in-line with on-going price changes. A cash or voucher based project could induce additional demand and represent, therefore, a business opportunity to mitigate potential effects of decreased sales volumes and support traders and markets in the target areas.

xviii. The average size of shops is generally small, with retail shops having space of around 17m^2 only and wholesalers around 67m^2. Similarly, warehouse capacities are small at retail level. Hence stock rotation is fast for retailers but also wholesalers and therefore a justification of the traders' capacity to respond to an increase in demand as it indicates that traders have generally no significant constraint in replenishing their stocks.

xix. However, in Assuit, Souhag, Aswan and Monofia 20-37% of the traders experience lack of stock on a monthly or more frequent base due to insufficient availability of supplies, lack of capital or temporarily increased demand. Careful planning and monitoring in case of a cash and voucher project and later scaling-up will be warranted.

xx. Based on shop size and customers numbers per shop, further monitoring in a potential implementation phase of a voucher/cash based intervention is needed, to evaluate whether traders already operate towards their maximum capacity or whether further potential exists to increase their business.

xxi. The high proportion of traders being asked for credit, the "bias" towards rural areas, and the decreasing trend of credit requests represent an opportunity for a cash and voucher programme as purchasing power would be raised under more certain conditions for the retailers to both get timely reimbursed and to have improved selling prospects for stock purchased on credit. The price setting mechanism appears to be competitive and, according to interviewed traders, to a large extent driven by several wholesalers on the market. This facet is important because the risk of inflation is mitigated in case of voucher/cash-based transfer interventions.

xxii. Lack of capital (32%), lack of demand (24%) and insecurity (13%) are three main constraints preventing traders to double their sale. Retailers struggle with the lack of capital while wholesalers predominantly mentioned insecurity as the most important constraint.

xxiii. Yet, traders claim to have the capacity to respond to increased demand, for a 25% increase almost across the board of traders. Would the demand increase to 50% and 100% the response capacity would sharply drop at retail level to two- and one-third of traders respectively. Thus, should such a significant increase in demand be triggered by a cash and voucher programme it could induce the risk of price inflation.

xxiv. In case of a 25% increase in demand, approximately one third of all interviewed traders expect commodity prices to rise as opposed to a fifth who believes that prices would drop. In Assiut and especially Souhag, half of the retailers interviewed would expect persistent price increases.

xxv. A general willingness to participate in a voucher programme is noted. However, it is concerning that a large proportion of interviewed wholesalers in Cairo and Alexandria as well 43% of the retailers in both Al Beheira and Al Monofia expressed no interest. This is largely due to concerns about the method and reliability of timely payment, the difficulty to administer the programme, and the risk of counterfeiting vouchers, all of which would need to be addressed during the design stage of a potential intervention.

xxvi. Markets play a key role in securing stability in households' food security. In Egypt households largely depend on food markets, mostly by means of cash transactions and the social safety net. Apparently, the use of voucher mechanisms to purchase food is not well known by potential beneficiaries, and might require awareness raising activities. Nonetheless, some gains deriving from participating in a transfer system are probably acquainted from the experience of the national subsidy scheme.

xxvii. In general, the market environment in Egypt is conducive for implementing cash or voucher operations. In that case, possible connections with the subsidy system network already in place should be explored, as well with a close monitoring of price evolution for the commodities in the food basket in the areas targeted.

1. BACKGROUND

The WFP Country Office Egypt (CO) aims at piloting a cash and voucher project within the current (until end 2012) and the future country programmes. According to the CO management, it should initially be an early childhood nutrition programme for infants as well as pregnant and lactating women in two governorates (total 3,000 beneficiaries) and eventually to include the take-home-ration of the school feeding activity and be scaled up to 50% of the total food assistance intervention, approximately 5-6,000 MT for 400,000 children. At the time of the market assessment, no specific transfer modality was chosen or ruled out. Yet a clear preference for vouchers was articulated ex ante due to general security concerns and a perceived lack of beneficiaries' trust in the adaptation speed of voucher based entitlements in case of potential inflationary pressure. The choice of the transfer modality (in kind food, cash and voucher) and of the specific intervention needs to take into account that WFP activities in Egypt are solely funded by local donors.

The overall aim of this market assessment and trader survey in particular was to assess the market functioning and response capacity in order to evaluate the feasibility of a cash and vouchers intervention in Egypt. Secondarily, the aim was to develop and test tools of the WFP Cash for Change Service and the process of aligning various capacity assessments for the market, retail, IT and finance sector.

2. METHODOLOGY

The analysis of secondary data includes WFP reports, food balance sheets, price time series and production data made available by the national statistics office. Additionally, WFP and Cairo Demographic Centre (CDC) conducted a wholesale and retail trader survey in selected governorates. A mission from HQ prepared three tools i.e. questionnaire for wholesalers/retail shops, a market questionnaire providing an overview of the market within a village, and a questionnaire to focus group discussions of consumers/potential beneficiaries. Following field testing and review in the CO, tools were revised. The purpose of the main instrument was to collect data on trader characteristics, food flows and storage strategies, traders' constraints and their capacity to increase supply but also information pertinent to their information technology and financial capacity.

The CO selected the governorates Assiut, Souhag and two villages in Aswan in Upper Egypt as well as Al Monofia and Al Beheira in Lower Egypt for the assessment. Enumerators collected data in 12 cities and 14 villages. The choice of governorates was based on a cross-tabulation of three indicators, i.e. caloric deprivation, income poverty, and within-food group dietary diversity using 2008 HIECS data. More specifically, the geographic choice for the primary data collection of the market assessment is based on poverty data at district level, which is the only available indicator at such low administrative level. At the time of the mission and the trader survey, targeting for the nutrition intervention at sub-governorate level had not been concluded. Thus one of the limitations of the market assessment may be that districts and villages might differ between assessment and programme implementation; as such findings might be indicative only.

The traders' questionnaire was submitted to 130 retailers and 55 wholesalers across the selected governorates[1]. Interviewers had to record additional shop on a separate sheet. Furthermore, the heads of Central Agency for Public Mobilization and Statistics (CAPMAS) branches in Cairo, Alexandria, Al Beheira, Aswan and Assiut were interviewed with regard to themes such as price determination, transport and changes in the business environment since the revolution in January 2011. Discussions with focus groups of housewives covered preferences and patterns of consumption, shopping and payment.

The country office suggested assessing the inclusion of protein and micronutrient-rich commodities that help fight stunting (34.2% prevalence in <5 years in Lower and 25.7% in Upper Egypt)[2] and micronutrient deficiencies such as anaemia, vitamin A and zinc. A list of 21 commodities *(Table 1)* was included in the trader survey which, from a supply chain perspective, can be grouped into the following ones: cereals, pulses, dairy products, oil, processed commodities, meat/fish and eggs. As for the inclusion in potential transfer modalities, the CO wished to exclude vegetables/fruits based on assumptions of seasonal availability and comparably low prices that do not significantly affect households' purchasing power. The trader survey was to provide price and preferred brand data for the below list of commodities if sold in respective shops in order to be able to model different food basket compositions and evaluate the cost efficiencies.

Table 1 - List of commodities

List of commodities under review in this survey	
Wheat Flour 72%	UHT Milk
Macaroni	Powder Milk for the family
Rice	Processed Cheese
Vegetable oil	White/cottage Cheese (packaged)
Lentils, yellow	Poultry (frozen)
Lentils, black/brown	Mincemeat (frozen)
Fava Beans	Canned Fish (tuna)
Black Eyed Beans	Fillet fish (frozen)
Dry White beans	Eggs
Yoghurt	Tomato Paste
Fresh milk	

Following recruitment and training of enumerators by CDC, the field work began on 1st April, 2012 and was completed in ten days by three teams. One team went to Cairo and Alexandria and Aswan Governorates, the second team to Assiut and Souhag Governorate, the third one to Monofia and Beheira Governorate. Each team included four data collectors, and one supervisor.

For quality control, a group of the best interviewers selected randomly about 10 percent of the sample and re-interviewed daily for quality control. The results confirm that the data was collected with high level of accuracy.

[1] Specifically, 30 retailers and 5 wholesalers in each governorate (10 retailers only in Aswan), as well as 15 wholesalers/factories each in Alexandria and Cairo.
[2] El-Zanaty and Way (2009), page 187.

Primary and secondary data were analysed with statistical software packages SPSS 17.0 and Stata 12.0.

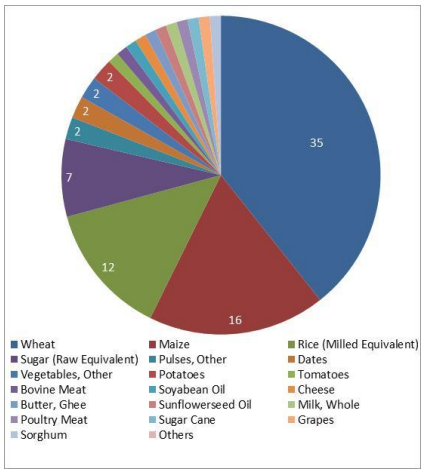
3. DRIVERS OF FOOD SECURITY

The total population of Egypt is 81.4 million people; approximately 21% live in the four targeted governorates of Monofia (4%), Beheira (7%), Assiut and Souhag (5% each).[3]

Rural Upper Egypt is the poorest region hosting about half of the poor and 2/3 of the extreme poor, with Assiut and Souhag having 61% and 47.5% of the population living under the poverty line in 2008. Poverty rates in Monofia and Beheira in Lower Egypt are much lower and between 17.9% and 23.5% (WFP, 2011a). Based on regional categorisation of Upper and Lower Egypt, all above governorates except Beheira are listed as first priority for food assistance interventions in the WFP 2011 secondary data analysis. Reportedly, these poverty figures are likely becoming out of date now. Approximately 20% of the population live below the absolute poverty line (UNDP, 2010)[4]. This figure can be further acerbated by the so-called "near poor", namely the households who are vulnerable to poverty, who are prone to fall below the poverty line should a shock occur. Poverty in Egypt is regionally concentrated especially in Upper Egypt, where 60% of the poor living in 1,000 villages and 200 urban areas are being particularly affected.[5] According to the Human Development Report, three quarters of the poor are concentrated in the governorates of Souhag, Assiut and Menia (UNDP, 2010). The prevalence of poverty is higher than the level of dietary energy deprivation in Assiut, Souhag and Beheira, possibly due to own food production contributing to the household food consumption.

The main caloric contributors to food consumption include wheat, rice, maize and sugar, wheat being the most important with a provision of more than a third of all calories. This fact is also a reflection of the bread subsidy in form of *baladi* bread available to all Egyptian households.

Figure 1 - Main contributors to caloric consumption



[3] http://www.imf.org/external/pubs/ft/weo/2011/01/weodata
[4] Figures from 2008/09
[5] Key informant interview on 13.2.2012

Data: FAO statistical division, 2005-07 average of commodities amounting to 90% of daily calorie consumption

Overall, underlying factors for food security are low income and loss of purchasing power, low amounts of agricultural production in rural areas, the lack of access to social assistance systems and low access to well-maintained and performing water, sanitation and health systems. While poverty is a critical factor and undermining the households' access to food, utilisation is often also affected and particularly illustrated by an often insufficient waste management and sewage system.

Key findings:

- Poverty is regionally concentrated in Upper Egypt, especially in rural areas where 50% of the poor and two thirds of the extreme poor live.
- The main caloric contributors to food consumption include wheat, rice, maize and sugar.
- Underlying factors for food security are low income and loss of purchasing power, low amounts of agricultural production in rural areas, the lack of access to social assistance systems and low access to well-maintained and performing water, sanitation and health systems.

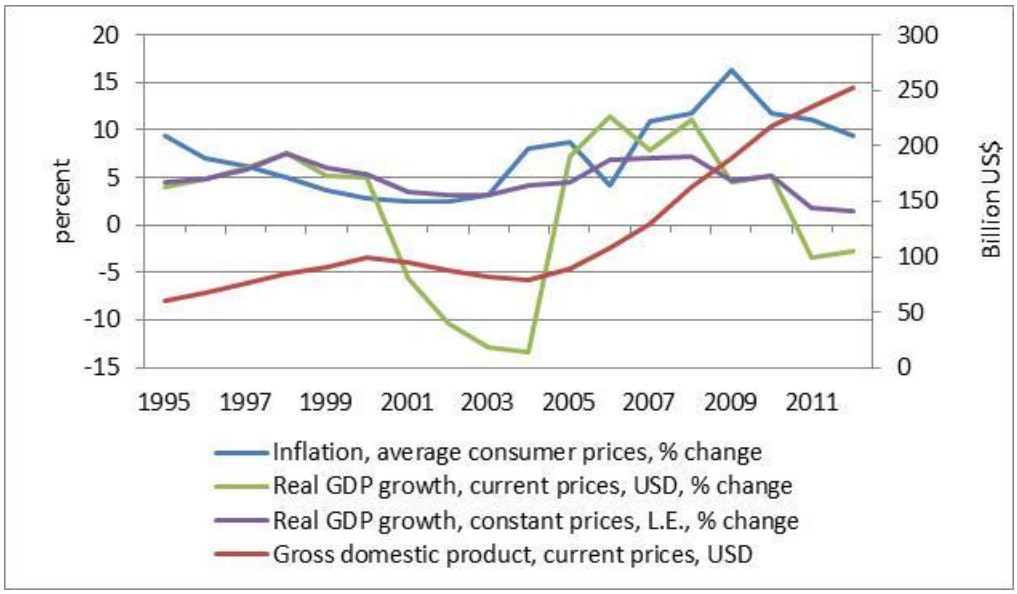
4. MACRO ECONOMIC FACTORS

After years of decline, the per capita Gross National Product of Egypt in USD has been rising since 2004 from USD 1,148 to USD 2,789 in 2011, which represents average increases of 14% per annum, although in 2011 the increase declined to 3.7% only.[6] According to the IMF, the total GDP in current prices is expected to rise from 236 Billion US$ in 2011 to 252 Billion US$ in 2012.[7] However, after accounting for inflation, the real GDP growth was negative in 2011 and will continue to do so in 2012 (Figure 2), although - if illustrated in national currency - the GDP growth rate is still expected to be 1.5% in 2012. The Economic Intelligence Unit notes that "*the economy is expected to continue to be negatively affected by on-going political uncertainty and weak investor confidence. Investment, which has been worst hit since the revolution, will suffer as a result of a lack of clarity around the future direction of economic policy. Disruptions to manufacturing and a fall in tourist numbers have negatively affected goods and services exports. However, private consumption has remained resilient, and government consumption will be buoyed by an increase in current spending, particularly on subsidies, public-sector wages and interest payments, further supporting private demand.*"[8]

[6] http://www.imf.org/external/pubs/ft/weo/2011/01/weodata.
[7] Ibid.
[8] http://country.eiu.com/FileHandler.ashx?issue_id=839263068&mode=pdf.

Since 2004, inflation in consumer prices has been at double digit levels, averaging at around 10.4% with a peak in 2009 of more than 16%.[9] Recorded unemployment of the total work force stands at 12% % in 2011.[10] The real unemployment rate is likely to be significantly higher (WFP, 2011a)[11], provided that 50% of the labour force is engaged in services (public sector and tourism mainly) and 20% in the industry sector, both of which have been hardest affected by the 2011 revolution.

Figure 2 - Inflation rate, GDP, GDP growth rate



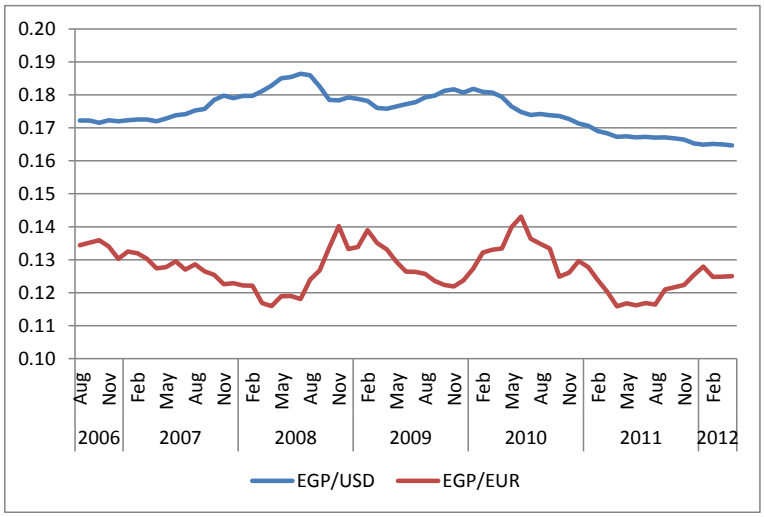
Note: International Monetary Fund: World Economic Outlook Database, April 2012

With regard to the monetary policy the Government of Egypt (GoE) was for a long time reluctant to undertake a devaluation of the currency due to the fear of inflationary pressure at times of the food crisis and the negative balances of trade and payments which is also triggered by the dependency on food imports (Ghoneim, 2011). However, since the revolution, the Central Bank has managed a gradual depreciation of the Egyptian pound, selling foreign reserves to counter a lack of capital inflows. In the past 5 years the Egyptian pound has been depreciating against the USD following a very clear downwards trend, recording its maximum value in July 2008, while the minimum occurred in April 2012. Figure 2 graphs the exchange rates since August 2006 and provides yearly comparisons. Specifically, it returns the percentage change of the latest available exchange rate (i.e. April 2012) against the same month of the previous years. The local-currency-value-loss against USD compared to the previous year and 2010 was 1.6% and a remarkable 8.2% respectively, while the comparison against EUR provides more cyclical evidence.

