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MEMORANDUM

To: Amany El Wassal
From: Timothy S. Buehrer
Subject: Exports and the Real Exchange Rate
Date: July 10, 2005

-- Exports: The Minister of Foreign Trade and Industry received a report on Egyptian exports in the first quarter of fiscal year 2004/2005 indicating a 40% increase to \$3.115 billion compared with \$2.227 billion in the same period in fiscal year 2003/2004. The report showed Egyptian exports registered a five-year high in 2004 of \$7.695 billion compared with \$6.187 billion in 2003 and \$4.686 billion in 2004. (Ahram, Akhbar, Al-Alam Al-Yom)

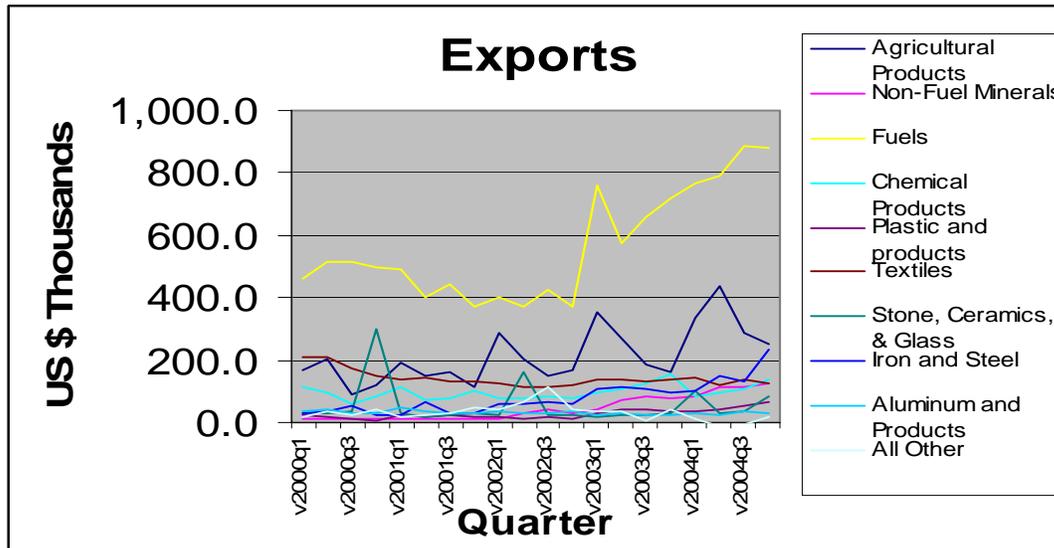
The news report cited is based on data from the Central Bank of Egypt and reprinted in MFTI *Quarterly Economic Digest*, (January-March 2005), presumably the report being referenced. Now if one wanted to play Devil's advocate, one could note that of the almost \$900 increase since the first quarter of FY 2004, almost \$500 is petroleum products which is largely explained by price increases. Still, that would be taking too much of a "glass half empty" approach. Looking at more detailed data available from CAPMAS (not shown in the Ministry's *Quarterly Economic Digest*) confirms a moderately optimistic impression of Egypt's export performance.

The remainder of this note draws from CAPMAS data, which is quite different from Central Bank data. The CAPMAS data is based on physical movement of goods whereas Central Bank data is based on payments reported through the banking system. There are discrepancies between these classes of data in every country, but the differences are particularly great in Egypt. (Total exports in July –September 2004 reported by CBE is \$3.115 billion compared to \$1.783 from CAPMAS. This is a well-known discrepancy that is being addressed. CAPMAS export data is available on about 4500 items at the "10 digit" level, provisionally, through December 2004.

Although exports of Fuels account for about a half of the increase in exports in CY2004 over the year before, their rate of growth, 22%, is slightly lower than non-fuel exports, 23%. Among the best performers in CY 2005 were Stone-Ceramics-Glass – 156% growth, Fresh and Processed Fruits (primarily fresh oranges, grapes and strawberries) - 95%, Marble and Granite - 89%, Cement - 55%, Rice - 50%, and Iron and Steel - 45%. Whereas the increase in Fuel exports is likely due mainly to higher prices, prices cannot explain the increases of the fast-growing sectors. On the other hand, a number of product lines showed marked declines: textiles – minus 3% and chemical products minus 32%.

Looking over the 5 year period 2000-2004, Fuels, mainly because of price increases, have grown slightly faster, 14% p.a., than Non-Fuel exports 12% p.a. Again the best performers are Fresh and Processed Fruits, 44%, Marble and Granite, 77%, Propane and LNG 90%, Cement, 237%, Rice 50%, and Iron and Steel, 44%. Textiles, Aluminum, Stone-Ceramics-Glass, and Chemicals, on the other hand, fell over the four-year interval.

