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*World's Economies In and After Crisis: Challenges,  
Threats and Opportunities*



## ALTERATIONS IN MONETARY TRANSMISSION MECHANISM IN EGYPT IN THE WAKE OF THE TRIPLE-F CRISIS

**Monal Abdel-Baki**

The American University in Cairo, [monalbak@aucegypt.edu](mailto:monalbak@aucegypt.edu)

### **Abstract:**

At the turn of the century, the global economy was exposed to soaring **food** and **fuel** prices, in addition to the viscous blow of the global **financial** crisis. All three effects, concurrently dubbed the “Triple-F Crisis”, have altered the channels of monetary transmission mechanism (MTM) in most nations. The research instigates by investigating the effects of the crisis on the Egyptian economy and the attempts of the Central bank of Egypt (CBE) to quell the impact of the slowdown. A Structural Vector Autoregressive (SVAR) model estimates the extent of internal and external shocks. The main contribution of the paper is the introduction of the expectations channel based on a field survey administered for a period of 21 months. This inclusion is essential especially in view of the pessimism about future inflation and the impending gradual removal of petroleum subsidies by the Egyptian government.

The results of the study suggest that the CBE has to use a combination of tools to restrain inflation while simultaneously boosting output. This can be achieved through expanding the monetary base using open market operations (OMO) and maintaining an appreciated domestic currency.

**Keywords:** triple-F crisis, inflation targeting, interest rate policy, foreign exchange intervention, monetary transmission mechanism.

**JEL Classification:** E40, E52, E58, F31.



## Aims and scope of the paper

This research explores the efficacy of the Egyptian monetary agent in cushioning the blow of the Triple-F crisis

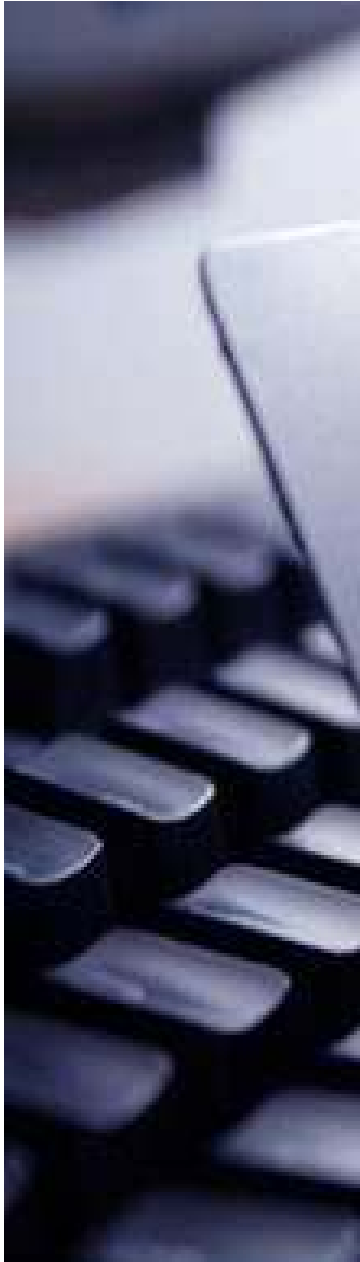
The focus is on the two most significant MTM channels for Egypt, namely the interest rate and exchange rate channels

## 2. Review of the Literature

- \* Till the seventies fiscal & monetary policies were coordinated in a demand management programme since it was to a certain extent speciously believed that they have a long-lasting effect on the real variables of output and employment (Clarida et al. 2000).
- \* It is generally claimed that due to their inability to distinguish between real and nominal rates central banks aggravated the business cycle, and next to the surge in oil prices created an additional excessive monetary shock that was held highly responsible for the inflationary pressures of the seventies (Brunner and Meltzer 1993).
- \* Many central banks started by responding to lagged inflation and output (Taylor 2003).
- \* They started using future forecasts based on a set of determinants as well as on the past responsiveness of key macroeconomic variables to changes in interest rates and money supply (ECB 2004).
- \* Accordingly, they set the nominal policy interest rate, normally the short-term inter-bank rate, as a function of the deviation of inflation forecasts from their targets and real output from potential GDP (Taylor, 1999).
- \* Bernanke and Mihov (1998) report that the Federal Reserve Bank has a goal horizon of one year for its inflation target and of two quarters for GDP since these time horizons are generally in line with the lag with which monetary policy affects either variable.
- \* Inflation targeting is rather flexible comprising an additional measure of adequate resource utilization measured through the output gap (Svensson 2007).
- \* Whilst scattered pieces of research have discussed monetary policy in Egypt (El-Refaie 2001, Abu El Eyoum 2003, Hassan 2003), almost nothing has been written about the changes in monetary transmission mechanism in the aftermath of these combined crises.

### 3. Methodology of research/ approach

- The monetary transmission mechanism, propagated through the dual channels of exchange rate and interest rate, is estimated by employing the Structural VAR technique.
- The advantage of using this model is the imposition of minimal restrictions while incorporating internal and external shocks. Another benefit of resorting to this methodology is the need to tackle the problem of the lack of agreement on how MTM operates; this is because the model accounts for the simultaneous movements in the variables resulting from monetary policy shocks as well as the developments in monetary policy reacting to changes in economic variables.
- The period of the study extends from 2003 till March 2010, which encompasses the phase of the outright shift to inflation targeting in Egypt, in addition to the implicit utilization of the exchange rate as an intermediate monetary target. This period also involves the policy shifts in the midst of the Triple-F crisis.
- All the data was collected from the databases of the Central Bank of Egypt and the International Financial Statistics.