The above mentioned gradual depreciation by the Central Bank has contributed to a decline in net international reserves from US$ 36 billion in December 2010 to US$ 15.1 billion in March 2012. Reserves recovered slightly in April and May to reach US$15.5bn but failed to rise in June despite the injection of US$ 1 billion in Central Bank deposits by Saudi Arabia a month earlier (EIU, 2012).

[9] International Monetary Fund, World Economic Outlook Database, April 2011. http://www.imf.org/external/pubs/ft/weo/2011/01/weodata.
[10] EIU 2012.
[11] Quoting CIA, Egypt Country Profile, March 2011.

Figure 3 - Exchange Rates



EGP vs USD and EUR change from April 2012		
	EGP/USD	**EGP/EUR**
2011	-1.6%	7.9%
2010	-8.2%	-6.3%
2009	-6.3%	-6.1%
2008	-9.9%	7.8%
2007	-4.2%	-1.9%

Note: WFP's elaboration based OANDA monthly exchange rates (www.oanda.com). The baseline month for comparison is April 2012.

The GoE implements a social safety system that comprises of three main elements, namely the Social Fund for Development (SFD), the direct cash transfer program of the Ministry of Social Solidarity, and the subsidy system of basic food commodities. The current subsidy system in Egypt amounts to 137 Billion EGP out of which 95 Billion EGP are for fuel/energy, predominantly to the benefit of the industry sector. The food subsidy system has undergone several reforms since the inception and is a card system subsidized food items. While the bread subsidy (*baladi* bread) is open to all consumers, the ration card is distributed to some 64 Million Egyptians and includes specified quantities of rice, sugar, oil and tea. The food subsidy is considered having enhanced political stability in Egypt and being symbol for the social contract between the population (Akhter et al., 2001) and any governing regime, although the system suffers from weak targeting and lack of coverage (Ghoneim, 2011).

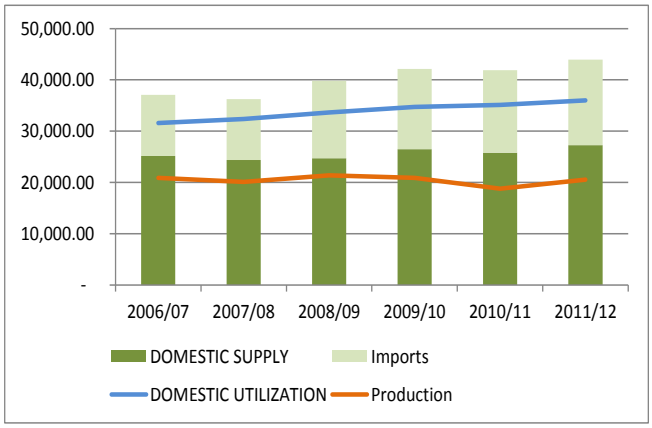
Key findings:

- The economy has been negatively affected by uncertainty related to recent political events. In the past years, increasing, double digit inflation and unemployment rates have been negatively impacting households' purchasing power.
- The Government of Egypt implements a social safety system which includes three main elements, namely the Social Fund for Development, the direct cash transfer program of the Ministry of Social Solidarity, and the subsidy system of basic food commodities.

5. FOOD AVAILABILITY

Egypt largely depends on cereal imports to fulfil its domestic utilization, provided production potentially covers only some 3/5 of the internal needs (Figure 4). According to the latest available figures, most of the food is consumed for dietary needs (64%), while the remainder for livestock feeding (30%) and other use (6%). During 2011/2012, production recorded an increase after a couple of years of dwindling yields, but overall it is still 2% less compared with 2006/2007 estimates. This was influenced mostly by the decreasing trend of rice production between 2009 and 2011, when the Government's implemented policies aimed at reducing rice surplus. On the one hand, rice exports were banned as a response to the high food prices in 2008, having the effect of a disincentive for rice (surplus) production. On the other hand, the introduction of a water quota per rice farm given the general water intensity of cultivation lowered the production of rice (WFP, 2011a).

Figure 4 - Food availability and utilization



Note: WFP's elaboration based on FAO data. Figures are in thousands Metric Tons.

The country is the leading wheat importer in the world with 10.5 million MT in 2011/2012, showing a 50% increase in the import quota for this commodity since 2006/2007 2007 and wheat imports constituting 63% of all of Egypt's grain imports[12]. The bulk of this volume is used to run the subsidised food system (WFP, 2011a). In the past 6 years, less than half of the domestic supply comes from domestic production (Table 2), with the Import Dependency Ratio (IDR)[13] for wheat bouncing within 50% and 60%. Among the most important sources of wheat are Russia, Canada, USA, France, Poland, Australia and Ukraine, which on average for 2006-2010 provided 81% of Egypt's wheat imports.

[12] FAO/GIEWS data.

[13] Import Dependency Ratio is computed according to the following formula: Imports / (Production + Imports – Exports). It provides information on how much of the available domestic food supply has been imported and how much comes from the country's own production. However, there is a caveat to be kept in mind: these ratios hold only if imports are mainly used for domestic utilization and are not re-exported. (FAO, 2001).

Table 2 - Import Dependency Ratio (in '000 MT)

All cereals	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Imports	11,938	11,872	15,112	15,652	16,061	16,671
Production	20,884	20,076	21,399	20,866	18,769	20,523
Exports	1,223	500	572	400	50	100
IDR	*38%*	*38%*	*42%*	*43%*	*46%*	*45%*

Wheat	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Imports	7,000	7,550	9,930	10,050	10,140	10,500
Production	8,274	7,379	7,977	8,523	7,169	8,370
Exports	-	-	-	-	-	-
IDR	*46%*	*51%*	*55%*	*54%*	*59%*	*56%*

Coarse grains	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Imports	4,820	4,312	5,166	5,592	5,571	6,071
Production	7,949	7,952	8,417	8,534	8,038	8,151
Exports	-	-	-	-	-	-
IDR	*38%*	*35%*	*38%*	*40%*	*41%*	*43%*

Rice-milled	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Imports	118	10	16	10	350	100
Production	4,661	4,745	5,005	3,809	3,562	4,002
Exports	1,223	500	572	400	50	100
IDR	*3%*	*0.2%*	*0.4%*	*0.3%*	*9%*	*2%*

Note: WFP's elaboration based on FAO data.

The increase in international wheat prices added substantially to the national food import bill in the Government's expenditure on the bread subsidy programme. Although - after the lift of the export ban - wheat prices from Russia are reduced due to improved production, the weaker currency may partly offset gains from lower import prices (FAO 2012). Wheat is largely produced in Lower Egypt (57% of total), with Al Beheira as targeted governorate providing 12% of the in-country production as opposed to 6% each in Souhag and Assiut.

The national requirement for coarse grains (including maize, and to a lesser extent sorghum and barley) is also strongly secured by imports (IDR 43%).

Contrary to wheat and due to local production of more than 4 million MT per annum, Egypt has been self-sufficient for rice (milled) and in the position to export on average 100,000 MT per year since 2006 (IDR 2%).[14] Rice production does not play a role in Upper Egypt, whereas Al Beheira in Lower Egypt is among the most important rice producing governorates with approximately 15% of the national production. The other main rice producing governorates are Kafr El Sheikh, Dakahlia, Sharkeia (67%).

Overall, Egypt's import dependency has increased over the years, mainly owing to increased imports of wheat and coarse grains. Although this phenomenon makes the Egyptian import bill more susceptible to global cereal price and supply shocks the availability of coarse grains and wheat is not considered as an issue since per capita consumption has remained stable or slightly increased.[15]

Lentils are produced almost only in Sharkheia and Assiut governorates. The total production in 2010 amounted to 2,180 tonnes, up from around 1,480 tonnes in 2009. Compared to the imported

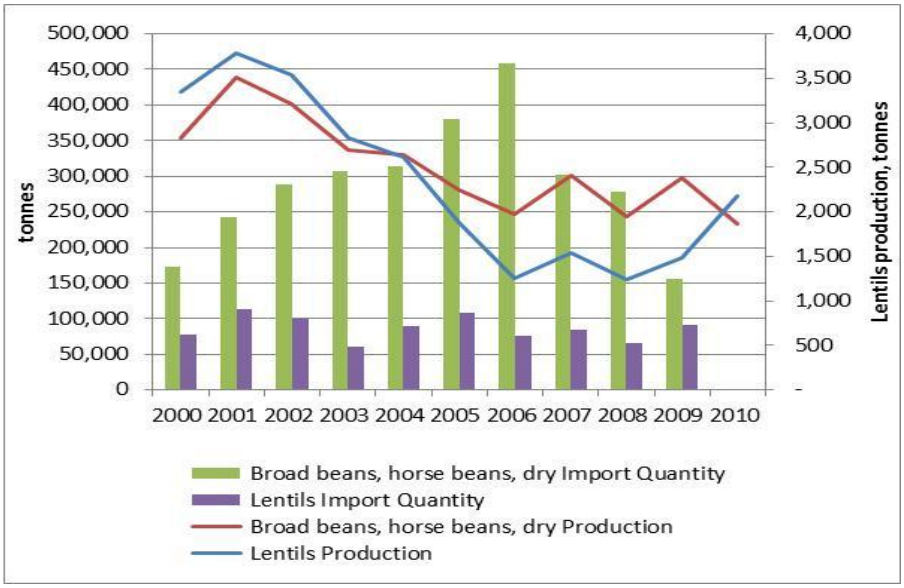
[14] FAO/GIEWS data.

[15] Annual per capita consumption of wheat increased from 180kg in 2006/07 to 183kg in 2011/12 and of course grains it decreased from 46.8 to 45.8kg in the same period.

quantity of close to 91,500 tonnes in 2009, the local production is marginal, also illustrated by a self-sufficiency rate of 2 percent, which was relatively constant in the past five years.

Fava beans are significantly more important in Egypt and predominantly produced in Lower Egypt, although Assiut produces approximately 6% of the national production. In 2010, the total production was 233,500 tonnes, down from 297,600 tonnes the previous year. Yet, as imports were still at 155,500 tonnes in 2009, the self-sufficiency ratio is at 69 % only (Figure 5).

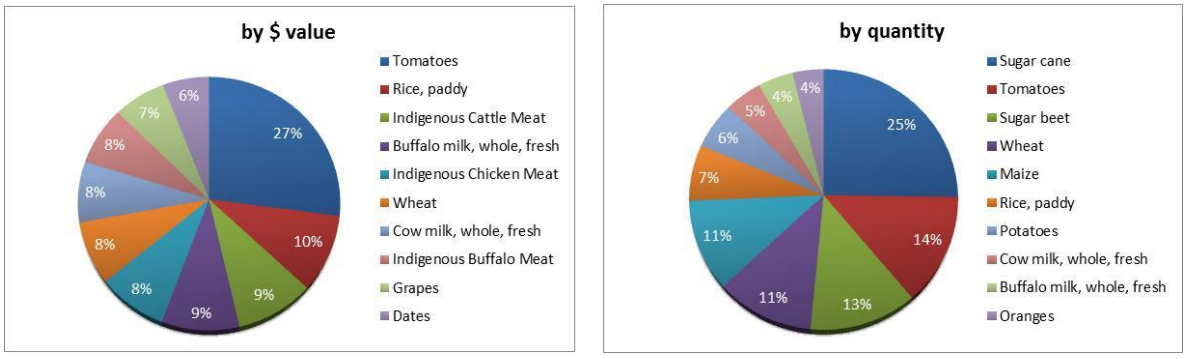
Figure 5 - Pulses: production and import quantities



Note: FAOSTAT data

As Figure 6 depicts, tomatoes, rice, cattle meat, buffalo milk are among the five most important products locally produced when their value is considered. On the other hand, when quantities in tonnes are taken into account, sugar cane, tomatoes sugar beet and wheat turn into the most important commodities. However, retail traders interviewed during the survey reported that the most important commodities for them include predominantly[16] sugar, macaroni, rice, vegetable oil, canned fish, minced meat and yoghurt.

Figure 6 - Top 10 commodities produced in Egypt in 2010

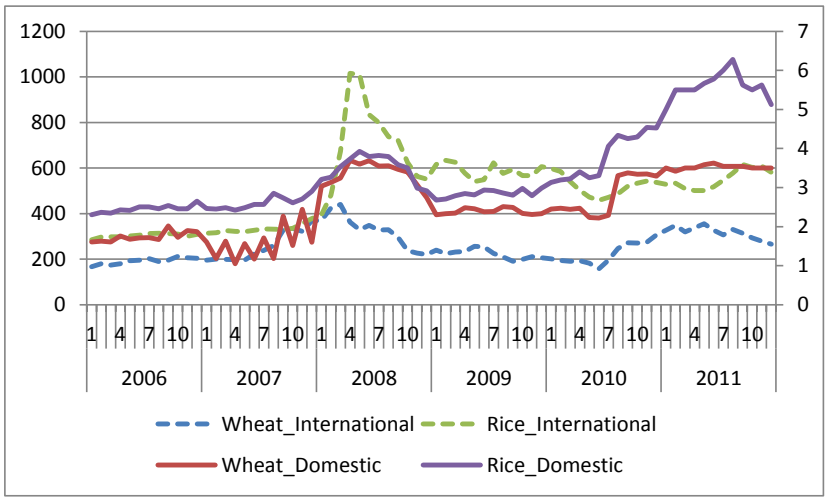


[16] i.e. Mentioned by at least 10% of the interviewed traders as one of the three most important commodities.

Note: FAOSTAT data

There is a relationship between domestic food prices in Egypt and international prices. In general, the spikes (downturns) in domestic prices are preceded by significant increases (decreases) in international prices. However, the correlation is not strong and the extent of decrease in prices following international price reductions is low. Even though a price transmission from international into domestic wheat prices is expected to some extent - *given the import dependency for wheat* - Figure 7 does not fully confirm this hypothesis (the index of correlation is 65% for wheat and 75% for rice).

Figure 7 - International and domestic prices for wheat and rice



Note: WFP's elaboration based on IMF and CAPMAS data. International prices are expressed in USD/MT, domestic prices in EGP/KG

Key findings:

- The high important dependency for wheat (56%) and coarse grains (43%) may pose a challenge to the import bill but has not yet negatively affected the availability of cereals. Rice on the other hand is locally produced which Egypt is self-sufficient in.
- Among the most important locally produced food commodities are sugar cane, tomatoes sugar beet, maize and wheat.
- International cereals prices are related to national prices, although the correlation is only between 65-75% for wheat and rice, i.e. the international price shocks are not transmitted 100%.

6. MARKET PERFORMANCE

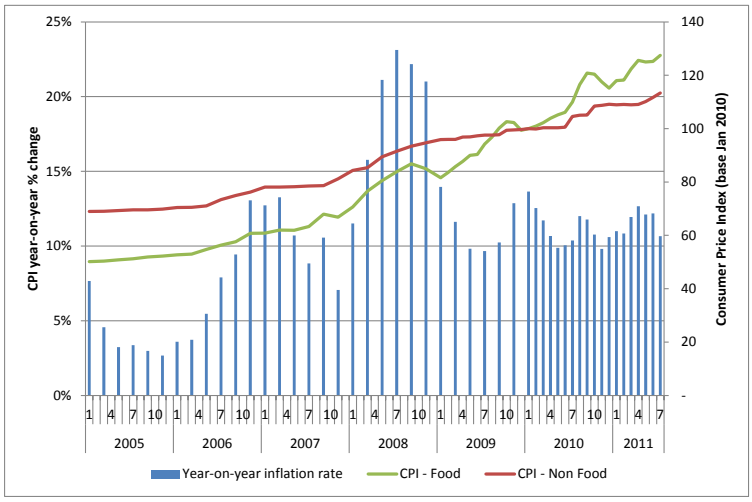
Market analysis was carried out with the objective of understanding market functioning in the governorates of Al Monofia and Al Beheira in Lower Egypt, and Assiut, Souhag and Aswan in Upper Egypt. Specifically, it aims at investigating price patterns for a basket of commodities that play a

crucial role in households' food security. By doing so, the analysis mostly focuses on price changes over time, addressing the issue of price volatility which is likely to transmit uncertainty when price fluctuations are not predictable. Furthermore, it also explores whether price shocks are transmitted across markets, which can be a proxy in the definition of market integration. The latter infers at the interaction between markets, thus providing hints on proper market functioning and commodity flow within different areas.

6.1 PRICE INFLATION

In the 2-year period 2010-2011, monthly inflation stood on average at 11.3%, reaching its acme in January 2010 (13.6%), and its lowest level in November 2010 (9.8%). Besides the 2008 turmoil, when the percentage change was in the order of 20% or more, the past two years have shown quite a substantial inflation pace, mostly driven by food prices. In fact, Figure 8 shows how consumer price index of food items is on the rise since then, being 18.4% compared with 7.3% of non-food items.