Chart 1



“Eyeballing” the data gives the impression that there may have been an acceleration of non-petroleum exports after 2002. Total and non-fuel exports grew at a faster rate in 2002-2004 than in 2000 - 2002: 30% compared to -4% and 21% compared to 1.3 %. Should this be born out, it would be suggestive, although not conclusive that the devaluation and other recent export promotion measures are starting to have an effect.

To examine this hypothesis, two kinds of analyses were carried out. Both are based on the idea that the devaluation in 2003-2004 gives additional stimulus to exports. Both also recognize that there is likely a secular trend in exports as would demand and Egyptian capacity both grow. The effect of the devaluation, if any, would be in addition to the trend.

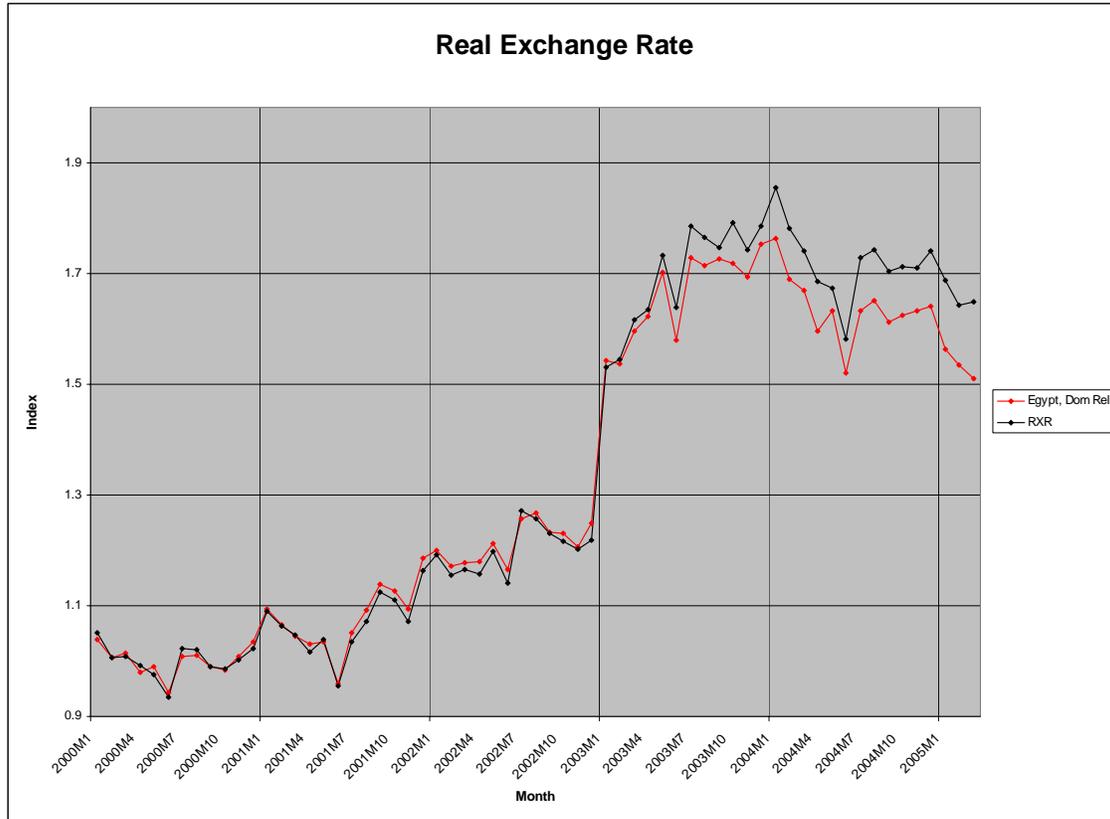
If we examine the behavior of the “real” exchange rate (adjusted for the purchasing power of both domestic and foreign currencies) over the 2000-2004 period we can see two clear periods. In 2000-2002 the real exchange rate index was fluctuating around 110; in 2003-2004 it was fluctuating around 165.

In one model we assume that exporters take the change in the level of the real exchange rate as a discrete signal (perhaps reinforcing other changes) that the business climate for exports will be better in the future and begin to export more. In this model, the exact amount of the change in the exchange rate is not important, only that there has been a significant change. The procedure is to fit the following equation to the data:

$$\text{Exports (total or non-fuel)} = mt * T + md * D + \text{Constant}$$

where T is the quarter (1, 2, 3...) and D is a “dummy variable that is 0 in 2000-2002 and 1 in 2003-2004.