## 4. Findings and data

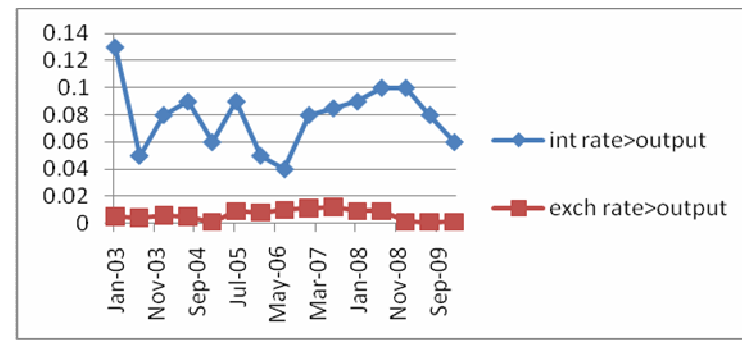
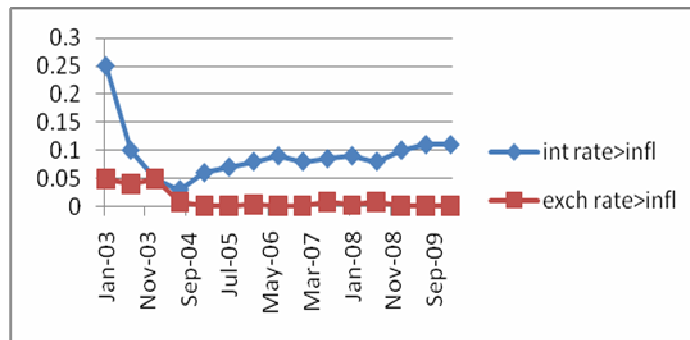
$$Y_t = C_0 + \sum_{j=1}^k A_j Y_{t-j} + u_t$$

$$\Delta y = \sum_{i=1}^m \mu_{i1} \Delta y_{t-i} + \sum_{i=1}^m \mu_{i2} \Delta p_{t-i} + \sum_{i=1}^m \mu_{i3} \Delta r_{t-i} + \sum_{i=1}^m \mu_{i4} \Delta i_{t-i} + \delta_1 y_{t-1} + \delta_2 p_{t-1} + \delta_3 r_{t-1} + \delta_4 i_{t-1} + \xi$$

- The calculations reap an F-Test value of 17.98, hence rejecting the null-hypothesis of no cointegration.
- The results demonstrate that the long-run relationships are in line with both the theories of the Purchasing Power Parity (PPP) and the Uncovered Interest Parity (UIP).
- All equations are strongly error correcting.

$$Y_t = a + \sum_{i=1}^n b_i Y_{t-i} + \sum_{i=1}^n c_i X_{t-i}$$

- **Granger Causality Tests**



The Granger tests displayed in the above figures confirm that the exchange rate channel is much more stable than the interest rate channel.

## 5. Results and Discussion

While previous research has shown that the most effective MTM channels in Egypt are the interest rate and exchange rate channels, the transformation in macroeconomic circumstances and the resultant hyperinflation that is very much feared to be chronic in nature, have resulted in changes in the relative efficacy of these channels.

Both the SVAR model and the Granger causality tests confirm that the foreign exchange channel has a strong pass through towards curbing inflation, but its effect is less pronounced on output. In contrast, alterations in the money supply have the exact opposite impacts.

As for the utilization of the policy interest rate, the results are idiosyncratic, showing a weak and lagged effect on inflation, yet a moderate consequence on output.

Caveat: pessimism of Egyptians of future expected inflation leads to price hikes.

## 6. Concluding Remarks

- \* Since embarking on the Bank Reform Plan in 2004, the CBE has explicitly emphasized price stability as the single objective of monetary policy in order to dampen the effects of soaring food and energy prices. This was primarily based on the theoretical principle that efforts to stimulate growth above its potential rate are apt to lead to higher inflation. Yet, the unsolicited advent of the global meltdown obliged the CBE to utilize monetary tools to fulfill the second objective of boosting employment and output.
- \* This research paper endeavored to investigate the changes in the two most effective channels of MTM that were brought about by the Triple-F Crisis.
- \* The results of the study suggest that the CBE has to use a combination of tools to restrain inflation while simultaneously boosting output. This can be achieved through expanding the monetary base using OMO and maintaining an appreciated domestic currency. Since cutting interest rates will have mild effects on output and a lagged and moderate impact on inflation, the CBE is not highly encouraged to resort to this policy. In view of the backward-looking price expectations, the immediate goal of the CBE has to be price stability. Accordingly, the six successive cuts in interest rates during 2009 may have not been the most fruitful in achieving the mutual goals of the CBE.
  
- \* Yet, other policies of expanding M2 & appreciating the pound are legitimized.

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