Figure 8 - Inflation Trends



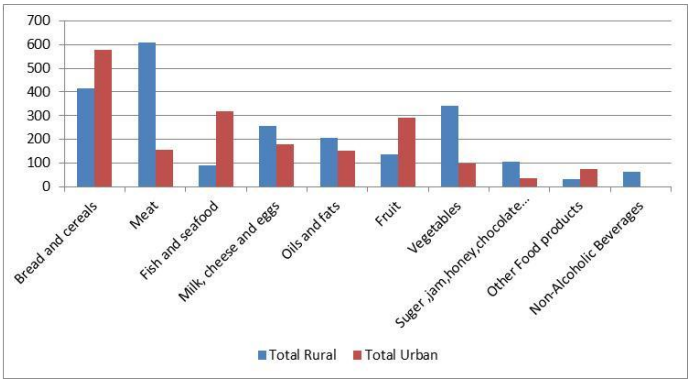
Consumer Price Index percentage increase (2010-2011)

	FOOD	NON FOOD
EGYPT	18.4%	7.3%
Cairo	20.8%	7.6%
Canal	20.3%	6.6%
Alexandria	19.9%	6.8%
Border	21.3%	8.1%
Lower Egypt *(urban)*	18.6%	6.5%
Lower Egypt *(rural)*	17.7%	7.1%
Upper Egypt *(urban)*	27.5%	12.0%
Upper Egypt *(rural)*	17.5%	6.9%

Note: WFP's elaboration based on CAPMAS data.

Across governorates, a definitively outstanding increase in food prices occurred in urban Upper Egypt (27.5%), triggering overall food inflation and accompanied by high non-food inflation (12%) as well. Conversely, the Food CPI in rural settings (Figure 9) is slightly below the national average, mostly pegged by own agricultural production that in those areas is estimated to weight about 20% of the share of the basic food basket consumed by households (WFP, 2011a). This share shrinks up to 2% in the rest of the country, where access to market becomes crucial to secure food needs.

Figure 9 - Weights within food CPI, urban vs. rural



Note: CAPMAS info and based on 2008/09 income and expenditure survey

6.2 PRICE TRENDS

Data were provided by the Central Agency for Public Mobilization and Statistics (CAPMAS). Prices span from January 2006 to December 2011. Within this time frame, the analysis focused on retail prices for 14 commodities aggregated as follows:

- ✓ Pulses: *fava beans, lentils and black head beans*;
- ✓ Vegetables: *tomatoes and potatoes*;
- ✓ Cereals: *wheat flour 72%, unpacked macaroni, unpacked local rice*;
- ✓ Dairy products: *fresh milk and white cheese*;
- ✓ Meat: *beef and white chicken*;
- ✓ Other products: *mixed oil and free sugar*.

The analysis in this section suffers from two different limitations, mostly driven by data availability. Specifically, retail prices were not accessible at the market level in the locations analysed in the report, but were aggregated by urban and rural settings and by Governorate, therefore undermining the feasibility of a proper market integration analysis. Furthermore, wholesale prices time-series were not available as well, thence jeopardizing a full understanding of price transmission dynamics within the country.

Price trends have quite similar patterns, showing an overall increase during the investigated time frame (Figure 10) that confirms the inflation trend presented in the preceding section. By commodity group, price convergence of pulses is worth mentioning, mainly resulting from the sharp upsurge in fava beans prices during 2011. Previously, black head beans, lentils and fava beans prices behaved according to the (almost) same pace, spiking in the last quarter of 2008 after the outburst of the international food price crises. A structural break[17] is detectable in fava beans time-series,

[17] A structural break is detectable when an unexpected shift in a data series occurs. It may reflect temporary or permanent shocks that produce outliers, which are aberrant observations away from the rest of the data (Maddala and Kim, 1998). Models not taking into account this issue perform poorly. In fact, the basic idea behind the price generation model refers to the attitude of prices to be caused by a deterministic process, where the series fluctuates around a long run mean allowing a finite variance over time. In other words, fluctuations are transitory and random shocks may not have permanent effects in the price generation process, implying stationarity of the time-series. On the other hand, non-stationary time-series, on the basis of

meaning that an *innovation outlier*[18] affecting the succeeding price pattern occurred in August 2010. In economic terms, this phenomenon may suggest a substitution effect in the dietary habits with regards to pulses consumption, probably caused by higher demand for fava beans.

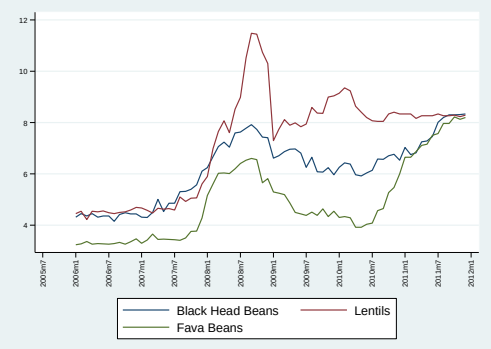
The price of vegetables shows a less pronounced increasing trend, even though vegetables are the only commodities where a clear seasonal pattern can be envisaged. The potato price has been more stable, whereas tomato revealed an abnormal magnitude in its price cycles during the second half of 2010.

Besides local rice, the 2011 price level of wheat flour and macaroni is akin with the one observed in mid-2008, even though the increasing pattern that occurred since May/June 2010 has been lasting longer compared with the previous period. Conversely, the price of unpacked rice peaked at the end of 2011 and remained sustained above its past 5-year average records.

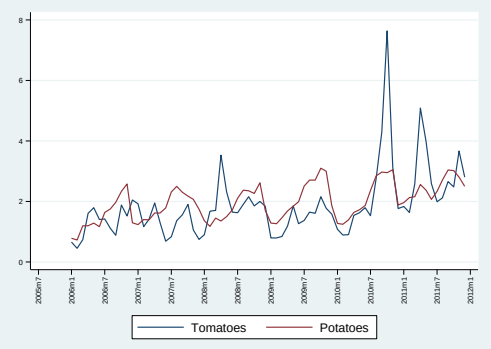
With regards to dairy products and beef, the time-series follow a random walk with drift[19], thus presenting upwards price trends. Differently, white chicken price does not present a defined pattern. Finally, with the only exception of the spike occurred in 2008 in mixed oil prices, both commodities grouped as other products show similar trends and were sharply and steadily increasing since 2009.

Figure 10 - Retail Price Trends (2006-2011)

a. Pulses



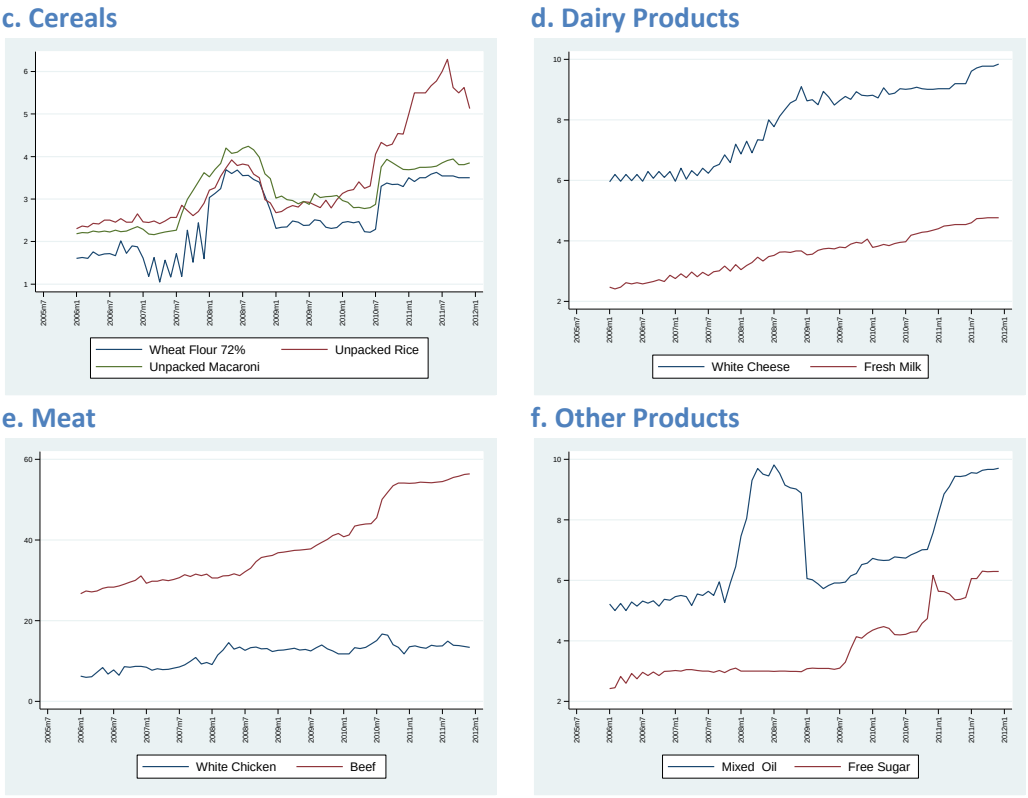
b. Vegetables



their stochastic trend, have no tendency to return to a long-run deterministic path and their variance is time dependent.

[18] Particular, abnormal observation can be defined *additive outlier*, when it does not affect the subsequent ones, and *innovation outlier*, where the effect of a large innovation is perpetrated through the dynamics of the model (Fox, 1972).

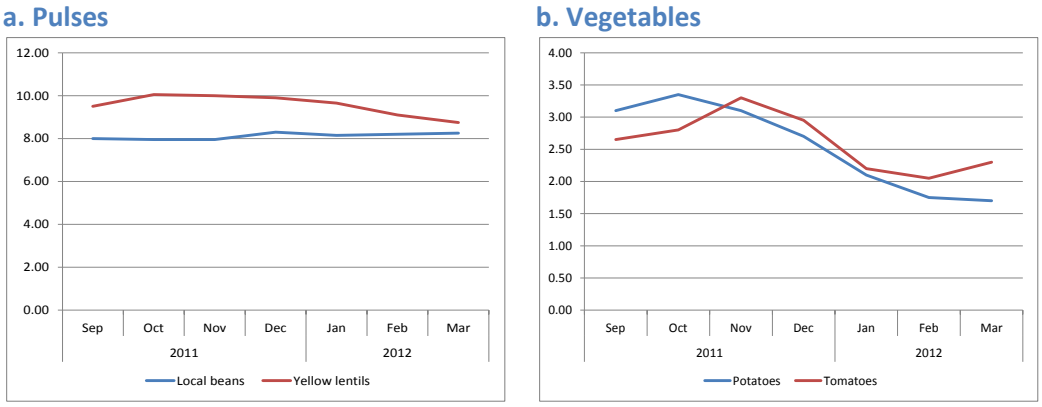
[19] Random walk with a drift implies that the mean and the variance are not constant over time and actually the series slowly wanders showing an upwards trend.



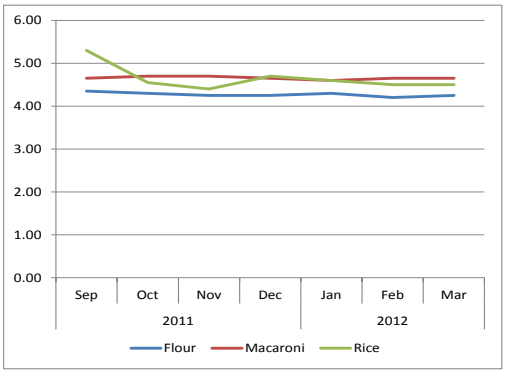
Note: WFP's elaboration based on CAPMAS data.

More recent price trends, covering the period between September 2011 and March 2012, are reported in Figure 11. For consistency reasons, these prices are detached from the long-term time-series presented in Figure 10. The reason behind it consists both in the different data sources exploited and above all in the different aggregations used in the two data collections systems, provided the former is based on the mean of average prices for broad Upper and Lower Egypt, while the latter takes into account urban and rural prices specifically collected in the Governorates of focus.

Figure 11 - Recent Price Trends (Sep 2011- Mar 2012)



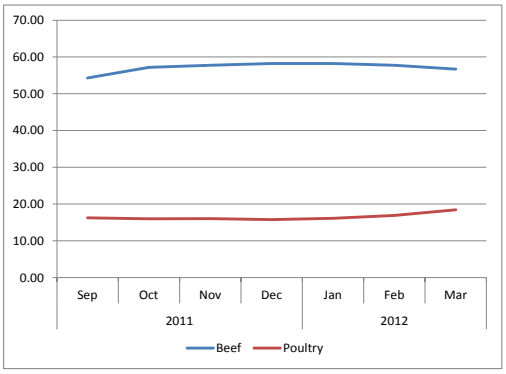
c. Cereals



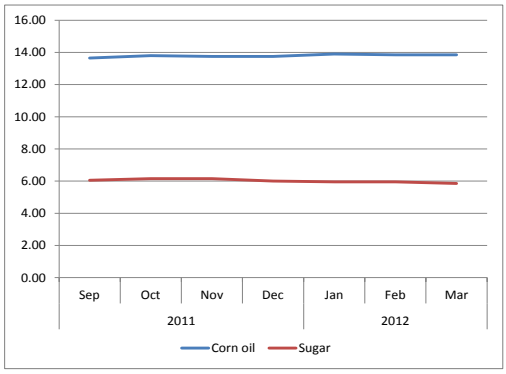
d. Dairy Products

N/A

e. Meat



f. Other Products



Note: WFP's elaboration based on the Egyptian Food Observatory (Food Monitoring and Evaluation System) data, issues # 1-7. Averages prices of Upper and Lower Egypt are here reported.

Nonetheless, it is worth noting that during the first three months of 2012, price trends have remained quite steady compared to the end of the previous year for almost all the commodities but for vegetables, considering both potatoes and tomatoes present their usual seasonal downturn.

For the remainder of this section and for the sake of its overall quality, the first quarter of 2012 will not be considered. The trade-off judgement between exploiting relatively more up to date prices or relying on less but more consistent data is therefore in favour of the latter, offering a quality gain to the whole analysis provided either the steadiness of price trends over the dropped period compared to the recent past or their expected seasonal behaviours.

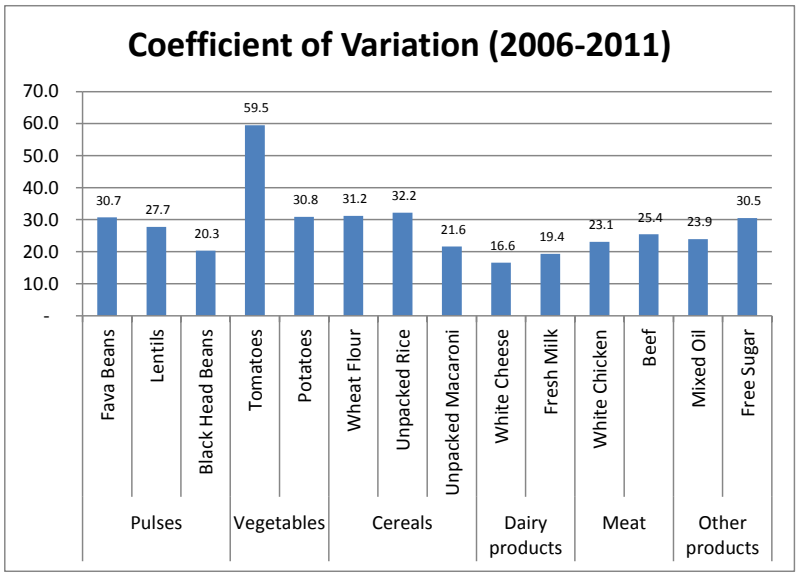
6.3 PRICE VOLATILITY

Price volatility is a major source of risk for poor and vulnerable households' purchasing power. The coefficient of variation, computed as the ratio of the standard deviation to the mean, is a useful tool to compare the degree of variation of different data-series. Being an indicator for the dispersion of prices from their average, it provides useful hints to assess how prices change through the market in space and time for different actors (WFP, 2011b).

Overall the coefficient of variation ranges between 16.6% for white cheese, and 32.3% for rice (Figure 12). The only exception are tomato prices (59.5%) that are mostly driven by the combined effect of a pronounced seasonal pattern with abnormal spikes cyclically re-occurring since the

second half of 2010. As expected, fava bean prices have the highest variability within pulses (30.7%), whilst wheat flour and rice present close figures within cereals (31.2% and 32.2%, respectively). Free sugar[20] shows a quite similar coefficient of variation (30.5%) as well. The latter three commodities are also included in the subsidy scheme promoted by the Government to stabilize prices.

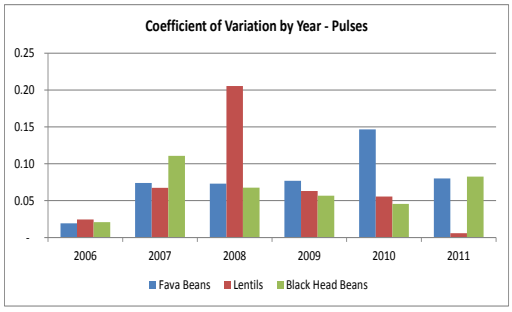
Figure 12 - Price Volatility

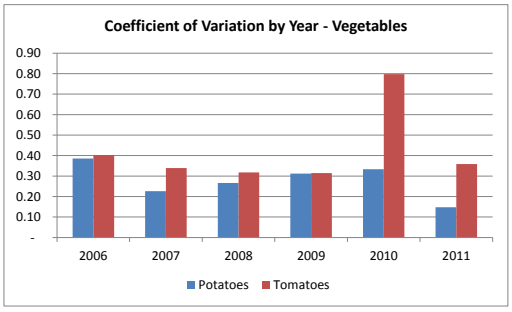


Note: WFP's elaboration based on CAPMAS data.