Chart 2



In the second model, exporters respond to all changes in the exchange rate, large or small, up or down. The equation of this model is:

$$\text{Exports (total or non-fuel)} = m_t * T + m_x * X + \text{Constant}$$

where T is the quarter (1, 2, 3...) and
 X is the average real exchange rate for each quarter.

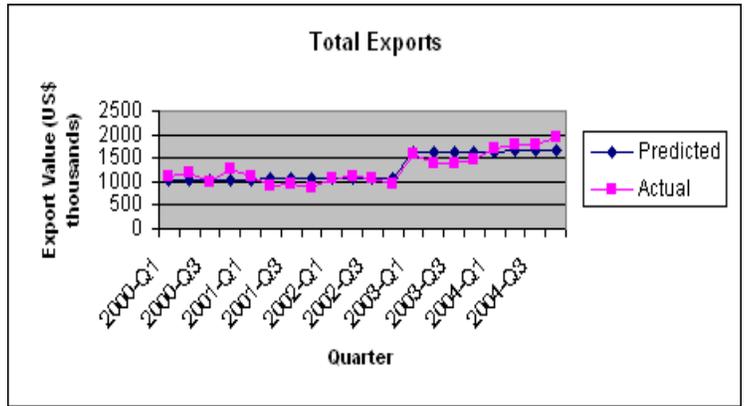
Both models applied to both sets of export aggregates are “good;” statistical tests reject the possibility of an association between exports and the exchange rate plus a trend being due to pure chance. The charts below show actual exports quarter by quarter and the levels predicted by the equation of the model. In general the dummy variable version of the model gives a better fit of the predicted data to the actual. Total exports, being less affected by seasonal variation are tracked better than non-fuel exports only.

The conclusion is that exports did respond to the improvement in the exchange rate in 2003.

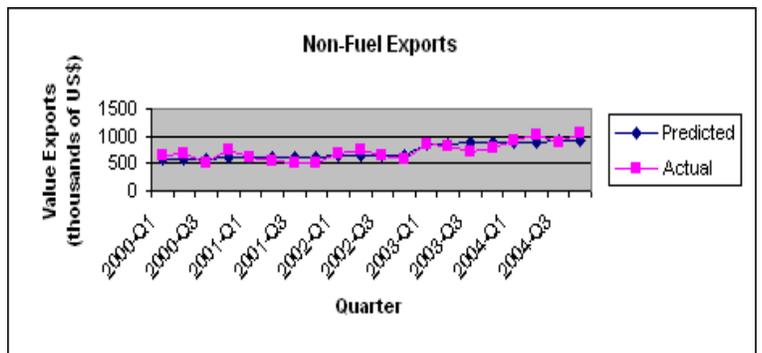
As additional data, e.g. exports for the first quarter of 2005, become available, this analysis should be repeated.

Table 1

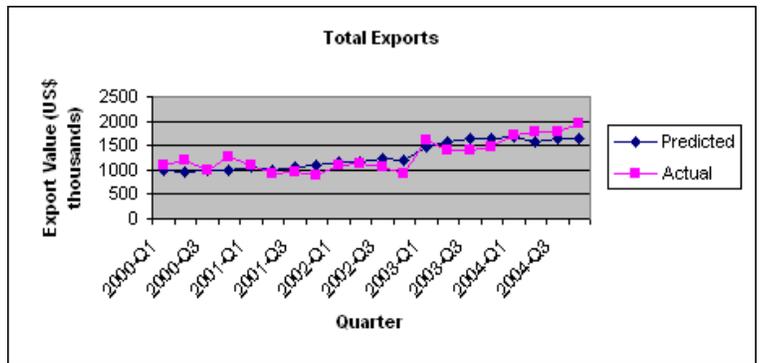
	Trend	Dummy	Constant
Coefficient	5.78	526.76	1023.57
Standard Error	11.61	136.69	78.48
R/Se/Y	0.80	157.96	
F/ df of F	32.99	17.00	
SS			
Reg/SS resid.	1646198	424157	



	Trend	Dummy	Constant
Coefficient	7.87	189.15	573.48
Standard Error	7.54	88.79	50.98
R/Se/Y	0.67	102.60	
F/ df of F	16.90	17.00	
SS			
Reg/SS resid.	355737	178961	



	Trend	RXR	Constant
Coefficient	2.71	813.25	176.69
Standard Error	19.72	362.00	320.59
R/Se/Y	0.70	189.86	
F/ df of F	20.22	17.00	
SS			
Reg/SS resid.	1457586	612769	



	Trend	RXR	Constant
Coefficient	8.56	256.43	299.86
Standard Error	11.50	211.24	187.07
R/Se/Y	0.61	110.79	
F/ df of F	13.28	17.00	
SS			
Reg/SS resid.	326050	208648	