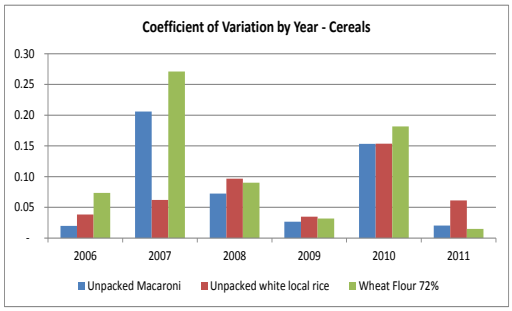
The specific contribution provided by each year on overall volatility is thence broken down in Figure 13. Most of the commodities showed an increase in their price variability in 2010 (fava beans, tomatoes, unpacked macaroni, rice, wheat flour, fresh milk, beef, white chicken and free sugar). The price volatility of cereals decreased in 2011, thus returning to its 2009 levels. With few exceptions, price variability relented in 2011, being at its lowest rates for lentils (1%), potatoes (15%), macaroni (2%), wheat flour (1%), beef (2%) and white chicken (3%).

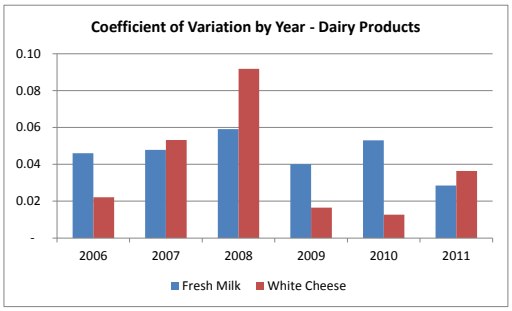
Figure 13 - Coefficient of Variation by Year

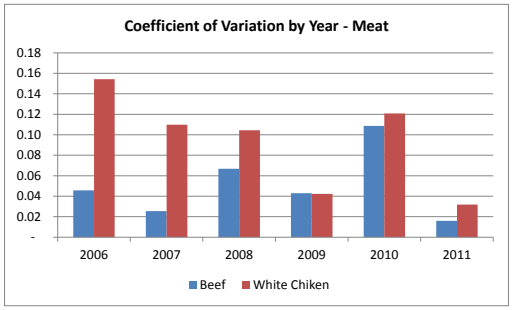


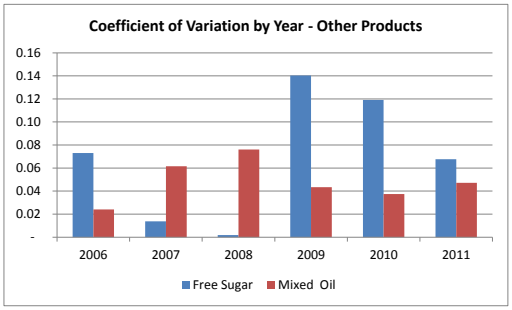


[20] Packed by the private sector.









Note: WFP's elaboration based on CAPMAS data

In addition to the yearly contribution provided by each year, price volatility can also be tackled through the analysis of seasonality, which is also crucial in price forecasting, and thereafter for cash and voucher transfer value setting and determination of forward contract price of local purchases. The seasonal patterns for selected commodities are reported in Figure 14. The Grand Seasonal Index (GSI) is the ratio between a price at a given time and its centred moving average over the year that incorporates the full cycle of the seasonal patterns.

With regards of pulses, fava bean prices present crossed seasonal trends, having similar patterns in the period between January and July, where prices in urban markets are upward shifted, whilst in the remainder of the year the price in rural markets becomes higher and more volatile, with spikes every other month starting from August. Also for black head beans, prices usually peak in August, remaining quite high up to the end of the year. On the other hand, lentils present no significant seasonal pattern.

The seasonal trend is highly pronounced for macaroni, showing price spikes in August, mostly in rural areas. Prices remain then high until December, following a decreasing trend that holds up until July. Similarly, wheat flour has a bimodal pattern more pronounced in rural markets while almost smoothed in urban ones, with the uttermost in September and a minor peak in April/May. No significant seasonality is reported for local rice, neither at the urban nor at the rural levels.

Price behaviour for vegetables is slightly different. While tomatoes present a bimodal pattern as well, hiking in April/May and October, potatoes slowly increase during the year, reaching a steady climax during the fall.

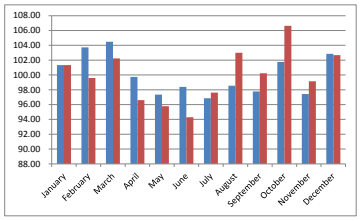
Dairy products behave quite differently in urban and rural settings. In fact, white cheese prices are on the rise between March and May in urban markets, while the opposite is true in rural ones.

Moreover, a significant spike can be envisaged only for the formers in December. The same note is applicable for fresh milk prices as well, even though their seasonality appear more pronounced in urban markets rather than in rural ones, where price pattern presents spikes in April, September and December.

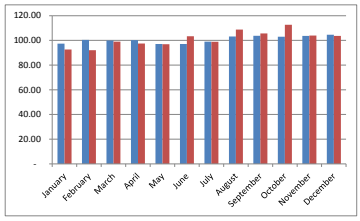
White chicken prices are almost stable during the year, whilst beef prices show a remarkable seasonal pattern having in June their lowest levels and peaking in October-December. Similarly, free sugar prices present the same pattern, even though less skewed towards the end of the year, while mixed oil is more expensive in urban markets from February to September, and in rural markets in the remainder of the year.

Figure 14 - Grand Seasonal Index (Urban vs Rural)

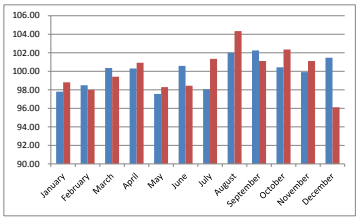
a. Fava Beans



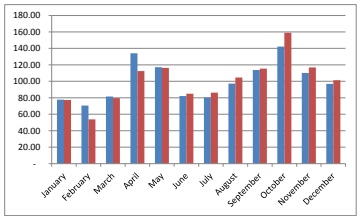
b. Lentils



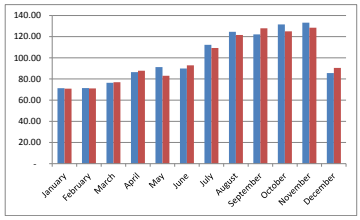
c. Black Head Beans



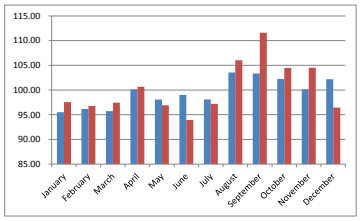
d. Tomatoes



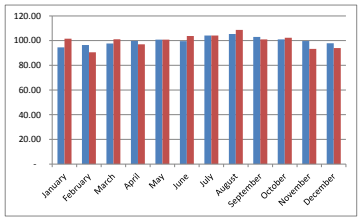
e. Potatoes



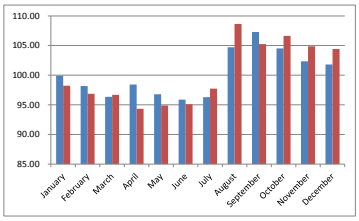
f. Wheat Flour



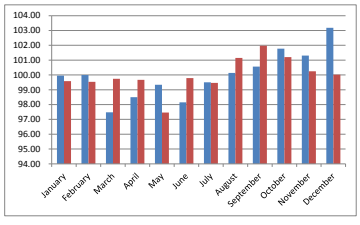
g. Unpacked Rice



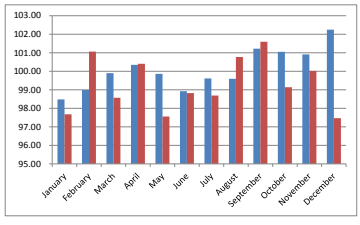
h. Unpacked Macaroni



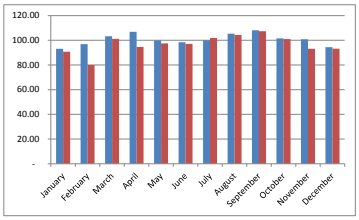
i. White Cheese



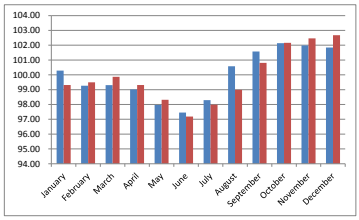
j. Fresh Milk



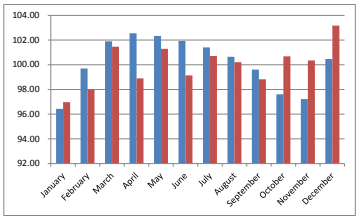
k. White Chicken



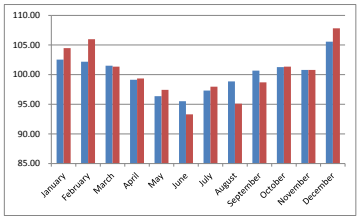
l. Beef



m. Mixed Oil



n. Free Sugar



Note: WFP's elaboration based on CAPMAS data. Blue stacks refer to Urban prices while red stacks refer to Rural prices.

The information derived from the GSI can be exploited to define an upper and lower band where prices are supposed to fluctuate. Based on the knowledge of their historical values once common factors including inflation are smoothed out, the inference on the monthly evolution of prices is thus possible. This forecasting exercise can eventually help in the definition of the transfer value for vouchers, by setting it using the upper bound as a contingency of price hikes on both the budget and the transfer value to beneficiaries.

Considering the increasing percentage of households denoting an insufficient purchasing power for food items, mostly because incomes are not in line with current prices (IDSC and WFP, 2012), and in light of the overall nutritional content of the commodities of focus, it may be envisaged that lentil, rice and white chicken prices are time inelastic, steadily influencing the cost of the food basket over the year. The transfer value to potential beneficiaries should instead take into account price patterns of the other commodities, especially wheat flour, macaroni, fava beans, and dietary products. All the above food prices in fact achieve their peak at the end of the year, mostly straddling the fall season (September-November), while presenting a quite evident decrease in the remainder of the year, having their lower bound approximately in May and June.

6.4 MARKET INTEGRATION

Traders pursue price differences among space and across time to make profits by moving goods taking advantage of possible price margins. In the long run, according to the arbitrage law, the prices of a commodity in two different markets are therefore bounded to converge. Markets may be defined to be efficient in their semi-strong definition (Fama, 1970) if prices disclose all available public information, and profit opportunities derived by exploiting some information dramatically decline.

The extent and timeliness to which price signals are transmitted between markets depends on the degree of market integration, which incurs when the price difference is less compared with the transaction costs sustained by traders to move commodities from one place to the other. Put it differently, when markets are integrated arbitrage is less likely and price differences are expected to lessen because adjustments would take place promptly across markets. This is a major issue to be assessed in case of cash-based interventions, because increased liquidity is likely to trigger price inflation when market integration does not apply.

Condition for integration is price correlation across markets. In the selected governorates, prices show a high correlation index (0.8 or more) for most of the commodities (see Figure 15). The only exceptions can be highlighted for cereals, namely in Aswan Rural for macaroni, that is poorly correlated with all the other settings (on average 0.51), Al Monofia rural for rice (on average 0.52), and pairwise low correlations for wheat flour (i.e. Assiut rural/urban 0.24; Assiut rural/Souhag urban, 0.31; and broadly Al Monofia rural).

Besides some inconsistencies that could have been veiled by rural and urban averaging, price patterns by commodity suggest that markets may be integrated in the selected governorates, which is an important finding for market based interventions. Still, price correlation evidence does not provide any information on actual commodity flows across governorates; thence any inference towards a market integration assumption requires caution and an ad hoc supply-chain assessment.

In order to better understand market characteristics in the 5 Governorates, and whether the information included in the prices observed in one location contributes to the prediction of future prices in another location, Granger causality tests (Granger, 1969) were applied for the commodities where price data were not collinear.

The results are presented in Figure 16, providing the count of Granger causalities at a level of significance of 10% or less, based on the rejection of the null hypothesis that prices in the location *i* do not Granger cause prices in the location *j*. The rationale behind is to detect key markets for monitoring price behaviours and forecasting possible changes in other markets. The higher the number, the more a market forecasts (pane A) or follows (pane B) price signals compared to the others. With regards to vegetables, most of the locations show a limited attitude of impelling price changes. It is worth mentioning the results for tomato prices, where more than 4 significant causalities are found only in Aswan rural in the price forecasting pane (specifically 6).

Figure 15 – Price Correlations

Note: WFP's elaboration based on CAPMAS data. Green bullets indicate price correlations equal or higher than 0.80, yellow bullets indicate price correlations between 0.60 and 0.79, red bullets indicate price correlations equal or less than 0.59.

A clear distinction can be drawn between those markets where prices follow signals coming from the other settings, namely Al Beheira urban, Al Monofia urban, and both Assiut rural and urban where 8 out of 9 significant causalities were detected, and the other markets where price determination follow an endogenous pattern - namely Al Monofia rural (0), Aswan rural and urban (0 and 1, respectively), and Souhag rural and urban (0 and 1, respectively).

Differently, mixed oil, free sugar (with the only exception of Assiut rural) and white cheese (almost everywhere but in Al Monofia urban) present strong price linkages in the two-way causality directions. To a lower extent, the same applies for beef without taking into account again Al Monofia urban and Souhag urban markets, where price inputs towards outside locations are limited or null, and in Assiut urban as a follower market.

By reading Figure 16 panes horizontally, it comes out that macaroni price in Al Beheira rural influences 7 other markets without being affected at all by other prices, while the opposite is true for Al Beheira urban, which is found to be Granger caused by all the other markets. Overall, prices in that Governorate are good predictors for fava beans price determination and should therefore be included in monitoring. For fresh milk the opposite applies, i.e., Al Monofia urban is influential for fresh milk prices, and bi-directionally linked with other markets for mixed oil and free sugar. In Upper Egypt, Assiut and Souhag behave quite differently as follower markets, mostly for price macaroni, fresh vegetables, and partially for free sugar. In the latter Governorate, the price generation pattern is seldom determined by a noteworthy number of other markets, thus suggesting *ad hoc* monitoring since price behaviour may differ or be quite disconnected from the other settings.

Overall, white cheese, beef, mixed oil and free sugar prices present the highest number of Granger-causalities. Conversely, fresh vegetables follow a local pattern. All these findings are in line with price correlations results.

Figure 16 - Granger Causality Test

a. Markets that forecast price changes

	Fava Beans	Black Head Beans	Macaroni	Tomatoes	Potatoes	Fresh Milk	White Cheese	Beef	Mixed Oil	Free Sugar
Albehira_Rural	6	2	7	4	1	1	5	7	4	5
Albehira_Urban	7	5	4	3	3	3	5	6	8	7
AlMonofia_Rural	3	1	5	2	2	4	4	7	7	4
AlMonofia_Urban	3	3	3	4	2	8	2	0	8	7
Assuit_Rural	7	5	4	3	2	7	4	8	7	6
Assuit_Urban	5	2	5	4	3	6	8	5	9	7
Aswan_Rural	0	7	3	6	4	2	7	5	7	5
Aswan_Urban	5	7	6	4	4	4	8	8	4	6
Souhag_Rural	4	4	6	4	3	2	7	5	7	5
Souhag_Urban	4	7	5	4	3	6	8	2	4	5

b. Markets that follow price changes

	Fava Beans	Black Head Beans	Macaroni	Tomatoes	Potatoes	Fresh Milk	White Cheese	Beef	Mixed Oil	Free Sugar
Albehira_Rural	4	5	0	4	1	6	4	6	4	5
Albehira_Urban	4	4	8	8	0	6	5	5	5	4
AlMonofia_Rural	6	3	6	0	3	4	5	6	6	7
AlMonofia_Urban	4	6	4	8	0	3	8	8	7	7
Assuit_Rural	4	6	6	8	8	4	7	5	7	1
Assuit_Urban	4	4	6	8	2	6	6	3	8	7
Aswan_Rural	5	4	7	0	6	3	7	4	5	4
Aswan_Urban	4	5	5	1	1	4	5	5	7	6
Souhag_Rural	5	3	3	0	1	4	6	4	7	9
Souhag_Urban	4	3	3	1	5	3	5	7	9	7

Note: WFP's elaboration based on CAPMAS data. The count of significant Granger causalities spans from #0 (dark blue) to #9 (dark red). In within, Granger causalities are coloured in pale blue (#3), white (#4), and pale red (#5).

In general, taking into account the exceptions reported above, white cheese, beef, mixed oil and free sugar present strong evidence of price integration between markets. Therefore, any abnormal

behaviour pinpointed in a specific market is likely to be transmitted across the remaining markets. Differently, vegetables and partially fresh milk present opposite evidence. No general conclusion can be drawn for cereals (i.e. macaroni), even though apparently market forecasts in Lower Egypt are supposed to be more determined by rural markets while the contrary is true for Upper Egypt. For fava beans Al Beheira and Assuit markets are likely to anticipate price changes.

Finally, Figure 17 graphs price trends by market for selected commodities and shows quite similar price behaviours, thus providing further evidence of market integration across markets. Hence, the risk that markets show isolated price behaviour patterns or are not functioning well is reduced, which is an important finding with regard to cash and voucher operations.

Figure 17 - Price Trends by Market

Note: WFP's elaboration based on CAPMAS data.

Key findings:

- In the 2-year period 2010-2011 inflation showed a quite substantial pace, mostly driven by food prices, especially in urban settings. Commodity prices have quite similar patterns, showing increasing trends since 2006. Noticeable, the price increase relented during the first quarter of 2012.
- The volatility of prices under investigation ranges between 17% to 32%, showing an increase in 2010 and an overall slowdown in 2011. The seasonal aspect is naturally more pronounced for vegetables than for other commodities. In terms of the transfer value to potential beneficiaries, the prices of some commodities are quite time inelastic (lentils, rice and white chicken), while wheat flour, macaroni, fava beans and dietary products prices achieve their peaks at the end of the year, having their lower bound in May and June.
- Market integration is the pre-condition to avoid that increased liquidity deriving from cash-based interventions would trigger into higher inflation. In general, prices in the selected governorates display high correlations for most of the commodities and price trends show similar patterns, confirming the assumption of a good spatial integration of markets. Yet, no information on commodity flows was disclosed in the assessment. Apparently, market forecasts in Lower Egypt are supposed to be more determined by rural markets while the contrary is true for Upper Egypt. The risk that specific markets show isolated price behaviours and no efficient functioning is low.

7. MARKET STRUCTURE AND CONDUCT

This chapter describes the structure and conduct of the Egyptian food market obtained through literature review and key-informant interviews on one side, and primary data collection at the trader level on the other side.

7.1 SUPPLY CHAIN STRUCTURE AND MARKET ENVIRONMENT

According to key informant interviews, both the wheat and rice import sectors are controlled by around 5 companies only. They described the Egyptian food supply chain composed by two parallel systems, on the one hand an "*underground supply chain*" where brokers/traders conduct *buy-to-sell trade*, with subsequent potential concerns on food safety, high waste rates, high volatility of prices, and day-to-day spot price purchases. Part of this fragmented retail sector is composed by small retail shops with limited storage capacity, usually supplying dry (cereals, pulses) and processed commodities, although few of them offer fresh products such as milk and eggs.

Conversely, the "*new-lands supply chain*" is approximately only 15 years old and represents a more integrated market structure, availing of sophisticated collection systems and cooling chains, an

ability of conducting just-in-time deliveries and achieving economies of scale, other than being the backbone of the processing and exporting food sectors.

Further to the above, the supply chains are significantly different between Upper and Lower Egypt. In Upper Egypt they include not very well distributed outlets, situated within a very narrow and vertical strip (i.e., South-North along the river Nile) where extreme weather conditions prevail. In Lower Egypt, the road network has more horizontal East-West transport connections and, therefore, enables processors/wholesalers to distribute at lower cost and lower waste rates.

The above findings on markets integration do not necessarily contradict the fragmented retail sector phenomenon here described, which actually hints towards the number of actors and their related overall trading capacity.

Being part of the retail sector, *tamween* shops are integrated into the subsidy system of the Government of Egypt and sell rice, tea, oil and sugar as per household quotas indicated on ration cards. Provided supermarkets often are most not available in villages, both vegetables and fruits are normally sold on outdoor or open-street markets, predominantly by female traders who focus on approximately 1-3 commodities. As a matter of fact, overall quality standards are low and sales volumes per trader quite limited. In fact, almost 75% of "*wholesale and retail services [and activities] are led by the informal sector*" (El-Megharbel, 2010), showing a lack of compliance with the tax system and health, safety and quality control regulations. Indeed, the work remuneration is definitively characterised by low wages. For the remainder of the retail sector, small and medium-sized enterprises (SMEs) are particularly active, whilst the wholesale sector is traditionally controlled by larger firms.

The share of the wholesale and retail distribution sector in GDP declined from 16.9 percent in 2000/2001 to 11.2 percent in 2008/2009. Generally, distribution services are facing several constraints, including an inefficient regulatory system, poor supply-chain management practices, lack of skilled labour, inadequate logistics, and misallocation of resources.

Poor logistics and inadequate supply chain services lead to an estimated wastage of around 30 percent of agricultural products (El-Megharbel, 2010) during either transport or display, which obviously applies predominantly to fresh food products. Together with high transport costs – in particular for those small retailers lacking adequate storage and operating in congested traffic environment – this wastage eventually determines additional premiums for fresh products paid by the consumer.

Due to the geographical characteristics of the country, the Government enforced safeguarding policies to avoid displacement of agricultural land towards other activities, thus hindering by law the possibility to build on it. As a matter of fact, the efficiency of wholesale and retail services is negatively affected, as storage, warehouses, chilling and collection centres are established in areas that are not near the fields resulting in higher costs. In addition, real estate fees have been affecting the establishment of wholesale and retail outlets as well. Further logistical problems arise from the road network connecting the Delta and Upper Egypt, and the lack of horizontal roads, especially in Upper Egypt.

Reportedly, the supply chain in Egypt has a quite underdeveloped retail market, which contributes only 15-20% to the food supply-chain turn-over and 1% of the total trade outlet. The reasons include *i)* limited land availability and *ii)* prohibitive legislative procedures in terms of the number of permits and inspections required. While the development of a 1-stop-shop to facilitate the obtaining of permits in the GoE was underway, this process has been halted since the revolution. However the system is generally in place with opportunities to further improve it.[21]

Since big suppliers in Cairo and Alexandria often have their own transportation fleets, the distribution network for processed commodities is different by area and follows in general the below pattern[22]:

Cairo/Alexandria:	Factory →	Own distributors	→	Retailers		
Other major cities:	Factory →	Factory agents /distributors	→	Retailers		
Governorate/Rural:	Factory →	Factory agents	→	Sub-distributors	→	Retailers

Unlike retail and wholesale sectors, market concentration is recognized among producers. For instance, the number of large Egyptian processors of food exporting sizeable quantities does not exceed 100 units. In 2004, the total amount of exports derived from 75 of them amounted to USD 185.4 million, while eleven firms exported almost 62 percent of this value (ECORYS-NEI, 2005).[23]

Key Findings

- The market structure in Egypt consists in supply chains that differ significantly between Upper and Lower Egypt, predominantly based on the road network and geographical conditions.
- The retail sector is quite fragmented, being characterized by many very different actors, including *tamween* shops dealing with subsidized commodities, supermarkets, and petty traders.
- Retail services are led by the informal sector showing a lack of compliance with the tax system, while health, safety and quality control regulations being generally inadequate in terms of storage, chilling and collection centres. Rates of wastage or post-harvest losses are considerable.
- The wholesale sector is controlled by larger firms, while the producer sector in major commodities such as rice or wheat is largely controlled by a low number of companies.

[21] Key informant interview on 6.2.2012.
[22] Key informant interview on 6.2.2012.
[23] In El-Megharbel, 2010.

7.2 TRADERS ASSESSMENT

The following section analyses primary data collected during the trader survey, with regards to the number of customers, sources of commodities and their general response capacity.

7.2.1 General Characteristics of Traders

In total, 185 traders (130 retailers, 46 wholesalers and 9 factories) were interviewed in Al Beheira, Al Monofia, Souhag, Assiut and Aswan Governorates as well as in Cairo and Alexandria cities. Despite this categorization, wholesalers and factories do not concentrate only on their main trading activity. In fact, 13 out of 46 wholesalers also engage themselves in retailing, while 2 of the factories conduct wholesaling and 1 claiming that import/export is its prime activity.

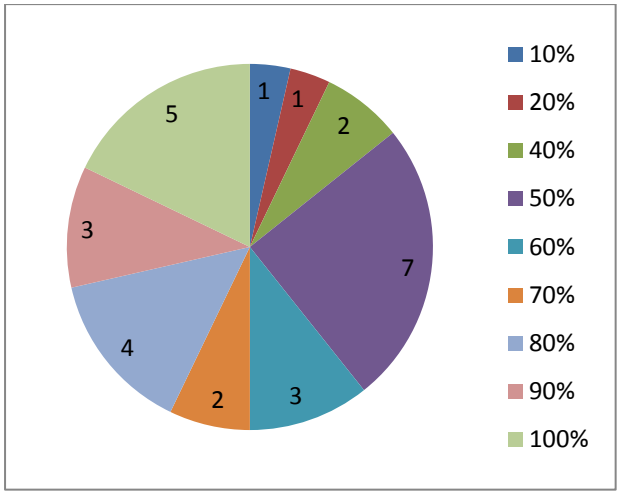
In the 80% of the cases, the interview was conducted with the owner of the business, whilst the administrative officer was the respondent in around half of the interviews at the Cairo/Alexandria level, given the naturally larger operations. Without surprise, the business is largely in the hands of men as only 7% of all traders are women, who play an even more marginal role in urban compared to rural areas (4 vs. 11%).

The majority of the businesses have a history of more than five years which is applicable for 67% of all interviewed traders, reaching 93% in Cairo and Alexandria. However, in Al Monofia and Souhag the interviewed traders – four and three, respectively - started their business within the last year only.

The size of the shops varies significantly between trader categories; having retailers 17 m^2 shops on average, while wholesalers 67 m^2 shops.

Interestingly, only 28 traders, all of them being retailers, reported to trade subsidized food commodities (Figure 18). Except wheat (29% of the 28 traders) and macaroni (60%), the three other ration card commodities (sugar, rice, tea) are supplied by all of them. For half of these traders, the proportion of the subsidized commodities in their business is 70% or more. Out of the commodities that are subsidized, sugar is clearly the most important (for almost 70%), followed by rice and wheat. While the results may not be generalised due to the purposive sampling approach used, they still indicate that trading subsidized commodities is of paramount importance for these traders' portfolio, and may be a signal of their specialisation. In terms of potential cash or voucher based intervention, to ensure a broader and diversified food basket, the implication of such a specialisation – and hence the ability to expand the range of commodities - needs to be considered during the selection of cooperating shops.

Figure 18 - Number of *tamween* shops interviewed and proportion of the subsidized commodities traded



Note: WFP Traders' Survey in Egypt, 2012.

7.2.2 Volumes and Flows

According to the results of the trader survey, 75% of retailers have less than 100 customers per week, almost 50% even less than 50 (Table 3). In rural areas, 57% have less than 50 customers a week contrary to urban areas where almost 60% have more than 50 customers. Considering that normally retail shops are open six days a week, the daily rate appears low for such a business type. Reasons behind are low demand by customers, and high fragmentation of the retail market. The counterintuitive fact that wholesalers served more direct customers than retailers during the past week adds to the impression of a rather weak retail sector. Regionally and from the wholesalers' perspective, 90% of the interviewed traders in Lower Egypt have more than 100 clients a week compared to a third only in Upper Egypt, which clearly demonstrates the more vibrant business climate and potential in Lower Egypt. From a programme design perspective, the number of potential new customers in a cash & voucher project *vis-à-vis* the currently low number of actual clients has two connotations which need to be verified before, other than closely monitored during the implementation phase: *a)* whether there is potential to significantly increase the daily number of customers without crowding-out drawbacks or *b)* the capacity of the shops is currently geared towards the actual number of customers, which implies that the beneficiary-per-shop ratio should only carefully be increased.

Table 3 - Customer flows

Number of clients last week					
	≤ 10	**11-50**	**51-100**	**>100**	**Total**
Factory				100%	100%
Wholesale	4.3%	13.0%	30.4%	52.2%	100%
Retail	3.8%	46.2%	25.4%	24.6%	100%
Total	***3.8%***	***35.7%***	***25.4%***	***35.1%***	***100%***

Note: WFP Traders' Survey in Egypt, 2012.

Compared to one year ago, the number of customers declined for a third of all traders, yet the phenomenon was more pronounced at the retail (42% of traders) and factory (44%) levels. Regionally, the decline seemed to occur particularly for retail shops (45-66% of interviewed traders) in Al Monofia, Aswan and Al Beheira.

Sales volumes have increased compared to one year ago for a minority of retailers and wholesale traders only. A decrease in volume was predominantly observed by wholesalers in Cairo (80%) and within Upper Egypt (average 71% in Assiut and Souhag), while overall a third of respondents did not feel any change in their trading volumes. In Monofia, Souhag and Assiut, volumes decreased more than 21% for the large majority of the interviewed traders[24] although the number of customers remained at the same level, indicating that purchasing power might have decreased at customer level. Clearly, the interviewed traders who experienced a reduction in sales (82% of those traders) echo that indication, mentioning a decrease of demand – both inside and outside of the district – and reduced income as most important reasons for the decrease. On the contrary, out the 21 traders who experienced an increase in sales, 7 stated additional demand from outside their district and 9 from inside their district respectively as the most important reason.

As expected, retail shops predominantly source their commodities from wholesalers either within their own district or governorate (Figure 19). Wholesalers have a wider geographical range, which also include wholesalers and factories outside the governorate, which is consistent with above finding of market integration. For the commodities under review in this survey, farmers do not seem to be a very important direct supplier except for a few food processing factories, which have their own/contract farms apart from direct contacts with mills. Geographical differences between Lower and Upper Egypt are of not substantial nature although traders outside the governorate are more important in Upper Egypt than Lower Egypt, potentially due to lower density of traders in the former.

Figure 19 - Source for most important commodity traded

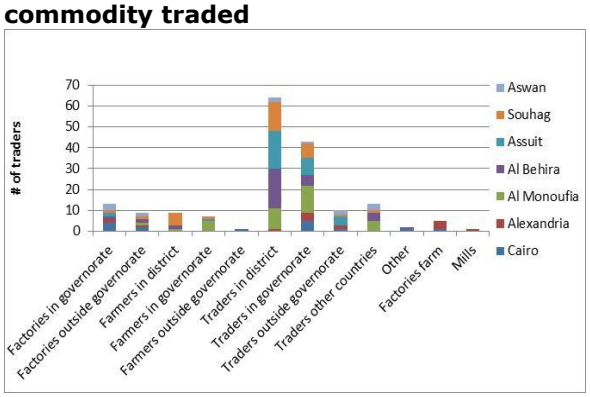
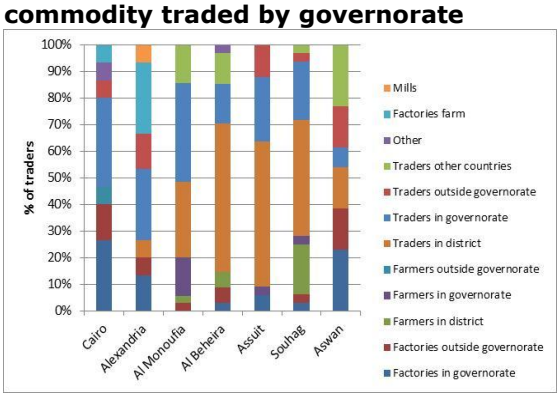


Figure 20 - Source for most important commodity traded by governorate



Note: WFP Traders' Survey in Egypt, 2012.

Commodity specific observations include that yellow lentils are only mentioned as most important commodity in Assiut and Aswan, by one respondent in each (Figure 20). They originate from the

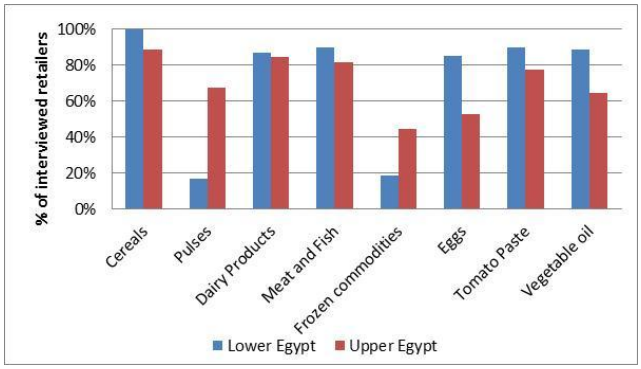
[24] 73-94%.

same district and are locally traded. As below figure depicts, pulses are not commonly in the shelves of the type of retailers that were visited, especially in Lower Egypt (< 20% of traders). In case pulses are going to be part of the beneficiaries' food basket this issue needs tackling, either by making pulses a compulsorily offered food item in participating shops or by providing beneficiaries with the opportunity to redeem pulses elsewhere.

Yoghurt at retail level is exclusively sourced from traders within the same governorate while factories and wholesalers source it from farmers. Fresh milk as most important commodity was only reported in Lower Egypt and is supplied to retail shops through local traders in the district, whereas wholesalers did not mention it as most important (Figure 21). Generally, fresh milk is supplied only by 36% of the retailers interviewed. As such, the inclusion of milk in the food basket of a food assistance project entails the risk of undersupply and would require a more detailed investigation about its feasibility by means of the type of retail shops visited during the survey. Interestingly, UHT milk plays an important role for 6 of the interviewed retailers, although only half of the retailers interviewed offer UHT milk. Hence, similar implications as for fresh milk apply.

Frozen products are specific both in terms of demand and supply. Focus groups discussions with households unsurprisingly revealed that fresh products are preferred rather than frozen meat and fish. This is mirrored on the supply side with only a third of retailers offering frozen products on average. For example, in Lower Egypt, frozen fish was only traded by one retailer, yet not as most important commodity. Hence, consideration of frozen products in a potential food basket appears to be questionable.

Figure 21 - Commodity groups supplied by retailers



Note: WFP Traders' Survey in Egypt, 2012.

Processed cheese was mentioned as the most important commodity traded by only two retailers and one wholesaler in Al Beheira. The latter purchases raw cheese in a factory outside the governorate, while the formers either from traders within the district or the governorate itself.

Four traders in total, active in Al Beheira and Assiut, considered white cottage cheese as the most important. Whilst in Al Beheira some of them sourced it also from abroad, in Assiut most of the cheese comes directly from a specific factory in the governorate. Lastly, canned tuna is popular with 85% of retailers on average, even though no respondent listed it as the most important product.

7.2.3 Credit

Credit supply from traders in Egyptian markets is relatively high and represents a strategy for traders to deal with the lack of purchasing power but also to retain clients, especially when competition is high. On average, 57% of the interviewed traders provide credit to their clients (Figure 22). Credit provision is very important in Al Beheira (69% of traders), Souhag (69%), Aswan (67%) and Assiut (60%). Compared to other actors of the supply chain, giving credit to clients is more prominent among retailers compared to wholesalers (65% vs. 41%). Additionally, credit is more present in rural areas (79% of the traders) than in urban areas (44%, see Figure 23). On average, traders provide 36% of their sales on credit, without significant differences between the wholesale level (around 42%), and at the retail level (35%, see Table 5).[25] Given the quite low number of cases available for certain commodities, it is however difficult to clearly detect commodity-specific differences.

Figure 22 - Provision of credit to customers *(by trader category)* in % of traders

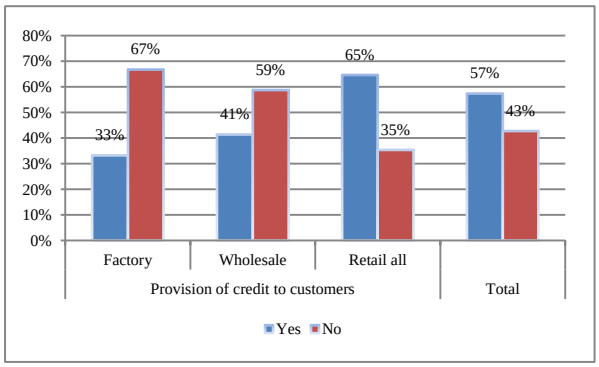
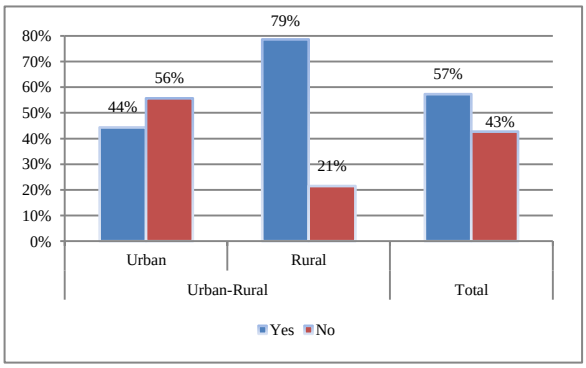


Figure 23 - Provision of credit to customers *(by trader region)* in % of traders



Note: WFP Traders' Survey in Egypt, 2012.

Compared to last year, fewer end-customers are asking for credit at retail level, i.e. 50% of the retailers reporting a decrease (Table 4). On the other hand, 42% of wholesale traders experienced an increase of requests for credit, almost balancing out with 36% of wholesalers experiencing a decrease.

[25] At the 5% confidence level.

Table 4 - Credit request

Change of credit request compared to last year			
	Less	**More**	**Same number**
Factory	33.3%	66.7%	
Wholesale	36.8%	42.1%	21.1%
Retail	50.0%	4.8%	45.2%
Total	***47.2%***	***13.2%***	***39.6%***

Note: WFP Traders' Survey in Egypt, 2012.

Table 5 - Credit share

Credit as proportion of sales *(average by governorate and trader category)*		
Cairo	Factory	20%
	Wholesale	40%
Alexandria	Wholesale	48%
Al Monoufia	Retail	31%
Al Beheira	Wholesale	38%
	Retail	40%
Assiut	Wholesale	20%
	Retail	43%
Souhag	Wholesale	49%
	Retail	28%
Aswan	Wholesale	39%
	Retail	23%

Nevertheless, the fact that the overall proportion of traders receiving requests for credit has not increased for more than 13% of the interviewed traders, could indicate that customers behave increasingly cautiously in order not to get further indebted during somehow uncertain economic times in Egypt. A different assumption could be that the likelihood for credit approval is lower and hence requests are not even raised.

Overall, the high proportion of traders being asked for credit, the bias towards rural areas, and the decreasing trend of credit requests, represent appropriate factors to capitalize on within a cash and voucher programme, as the raised households' purchasing power would consequently better fulfil retailers' requirements in terms of more certain credit conditions, both on the reimbursement side and to achieve improved selling prospects for stocks purchased on credit.

Purchasing stock on credit is a rather popular strategy among retailers (50%), while only a third of the interviewed wholesalers reported to have stock on credit. The large majority[26] of the credit is repaid within 30 days, at retail level, 45% pay back even within one week. Given this relatively short period, retailers may be used to swift reimbursement or settlement, a fact which needs consideration should a voucher system be implemented.

7.2.4 Stock Strategy

Despite the above observation about purchasing stock on credit, close to half of the retailers interviewed report not to stock goods, which is even more pronounced in Lower Egypt. For the other half, retailers stock in almost equal proportion either in their shops or in their warehouses, which are conversely the natural and most important location of stock for wholesalers (70%). The size of the warehouses varies by trader category and governorate. Retailers have rather small warehouses with an average size of 22 m^2, although this is skewed due to larger sizes in Aswan (Figure 24). Especially in Assiut, 50% of interviewed retailers had only 6 m^2 or less warehouse space, illustrating the limitation to stock up large quantities of goods or, alternatively, manage the stock rotation well.

[26] 95% for retailers and 90% at wholesale level.

Obviously, wholesalers have generally access to much larger warehouses (on average 440 m^2), although there are significant differences between wholesalers, e.g. in Cairo or Assiut and Souhag (Figure 25).

Figure 24 - Size of warehouse for retail traders *(mean and median)*

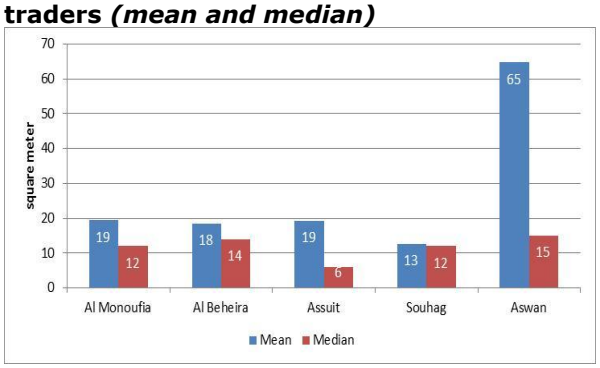
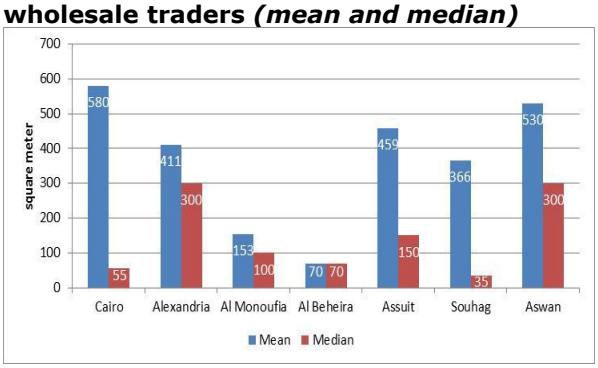


Figure 25 - Size of warehouse for wholesale traders *(mean and median)*



Note: WFP Traders' Survey in Egypt, 2012.

Overall, the stock rotation is fast both for wholesalers and retailers, for whom it takes two weeks or less to sell all items they have purchased, in the order of 78% for the formers, and 72% for the latters (Table 6). In addition, stock rotation is faster in urban than in rural areas. The high level of stock rotation is a good justification of the traders' capacity to respond to the increase in the demand as it is showed that traders have less constraint in replenishing their stocks. Indeed, there is no issue with low or no stock for 77% of traders interviewed.

Table 6 - Stock rotation

Stock rotation time by governorate and region					
		≤ 2 week	3 weeks	1 month	> 1 month
Cairo	Factory	100.0%			
	Wholesale	75.0%	8.3%	16.7%	
Alexandria	Factory	100.0%			
	Wholesale	77.8%	11.1%		11.1%
Al Monoufia	Wholesale	100.0%			
	Retail	70.0%	13.3%	16.7%	
Al Behira	Wholesale	80.0%			20.0%
	Retail	60.0%	26.7%	13.3%	
Assiut	Wholesale	100.0%			
	Retail	73.3%	10.0%	13.3%	3.3%
Souhag	Wholesale	80.0%		20.0%	
	Retail	73.3%	10.0%	13.3%	3.3%
Aswan	Wholesale	40.0%	40.0%	20.0%	
	Retail	100.0%			
Total	Factory	100.0%			
	Wholesale	78.3%	8.7%	8.7%	4.3%
	Retail	74.6%	11.9%	11.4%	2.2%

Note: WFP Traders' Survey in Egypt, 2012.

Stock issues (e.g. no stocks) have been experienced every week by two retailers each in Souhag, Assiut and Al Monofia (Table 7). Between 20-37% of the interviewed wholesalers and retailers in these governorates (including also Aswan and with the only exception of retailers in Al Monofia) face stock issues at least once per month, which hints to potential problems that might pose at risk the response capacity of wholesalers in the above governorates. Reportedly, the reasons behind this potential constraint relate predominantly to transitional food availability issues, lack of capital, and increased demand. Therefore, despite all the interviewed wholesalers claimed their ability to adequately respond in case of a potential demand increase by 50%, this issue would need attention and monitoring in case of non-food transfers programmes.

Table 7 - Stock issues by typology of trader

Percentage of traders who have experienced stock issues						
		Never	Every week	Less than once per month	Twice per month	Once per month
Cairo	Factory	100.0%				
	Wholesale	75.0%		16.7%		8.3%
Alexandria	Factory	100.0%				
	Wholesale	77.8%		22.2%		
Al Monoufia	Wholesale	60.0%		20.0%	20.0%	
	Retail	86.7%	6.7%	3.3%		3.3%
Al Behira	Wholesale	100.0%				
	Retaill	96.7%			3.3%	
Assiut	Wholesale	80.0%			20.0%	
	Retail	70.0%	6.7%	6.7%	3.3%	13.3%
Souhag	Wholesale	20.0%		60.0%		20.0%
	Retail	60.0%	6.7%	3.3%	13.3%	16.7%
Aswan	Wholesale	80.0%				20.0%
	Retail	70.0%			10.0%	20.0%
Total	Factory	100.0%				
	Wholesale	71.7%		17.4%	4.3%	6.5%
	Retail	77.7%	4.6%	3.1%	5.4%	9.2%
	All	***77.3%***	***3.2%***	***6.5%***	***4.9%***	***8.1%***

Note: WFP Traders' Survey in Egypt, 2012.

Gradual beneficiary number increases and careful planning seem important when implementing C&V in those areas. Additionally, it needs to be noted that 22% of the wholesalers in Alexandria and 17% in Cairo reported less than once per month poor or no stock positions, while in Cairo 8% confirmed it happening once per month. Reasons were again lack of capital, increased demand and poor availability of the product. While being currently under control, this situation needs to be watched especially during a potential scale-up of cash and vouchers programs as it could become a bottleneck in the supply chain.

Key Findings:

- Only one-fifth of retailers interviewed trade subsidized commodities (rice, macaroni, wheat, oil, tea, sugar), which are relevant both for their portfolio and the degree of their business specialisation. Hence their ability to expand the range of commodities in view of a more diversified food basket needs to be verified during the selection process of C&V participating shops.
- Retailers predominantly source their products within their district or governorate whilst wholesalers have a larger geographical reach.
- Given currently low proportions of retailers supplying frozen animal protein products like fish fillet, poultry or minced meat, but also pulses and fresh or UHT milk, the inclusion of these products into a potential WFP food basket requires careful review in order to avoid supply constraints at retail level. Frozen products can be considered questionable with regard to beneficiaries' preferences.
- Customer numbers per shop and week declined by a third compared to one year ago, especially at retail and factory levels.
- Compared to last year, sales volumes have significantly decreased for a large proportion of traders in Al Monofia, Souhag and Assiut. Traders explain such shrinkage with a reduction in demand, mostly due to declining purchasing power, i.e., consumers' income patterns not changing in-line with on-going price changes.
- The average size of shops is generally small, with retail shops having space of around 17m^2 only and wholesalers around 67m^2. Similarly, warehouse capacities are small at retail level. Hence stock rotation is fast for retailers but also wholesalers and therefore a justification of the traders' capacity to respond to an increase in demand as it indicates that traders have generally no significant constraint in replenishing their stocks.
- However, in Assuit, Souhag, Aswan and Al Monofia 20-37% of the traders experience lack of stock on a monthly or more frequent base due to insufficient availability of supplies, lack of capital or temporarily increased demand. Careful planning and monitoring in case of a cash and voucher project and later scaling-up will be warranted.
- Based on shop size and customers numbers per shop, further monitoring in a potential implementation phase of a voucher/cash based intervention is needed, to evaluate whether traders already operate towards their maximum capacity or whether further potential exists to increase their business.
- The high proportion of traders being asked for credit, the "*bias*" towards rural areas, and the decreasing trend of credit requests represent an opportunity for a cash and voucher programme as purchasing power would be raised under more certain conditions for the retailers to both get timely reimbursed and to have improved selling prospects for stock purchased on credit.

7.3 TRADERS' RESPONSE CAPACITY AND WILLINGNESS TO PARTICIPATE IN VOUCHER PROGRAMMES

This section aims to analyse a) the price determination process to highlight potential threats arising from non-competitive market environment, and b) the actual response capacity of traders to a prospective increased demand. Finally, without digging in the traders' specific appropriateness but assuming *at this stage* that all their circumstances are conceivable to enable their inclusion in a

transfer programme, it provides hints on their willingness to participate, by also noting their projected concerns.

7.3.1 Price Determination

The price determination process on Egyptian markets seems to be relatively competitive. In fact, 58% of respondents reported that prices are mainly determined by several agents on the wholesale market (Table 8), while only 14% of them are able to set their own price. However, the study did not yield enough information on how wholesalers themselves determine prices. It is difficult to estimate the degree of market competitiveness as the real number of traders by market is not known, although some figures are available at governorate level (Table 9). With the assumption that several wholesalers operate on each market, the price determination process is deemed as competitive when there is no price setting either by one big wholesaler or by a restricted group of traders.

Table 8 - Wholesalers

Number of wholesale traders by governorate	
Cairo	300
Alexandria	45
Beheira	65
Assiut	95
Aswan	18

Source: Key informant interviews with Heads of Branches of CAPMAS; No info on Sohag and Al Monoufia

Table 9 - Price setting

Price determination process by governorate (% of traders)	Cairo	Alexandria	Al Monoufia	Al Beheira	Assiut	Souhag	Aswan	*Total*
Prices fixed by government			3%		6%	6%	7%	***3%***
Prices fixed by several wholesalers on market	33%	20%	57%	69%	71%	77%	20%	***58%***
Prices fixed by several wholesalers outside market				6%		3%	7%	***2%***
All traders together fix a range of prices or minimum retail price	7%			3%		6%	7%	***3%***
Each trader determines own price	27%	13%	23%	11%	6%	6%	20%	***14%***
Prices are negotiated by traders in market			3%					***1%***
Prices are the same as on another market		13%	14%	3%	3%			***5%***
Production companies	33%	13%		9%	6%		33%	***9%***
Issued from management board		20%				3%		***2%***
Based on production cost		7%			9%			***2%***
Fixed by main importer		13%						***1%***
Do not know							7%	***1%***

Note: WFP Traders' Survey in Egypt, 2012.

At wholesale level, prices are mainly defined by several traders involved in the market (33%), and by production companies (30%). As shown partly in Table 10, prices are influenced by production companies in Cairo (for 42% of the wholesalers), Alexandria (22%), Al Beheira (60%) and Aswan (80%). The importance of the production companies is in line with the supply chain especially for manufactured goods.

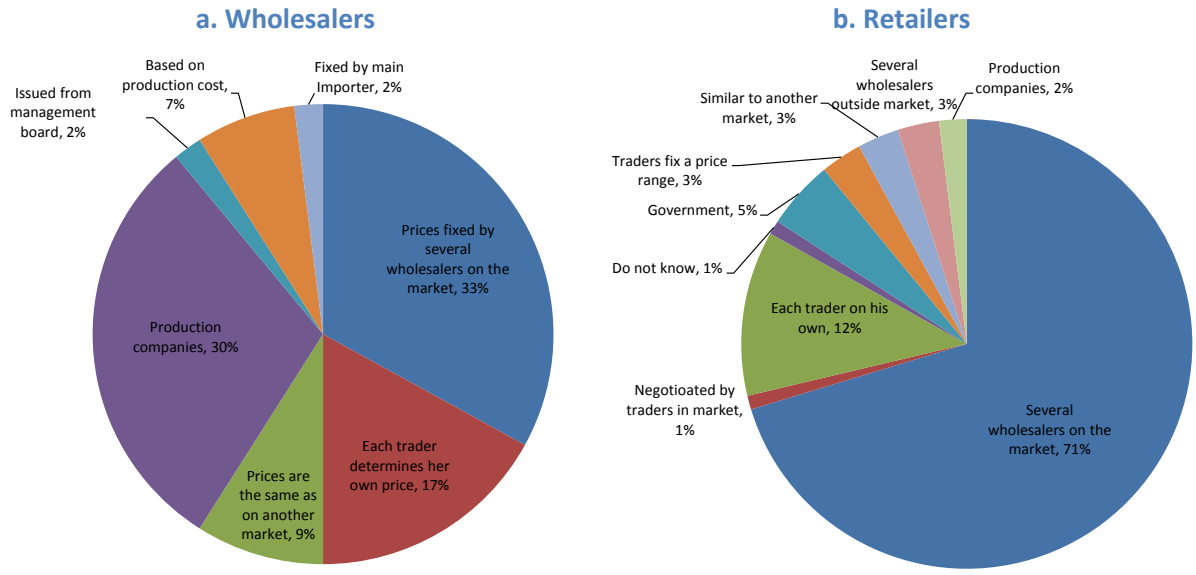
Table 10 - Price setting in the major cities

Price determination for wholesalers in Alexandria and Cairo		
	Alexandria	**Cairo**
Prices fixed by several wholesalers on market	33.3%	41.7%
Each trader determines own price	22.2%	16.7%
Prices are the same as on another market	11.1%	
Production companies	22.2%	41.7%
Fixed by main importer	11.1%	

Note: WFP Traders' Survey in Egypt, 2012.

The analysis by trader type somehow confirms the competitiveness of the market (Figure 26). For 71% of the retailers, prices were fixed by several wholesalers on the market followed by 12% of retailers saying that each trader determines his own price. Only few retailers (5%) reported that prices were determined by the government. There may be some prevailing actors in the market - especially in Cairo, Al Monofia and Aswan, where 27%, 23%, and 20% of the traders respectively are able to determine their own prices.

Figure 26 - Price Determination

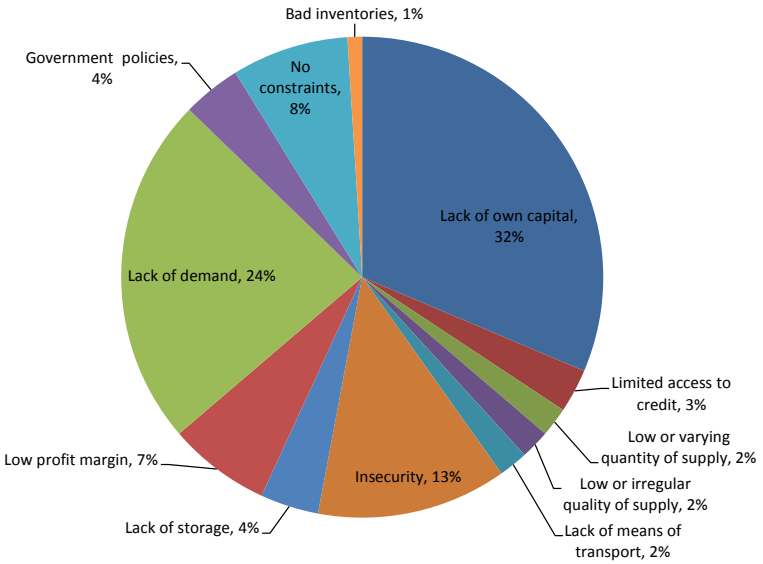


Note: WFP Traders' Survey in Egypt, 2012.

7.3.2 Business Expansion Capacity and Constraints

Globally, the three main constraints preventing traders to double their sales are respectively: lack of capital (32%), lack of demand (24%) and insecurity (13%). Insecurity issues are mainly found in Cairo (34%) and Alexandria (24%, see Figure 27). The lack of demand is the second most important constraint in Al Beheira (33%), Alexandria (28%), Al Monofia (25%), and Assiut (22%, see annex). In Cairo, one trader out of five experienced a lack of demand.

Figure 27 - Most important constraints preventing doubling the sales



Note: WFP Traders' Survey in Egypt, 2012

However when the analysis is segmented by trader category (Table 11), the evidence is slightly different. At wholesaler level, insecurity becomes the most important constraint for 41% of interviewed wholesalers, followed by lack of demand (26%), both negatively influencing their willingness to participate in a voucher programme27. The relevance of insecurity issues for wholesalers is probably due to the fact that the majority of wholesalers was interviewed in Cairo and Alexandria (15 in each city compared to 5 in the remaining markets). This result seems clearly linked to the urban effects of the Arabic spring. For retailers, the lack of own capital is the most important constraint to business expansion (55% of the retailers interviewed), followed by lack of demand (23%). The latter is an important issue at Governorate level (Table 12), mainly in Alexandria (44% of the wholesalers interviewed), Al Monofia and Assiut (60%), as well as in Aswan (40%). However, access to credit is currently not a major issue for both retailers and wholesalers in Egypt markets. This is also reflected by the proportion of accounts payable that is on credit, which is on average 33% for retailers, while for wholesalers it is 36%[28].

[27] 58% of traders not willing to participate in vouchers indicated security concerns as a constraint to doubling sale volumes.

[28] Note that the range responses for credit as proportion of accounts payable was between 0-100%.

Table 11 – Wholesalers constraints to business expansion by Governorate

Most important constraint to double sales for wholesaler by governorate	Cairo	Alexandria	Al Monoufia	Al Behira	Assiut	Souhag	Aswan	*Total*
Lack of own capital	17%		20%	20%				***9%***
Low or varying quantity of produce (supply)						20%		***2%***
Lack of means of transport							60%	***7%***
Too much insecurity	67%	33%	20%	80%	40%	20%		***41%***
Lack of storage	8%							***2%***
Low profit margin						20%		***2%***
Lack of demand		44%	60%		60%		40%	***26%***
Governmental constraints / taxes too high						20%		***2%***
No constraints	8%	22%				20%		***9%***

Note: WFP Traders' Survey in Egypt, 2012.

Table 12 – Retailers constraints to business expansion by Governorate

Most important constraint to double sales for retailer by governorate	Al Monoufia	Al Behira	Assiut	Souhag	Aswan	*Total*
Lack of own capital	57%	70%	50%	47%	50%	***55%***
Lack of/too expensive credit	3%		3%			***2%***
Low or varying quantity of produce (supply)			3%			***1%***
Too much insecurity			7%		10%	***2%***
Lack of storage	3%		3%			***2%***
Low profit margin	3%	3%	3%	3%		***3%***
Lack of demand	23%	23%	17%	30%	20%	***23%***
Governmental constraints / taxes too high	3%		3%	10%	20%	***5%***
No constraints	7%	3%	7%	10%		***6%***
Bad inventories			3%			***1%***

Traders estimate to have the capacity to respond to an increase in demand by 25% both in rural and urban areas and without distinction between wholesale, retail and factory (Table 13). Although it might induce some inflation risks for macaroni, rice, sugar and yoghurt, traders have also a good capacity to increase their supply if demand increases by 50%. To the contrary, only factories and wholesalers have the capacity to absorb the unlikely event of a doubled demand. Although 91% of the wholesalers are able to respond to the increase in the demand by 50%, retailers (1 out of 3) are the ones in the commercial chain who might have problems to meet the gap. The lack of capital could be the limiting factor.

Table 13 - Response capacity to increased demand

Trader's capacity to respond to increase in demand in rural or urban area		Ability to absorb 25% increase in demand		Ability to absorb 50% increase in demand		Ability to absorb 100% increase in demand	
		Yes	No	Yes	No	Yes	No
Urban	Factory	100.0%		100.0%		88.9%	11.1%
	Wholesale	100.0%		91.3%	8.7%	69.6%	30.4%
	Retail	90.0%	10.0%	66.7%	33.3%	35.0%	65.0%
Rural	Retail	91.4%	8.6%	62.9%	37.1%	48.6%	51.4%

Note: WFP Traders' Survey in Egypt, 2012.

The analysis by most important commodities shows that macaroni (for 46% of the retailers), rice (for 31%), sugar (for 40%) and yoghurt (for 33%) are items where retailers might have difficulties to meet a potential increase in demand by 50% (Table 14).

At governorate level, retailers' response capacity is limited in Al Monofia, Al Beheira, Assiut, and Souhag.[29] The risk of price inflation is therefore present on these markets in case of increased demand, even though traders in Cairo, Alexandria and Aswan may be able to cope up to a 50%

[29] Al Monofia (30% of the retailers), Al Beheira (43%), Assiut (40%) Souhag (33%)

expansion. Yet, only in Al Monofia, wholesalers (40%) might experience some difficulties. With regards to factories, the response capacity in Cairo and Alexandria is adequate as well.

Differently, in case of such increased demand, only factories and wholesalers have the capacity to respond. In fact, respectively 89% and 70% of the interviewed allegedly indicated themselves being able to absorb such an increased demand. Retailers, however, will face significant difficulties with only 42% having that capacity. Consequently, there is a risk of an inflationary effect on the market at retail level should the demand double due to a cash and voucher programme.

Table 14 - Response capacity to increased demand by 50%

a. Trader's capacity to respond to 50% increase in demand *(by commodity and trader type)*

		Yes	No
Macaroni	Factory	100.0%	
	Wholesale	71.4%	28.6%
	Retail	54.2%	45.8%
Rice	Factory	100.0%	
	Wholesale	100.0%	
	Retail	68.8%	31.3%
Vegetable Oil	Wholesale	100.0%	
	Retail	100.0%	
Sugar	Wholesale	90.0%	10.0%
	Retail	60.0%	40.0%
Yoghurt	Factory	100.0%	
	Wholesale	100.0%	
	Retail	66.7%	33.3%
UHT Milk	Factory	100.0%	
	Wholesale	100.0%	
	Retail	100.0%	
Mincemeat, frozen	Factory	100.0%	
	Wholesale	100.0%	
	Retail	50.0%	50.0%

b. Trader's capacity to respond to 50% increase in demand (*by governorate and trader type*)

		Yes	No
Cairo	Factory	100.0%	
	Wholesale	91.7%	8.3%
Alexandria	Factory	100.0%	
	Wholesale	100.0%	
Al Monoufia	Wholesale	60.0%	40.0%
	Retail	70.0%	30.0%
Al Beheira	Wholesale	80.0%	20.0%
	Retail	56.7%	43.3%
Assiut	Wholesale	100.0%	
	Retail	60.0%	40.0%
Souhag	Wholesale	100.0%	
	Retail	66.7%	33.3%
Aswan	Wholesale	100.0%	
	Retail	80.0%	20.0%

Note: WFP Traders' Survey in Egypt, 2012.

Demand alteration is likely to increase prices for a third of the traders interviewed (Table 15). An upsurge of the demand by 25% in the coming six months would therefore result into an increase of the prices of the products under review. Actually, 22 of these 59 respondents even believe that there would be a sustained change. Price inflation is particularly expected for sugar, UHT milk and yoghurt by traders who mentioned these commodities as most important. Yet, as above indicated, this commodity specific observation needs to be treated with care, as only sugar is broadly mentioned as most important commodity, whereas milk and yoghurt have eight observations or less each, and are very likely to be biased by the respondent's personal views.

Table 15 - Estimated price development

a. Estimated price development by commodity in next six months if 25% increase in demand *(% of respondents)*				
		No change	Decrease	Increase
Maccaroni	Factory	100.0%		
	Wholesale	42.9%	42.9%	14.3%
	Retail	41.7%	20.8%	37.5%
Rice	Factory	100.0%		
	Wholesale	44.4%	33.3%	22.2%
	Retail	43.8%	25.0%	31.3%
Vegetable Oil	Wholesale		100.0%	
	Retail	40.0%	40.0%	20.0%
Sugar	Wholesale	50.0%		50.0%
	Retail	35.6%	20.0%	44.4%
Yoghurt	Factory	100.0%		
	Wholesale			100.0%
	Retail	66.7%		33.3%
UHT Milk	Factory	100.0%		
	Wholesale			100.0%
	Retail	50.0%	16.7%	33.3%
Mincedmeat, frozen	Factory	100.0%		
	Wholesale	80.0%		20.0%
	Retail		50.0%	50.0%

b. Estimated price development in six months if 25% demand increase by governorate *(% of respondets)*				
		No change	Decrease	Increase
Cairo	Factory	100.0%		
	Wholesale	66.7%		33.3%
Alexandria	Factory	100.0%		
	Wholesale	55.6%	33.3%	11.1%
Al Monoufia	Wholesale	60.0%	40.0%	
	Retail	46.7%	23.3%	30.0%
Al Beheira	Wholesale	20.0%		80.0%
	Retail	33.3%	46.7%	20.0%
Assiut	Wholesale	20.0%	40.0%	40.0%
	Retail	50.0%		50.0%
Souhag	Wholesale	20.0%	40.0%	40.0%
	Retail	36.7%	16.7%	46.7%
Aswan	Wholesale	60.0%	20.0%	20.0%
	Retail	70.0%	20.0%	10.0%

Note: WFP Traders' Survey in Egypt, 2012.

In general, similar proportions of retailers and wholesalers expect prices to increase, decrease or remain as a reaction to 25% demand increase. When the effect of a 25% demand increase is analysed by governorate, the risk of price inflation appears to be highest at wholesale level in Al Beheira (80% of interviewees), Assiut (40%), Souhag (40%), and Cairo (33%) as well as retailers in Assiut (50%) and Souhag (47%). In addition, expectation of price increases at retail level is much higher in urban areas (43% of the retailers interviewed) rather than in rural ones (27%). At wholesale level, the price increase is expected to be sustained only in Cairo.

Retailers estimate predominantly in Souhag that an increase would be persistent. Hence based on the assumption of a well-grounded reasoning about the expectations, Souhag is the governorate where the risk of inflation is present most, especially for sugar, should demand increase (Table 16).

Table 16 - Price increase lasting

Expected duration of price increase according to traders									
		Cairo	Alexandria	Al Monoufia	Al Beheira	Assiut	Souhag	Aswan	*Total*
Wholesale	Temporarily	50%	100%		100%	100%	100%	100%	***86%***
	Sustained	50%							***14%***
Retail	Temporarily			78%	33%	73%	29%	100%	***56%***
	Sustained			22%	67%	27%	71%		***44%***
Total	***Temporarily***	***50%***	***100%***	***78%***	***60%***	***77%***	***38%***	***100%***	***63%***
	Sustained	***50%***		***22%***	***40%***	***24%***	***63%***		***37%***

Note: WFP Traders' Survey in Egypt, 2012.

7.3.3 Traders' Willingness to Participate

Although only few traders (2.7%) participated in a voucher program already, most of them would be willing to participate in such a programme (69% of traders, see Table 17). However, wholesalers in Cairo (75%) and Alexandria (67%) are not interested in participating while retailers (70%) generally are. When looking at governorate level, it strikes that 43% of the retailers in Al Monofia and Al

Beheira declared no interest. Potentially, this could be linked to the non-presence of WFP and thus lack of familiarity of traders with WFP in these governorates.

Table 17 - Potential interest to be included in a transfer programme

Willingness to participate in a voucher programme			
		Yes	No
Cairo	Factory	100.0%	
	Wholesale	25.0%	75.0%
Alexandria	Factory	100.0%	
	Wholesale	33.3%	66.7%
Al Monoufia	Wholesale	60.0%	40.0%
	Retail	56.7%	43.3%
Al Behira	Wholesale	80.0%	20.0%
	Retail	56.7%	43.3%
Assiut	Wholesale	80.0%	20.0%
	Retail	83.3%	16.7%
Souhag	Wholesale	100.0%	
	Retail	76.7%	23.3%
Aswan	Wholesale	100.0%	
	Retail	90.0%	10.0%
	Factory	100.0%	
	Wholesale	58.7%	41.3%
	Retail	70.0%	30.0%
	All	***68.6%***	***31.4%***

Note: WFP Traders' Survey in Egypt, 2012.

Despite the fact that 45% of the traders interviewed expressed having no concern to participate in the voucher programme, the most frequently raised worries were the method and reliability of timely payment (35%), the difficulty to administer the programme (29%) and the risk of counterfeiting vouchers (14%). The survey results also showed that response capacity and price inflation is not considered an issue by the majority of traders who are willing to participate in the voucher program. Only 3% and 7% of the traders have expressed their concern respectively about constraints to increase volume and food price inflation.

Key Findings

- The price setting mechanism appears to be competitive and, according to interviewed traders, to a large extent driven by several wholesalers on the market. This facet is important because the risk of inflation is mitigated in case of voucher/cash-based transfer interventions.
- Lack of capital (32%), lack of demand (24%) and insecurity (13%) are three main constraints preventing traders to double their sale. Retailers struggle with the lack of capital while wholesalers predominantly mentioned insecurity as the most important constraint.
- Yet, traders claim to have the capacity to respond to increased demand, for a 25% increase almost across the board of traders. Would the demand increase to 50% and 100% the response capacity would sharply drop at retail level to two- and one-third of traders respectively. Thus, should such a significant increase in demand be triggered by a cash and voucher programme it could induce the risk of price inflation.
- In case of a 25% increase in demand, approximately one third of all interviewed traders expect commodity prices to rise as opposed to a fifth who believes that prices would drop. In Assiut and especially Souhag, half of the retailers interviewed would expect persistent price increases.
- A general willingness to participate in a voucher programme is noted. However, it is concerning that a large proportion of interviewed wholesalers in Cairo and Alexandria as well 43% of the retailers in both Al Beheira and Al Monofia expressed no interest. This is largely due to concerns about the method and reliability of timely payment, the difficulty to administer the programme, and the risk of counterfeiting vouchers, all of which would need to be addressed during the design stage of a potential intervention.

8. HOUSEHOLDS' ACCESS TO MARKET

Markets play a key role in securing stability in households' food security, having compelling implications not only on food access per se, but also with regards to the time dimension component.

Provided that food availability is not an issue in the country, the food price patterns of the past few years envisaged several concerns on the households' capability of securing their purchasing power. Both volatility of prices and their high levels have been affecting the scope in participating in market transactions for food (see also Figure 8, reflecting the important role of food prices in the overall CPI). Actually, to a given extent the latter is the most important issue to be addressed, provided inflation rates are constantly on the rise, while volatility dampened in 2011. Taking these factors into account several measures helped mitigate the negative impact of the food price crisis and of the revolution on the society: the control of availability of *baladi* bread and adjustments in the ration card system; trade policy measures of banning exports and reducing tariffs; cash transfers in form of wage increase by 30% for government after 2008 and public sectors employees which secured the part of the purchasing power of those households (Ghonam, 2011).

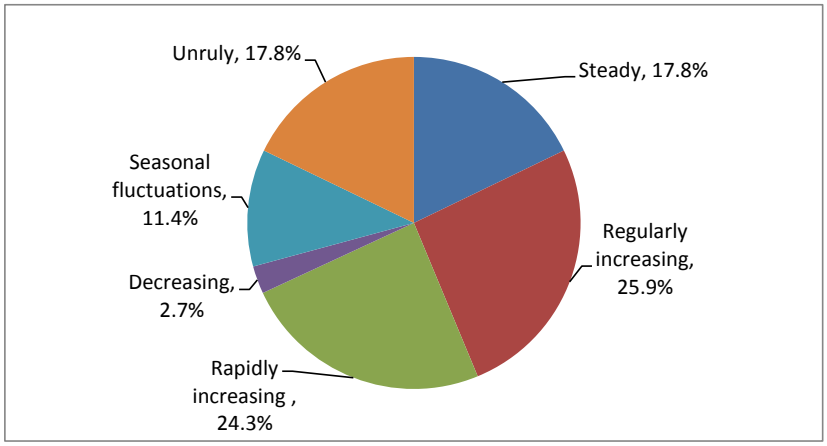
According to focus groups discussions during the survey in the five governorates, housewives generally procure food commodities in shops, open markets or hawkers depending on the commodity type, the frequency of their needs, the perishability of the product, and the availability/distance to those vending points. In case markets are far or only active on specific days, households depend on shops in the vicinity for daily used commodities such as rice, macaroni, beans, sugar, oil, vegetables, milk or eggs. For meat/chicken/fish, open markets are preferred for the level of freshness and price. In rural Upper Egypt, peddlers or street vendors are often the preferred choice. Households buy vegetables, milk and cheese/eggs on daily base, while meet/chicken/fish or fruits are bought weekly and sugar, oil, rice, macaroni and flour monthly or twice a month.

Almost all housewives interviewed in the focus groups indicated that the shops are very close to their homes. On the other hand, open markets are between 10 minutes and more than one hour away from households, who reach them on foot – especially in Lower Egypt - or by motorized means on the return ("*tuck tuck*") at affordable prices (2 EGP or less).

Provided that the most important wholesale markets are not so close to Cairo and Alexandria, key informants refer that transport costs have been playing a significant role in the overall inflation trend. Allegedly, the effect of the 25th January Revolution on the supply side is an overall price increase, partially reflecting higher profit margins which might derive from increased business uncertainty. In fact, according to half of the traders interviewed, the expectations for a prolonged upward trend of prices are very high, thus inducing some concerns for further possible drawbacks on households' food access.

Actually, weekly sales have reduced compared to last year for about 58% of the traders (Figure 28). Specifically, a severe decrease (more than half of sales) is reported by 19% of traders, while for other 28% the decrease is in the order of 21-49%, and for the remaining 12% sales constriction stands between 6-20%. These figures are mainly derived by reduced demand both within the district (21%) and outside (15%).

Figure 28 - Price trend expectations by interviewed traders



Note: WFP Traders' Survey in Egypt, 2012.

Reportedly, most of the purchases are in cash, also because the credit share has become thinner during the last year with a very slight exception in some rural areas, where this share is up to 25%. This is in line with the traders' survey findings presented above and need to be accrued to the increase in overall uncertainty over households' livelihoods. Apparently, the possible use of a voucher mechanism to purchase food was not known by respondents before the focus group discussion. Nonetheless, some gains deriving from participating in a transfer system are probably acquainted from the experience of the national subsidy scheme.

Key Finding:

- Markets play a key role in securing stability in households' food security. In Egypt households largely depend on food markets, mostly by means of cash transactions and the social safety net. Apparently, the use of voucher mechanisms to purchase food is not well known by potential beneficiaries, and might require awareness raising activities. Nonetheless, some gains deriving from participating in a transfer system are probably acquainted from the experience of the national subsidy scheme.

9. CONCLUDING REMARKS

This market assessment was to gauge the market functioning and the general feasibility of a market based programme intervention such as cash or voucher transfers in the realm of food assistance. The following can be concluded.

The country is highly **dependent on food imports**, particularly with regard to wheat and also to pulses, while rice is exported. The import dependency for these products make Egypt susceptible to global supply and price shocks, although significant wheat reserves are held in view of the bread subsidy programme. Fresh vegetables, on the other hand, are largely produced in country.

Inflation is within **reasonable** rates though steadily above 10%, which requires attention in monitoring. Prices for many of the food commodities under review have increased significantly over the last couple of years. The overall inflation has been, therefore, increasingly driven by food commodities. However, especially in 2011, the **volatility** of prices has **reduced** compared to previous years, which can be positively considered in terms of households' access to food and potential cash and voucher programming. The first quarter of 2012 confirmed similar eased price trends.

Despite the aggregation of average prices by rural/urban categories which might veil inconsistencies in the price pattern, there is reason to believe that **markets are integrated** in the selected governorates since prices correlation is high and price behaviour of selected commodities quite similar. For a number of commodities including white beef, cheese, free sugar and mixed oil, markets appear well integrated and price signals are likely to be transmitted across the country. Mixed evidence is provided for pulses and cereals, whereas market integration is limited for vegetables. Yet, the latter does not necessarily confirm commodity movement between markets, although the risk of no movement is fairly low.

Evidence from the traders' survey suggests **fairly competitive market behaviour**, even though retail markets are quite fragmented and led by the informal sector especially in Upper Egypt.

Storage capacity is generally small and often without cooling systems which predominantly applies for traders on the open market, necessitating quick turn-over of commodities and quick replenishment.

Many traders therefore concentrate on dry commodities. In case they trade fresh products, they usually incur in a high percentages of waste, thus reducing potential for economies of scale, larger profits and lower prices for consumers. Likewise, transportation costs for small retailers are high, owing to either the dependence of wholesale owned transport or small-quantities with high-frequency replenishment of stock.

Frozen commodities like mince meat, fish fillet and poultry are neither supplied by the majority of the traders nor seem to be demanded by households, who indicated rather a clear preference for fresh meat/fish. Although cooling systems seem to be in place and would most likely not be a constraint, the choice of frozen products in a food basket needs to be carefully evaluated against this finding. Yet, if chosen, the transport chain of frozen products with regard to continuous cooling would need to be further investigated during a retail assessment.

Other than dry and processed commodities, **vegetables** are traded on the open market and along streets. Their prices seem to illustrate seasonally characteristic behaviour. From a programming perspective and in case the inclusion of fresh vegetables is desired, consideration might need to be given to a cash-back-option under which vouchers are redeemed in retail shops partly against commodities and partly against cash. Such an increased purchasing power would therefore be a contingency for households to buy fresh vegetables on the open market.

Despite a quite low number of customers, **retailers** claim the **capacity to respond** to a limited increased demand in the order of ¼ of their actual trading size, showing caution over their ability to fulfil further expansion of demand. This threat should be taken into account when C&V beneficiary numbers are identified for specific shop catchment areas and when, at a later stage, up-scaling may

be considered. The feasible number of additional customers or demand will have to be determined at individual shop level.

At **wholesale level**, the **response capacity** to a potential increase in demand is expected to be good, therefore serving as an alternative entry point should the number of beneficiaries in a C&V programme increase rapidly.

A cash and voucher programme represent an opportunity around the issue of **credit** both for consumers and retailers. The high proportion of traders being asked for credit, the "bias" towards rural areas, and the decreasing trend of credit requests signal that consumers' purchasing power could be raised through vouchers or cash transfers and would improve the certainty for retailers to get timely reimbursed and the selling prospects for stock purchased on credit.

Interviewed traders expressed a **general interest in participating** in a voucher distribution programme, more so in Upper than in Lower Egypt, though they also raised a number concerns among which the reliable and timely payment for redeemed vouchers, the administration of the programme and the perceived risk of counterfeiting featured highest. With the popular and already existing strategy of providing credit in order to retain customers or compete for them, payment modalities would need to be clearly established and designed in a way that would not negatively affect the capital base or willingness to participate in such a programme.

While the business climate has deteriorated since the January 2011 revolution – which traders also expressed as constraints to increase their sales, such as decreasing and lack of demand by customers, lack of capital and increased insecurity - it can be assumed that, in general, the **market environment in Egypt is conducive for implementing cash or voucher operations**. Given the existence of a government subsidy system for mainly dry food products, the CO should explore the possibility to utilise existing systems and processes where possible rather than to create a parallel system.

Risks to be taken into account during a cash or voucher programme include

- replenishment issues for 20-37% of the traders in Assuit, Souhag, Aswan and Al Monofia due to insufficient availability of supplies, lack of capital or temporarily increased demand;
- a too rapid scale-up that would exceed particularly the capacities of retailers;
- an increase in the volatility of commodity prices resulting not only in alterations of purchasing power but also in the need to accordingly adjustments of the transfer value;
- the traders' concerns of reliable and timely payment for redeemed vouchers, the administration of the programme and the perceived risk of counterfeiting.

Once final programme implementation areas are decided upon**, retail prices of commodities in the food basket should be monitored** regularly, i.e. monthly. Collaboration with CAPMAS should be explored in order to get prices at more disaggregated level than currently.

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ANNEX

Annex 1 - Price determination process by trader type and by governorate

Retailer	Governorate					Total
	Al Monofia	Al Beheira	Assiut	Souhag	Aswan	
Prices fixed by government	3%		7%	7%	10%	**5%**
Prices fixed by several wholesalers on the market	63%	77%	80%	77%	30%	**71%**
Prices fixed by several wholesalers outside market		7%		3%	10%	**3%**
All traders together fix a range of prices or a minimum retail price		3%		7%	10%	**3%**
Each trader determines her own price	23%	10%	3%	7%	20%	**12%**
Prices are negotiated by traders in market	3%					**1%**
Prices are the same as on another market	7%	3%	3%			**3%**
Production companies			7%		10%	**2%**
Do not know					10%	**1%**
	100%	***100%***	***100%***	***100%***	***100%***	***100%***

Wholesaler	Governorate							Total
	Cairo	Alexandria	Al Monofia	Al Beheira	Assiut	Souhag	Aswan	
Prices fixed by several wholesalers on the market	42%	33%	20%	20%	20%	80%		**33%**
Each trader determines her own price	17%	22%	20%	20%	20%		20%	**17%**
Prices are the same as on another market		11%	60%					**9%**
Production companies	42%	22%		60%			80%	**30%**
Issued from management board						20%		**2%**
Based on production cost					60%			**7%**
Fixed by main Importer		11%						**2%**
	100%	***100%***	***100%***	***100%***	***100%***	***100%***	***100%***	***100%***

Annex 2 - Most important constraint for doubling the sales

Most important constraint to double sale	Cairo	Alexandria	Al Monofia	Al Beheira	Assiut	Souhag	Aswan	Total
Lack of own capital	17%	4%	42%	42%	34%	34%	25%	**32%**
Lack of credit / credit is too expensive	6%	0%	3%	0%	2%	6%	4%	**3%**
Low or varying quantity of produce (supply)	3%	0%	0%	0%	3%	3%	0%	**2%**
Low or irregular quality of produce (supply)	3%	0%	0%	0%	3%	3%	0%	**2%**
Lack of means of transport	0%	0%	0%	0%	0%	2%	25%	**2%**
Too much insecurity	33%	24%	11%	10%	10%	5%	13%	**13%**
Lack of storage	3%	0%	3%	5%	7%	3%	4%	**4%**
Low profit margin (low sales price / high purchase price)	8%	8%	8%	5%	8%	6%	0%	**7%**
Lack of demand	19%	28%	25%	33%	22%	18%	17%	**24%**
Government would not allow me / taxes too high	6%	4%	2%	0%	2%	10%	8%	**4%**
No constraints	3%	32%	5%	5%	7%	10%	4%	**8%**
Bad inventories	0%	0%	3%	0%	2%	0%	0%	**1%**
	100%	***100%***	***100%***	***100%***	***100%***	***100%***	***100%***	***100%***

Annex 3 - Price development in the next six months by location

Urban-Rural		Price development in 6 months if 25% demand increase			Total
		No change	Decrease	Increase	
Urban	Factory	100%			**100%**
	Wholesale	47.8%	21.7%	30.4%	**100%**
	Retail all	36.7%	20.0%	43.3%	**100%**
Rural	Retail all	50.0%	22.9%	27.1%	**100%**

Annex 4 - Reasons for having low stocks at traders' level

Governorate		Reason for poor stock								Total
		Poor availability of product	Logistic issue (remoteness)	Lack of capital	Increased demand	How the commodity is put on shelves	Forgot to renew stock	Because of revolution	Increase in sales on credit	
Cairo	Wholesale	33.3%		33.3%	33.3%					**100%**
Alexandria	Wholesale			50.0%	50.0%					**100%**
Al Monofia	Wholesale	100%								**100%**
	Retail all	75.0%		25.0%						**100%**
Al Beheira	Retail all				100%					**100%**
Assiut	Wholesale	100%								**100%**
	Retail all	44.4%			11.1%	22.2%		11.1%	11.1%	**100%**
Souhag	Wholesale	100%								**100%**
	Retail all	66.7%	8.3%	25.0%						**100%**
Aswan	Wholesale		100%							**100%**
	Retail all	33.3%			33.3%		33.3%			**100%**
Total	Wholesale	61.5%	7.7%	15.4%	15.4%					**100%**
	Retail all	55.2%	3.4%	13.8%	10.3%	6.9%	3.4%	3.4%	3.4%	**100%**
		57.1%	***4.8%***	***14.3%***	***11.9%***	***4.8%***	***2.4%***	***2.4%***	***2.4%***	***100%***

Annex 5 - Percentage of traders who participated in a voucher program

	Participation with vouchers in past		Total
	Yes	No	
Factory	0.0%	100%	**100%**
Wholesale	0.0%	100%	**100%**
Retail all	3.8%	96.2%	**100%**
	2.7%	***97.3%***	***100%***

Annex 6 – Traders' concern in participating into a voucher program by governorate

	Governorate							Total
	Cairo	Alexandria	Al Monofia	Al Behira	Assiut	Souhag	Aswan	
No interest expanding business	37.5%		25.0%		25.0%	12.5%		**100%**
Constraints to increase volume (including lack of capital)			33.3%	16.7%		50.0%		**100%**
Method and reliability of timely payment	19.7%	13.6%	10.6%	13.6%	12.1%	18.2%	12.1%	**100%**
Too difficult to administer	13.0%	11.1%	18.5%	16.7%	11.1%	20.4%	9.3%	**100%**
Counterfeiting with voucher	19.2%	19.2%	11.5%	26.9%	3.8%	11.5%	7.7%	**100%**
Food price inflation	16.7%		25.0%	25.0%	8.3%	25.0%		**100%**
Possibility of having to pay higher taxes	10.0%		10.0%	20.0%	20.0%	40.0%		**100%**
No concerns	1.2%	7.2%	22.9%	21.7%	24.1%	15.7%	7.2%	**100%**
Others	33.3%	33.3%			33.3%			**100%**

Annex 7 - Percentage of traders who have experienced stock issues by location

Urban-Rural		Experience of poor stock or stock out					Total
		No	Yes, every week	Yes, twice per month	Yes, once per month	Yes, < once per month	
Urban	Factory	100%					**100%**
	Wholesale	71.7%		4.3%	6.5%	17.4%	**100%**
	Retail all	80.0%	5.0%	1.7%	10.0%	3.3%	**100%**
Rural	Retail all	75.7%	4.3%	8.6%	8.6%	2.9%	**100%**
Total	Factory	100%					**100%**
	Wholesale	71.7%		4.3%	6.5%	17.4%	**100%**
	Retail all	77.7%	4.6%	5.4%	9.2%	3.1%	**100%**
		77.3%	***3.2%***	***4.9%***	***8.1%***	***6.5%***	***100%***

Annex 8 - Frequency of stock rotation by trader and urban/rural

Urban-Rural		Stock rotation				Total
		<=2 week	3 weeks	1 month	> 1 month	
Urban	Factory	100%				**100%**
	Wholesale	78.3%	8.7%	8.7%	4.3%	**100%**
	Retail all	71.7%	13.3%	13.3%	1.7%	**100%**
Rural	Retail all	71.4%	14.3%	12.9%	1.4%	**100%**
Total	Factory	100%				**100%**
	Wholesale	78.3%	8.7%	8.7%	4.3%	**100%**
	Retail all	71.5%	13.8%	13.1%	1.5%	**100%**
		74.6%	***11.9%***	***11.4%***	***2.2%***	***100%***

Annex 9 - Reasons for having low stocks at traders' level by location

Urban-Rural		Reason for poor stock								Total
		Poor availability of product	Logistic issue (remoteness)	Lack of capital	Increased demand	How the commodity is put on shelves	Forgot to renew stock	Because of revolution	Increase in sales on credit	
Urban	Wholesale	61.5%	7.7%	15.4%	15.4%					**100%**
	Retail all	66.7%		16.7%		16.7%				**100%**
Rural	Retail all	47.1%	5.9%	11.8%	17.6%		5.9%	5.9%	5.9%	**100%**
Total	Wholesale	61.5%	7.7%	15.4%	15.4%					**100%**
	Retail all	55.2%	3.4%	13.8%	10.3%	6.9%	3.4%	3.4%	3.4%	**100%**
		57.1%	***4.8%***	***14.3%***	***11.9%***	***4.8%***	***2.4%***	***2.4%***	***2.4%***	***100%***