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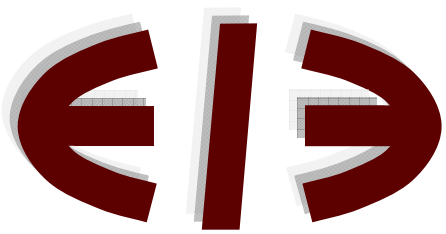

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Real Interest Rates, Bubbles and Monetary Policy in the GCC countries

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Abstract

The Gulf Cooperation Council countries (GCC) include Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE. Their monetary policy objective is to stabilize the foreign price, i.e., exchange rate instead of the domestic price level, where the nominal interest rate is equalized with the US federal fund rate, but the inflation rates are independent. High oil prices and the depreciating US dollar caused inflation to rise and real interest rates to be persistently negative in the UAE and Qatar. Asset prices bubbles formed then burst creating large loses. They could have moderated the effect of, or avoided, the bubble had they floated the currency and stabilized domestic prices.

JEL: Classification E31, E37, E58.
Keywords: Inflation, real interest rate, bubbles.

1. Introduction

The fixed exchange rate regime was unsustainable in the US because of balance of payments problems. Friedman (1953) made the case for flexible exchange rates. The US floated the dollar in 1973. Other Western nations followed suit. Speculators attacked the Bank of England and forced it to exit the European Exchange Rate Mechanism in 1992.

Hong Kong has a currency board vis-à-vis the USD; it feels safe from potential attacks, most likely because the Bank of China's massive reserves deter speculators. Further, asset price bubbles have higher chances forming under fixed exchange rate regimes where $i_t = i_t^*$, and if $\pi_t > \pi_t^*$ and $r_t < 0$ (see appendix for data and notation). Figure 1 illustrates using Hong Kong data (the correlation is -0.75). During the period from the 1990-1999, $\bar{r}_t < 0$, $\bar{\pi}_t$ was 6.87 percent and $\bar{\pi}_t^*$ was 3 percent. High inflation is bad, in addition to eroding purchasing powers, increasing the variability of relative prices, and distorting real decisions, excess money and credit fuel the asset markets. Central banks can stabilize the foreign price (fix the exchange rate) or stabilize the domestic prices (e.g., inflation targeting), but not both.

The GCC adopt a fixed exchange rate regime to the US dollar (except Kuwait which pegs to a basket), where i_t is set equal to i_t^*, to keep the depreciation rate constant. Inflation in the GCC is usually imported, and highly associated with high oil prices and loose US monetary policy.

The IMF article IV consultation 2008 shows that the UAE had negative real interest rates persisted for years. Qatar too had a persistent negative real interest rate. Oman's rate became negative in 2007-2008. The other GCC countries have very low real interest rates. The GCC produce about 23 percent of the world's oil and controls 40 percent of the world's oil reserve. They probably feel safe from speculators because of their sizable foreign reserves. They also seem content with the fixed exchange rate regime and oblivious to asset price bubbles. Dubai and Qatar are similar to Hong Kong in many aspects.

GCC housing time series data are not available. Colliers International plots a hump-shaped housing price index for Dubai, which went from 100 in 2007 to nearly 220 in mid 2008 then took a nosedive to 100 in early 2009.

We show that, had the GCC adopted a monetary policy of targeting low domestic inflation rate, average nominal interest rate would have been higher than otherwise and average real interest rate would have been positive than otherwise, which imply that asset price bubbles could have been moderate, if not totally absent.

Next we simulate a strict and flexible inflation targeting rules. In section 3, we conclude.

2. Monetary policy simulations

The UAE and Qatar's inflation rate are low and stable during 1999-2003. They are high and more variable during 2004-2008. Oman's inflation increased significantly in

2007. Let's assume that these countries float their currencies. And, they use a "strict" and a "flexible" policy formula (Taylor 1993, 1999) to ask, what nominal short term interest rate delivers a positive real interest rate, under a specific inflation target?
The strict inflation targeting Taylor rule is:

$$1 \quad \tilde{i}_t = \tilde{r} + \pi_t + 0.5(\pi_t - \hat{\pi}),$$

and the flexible inflation targeting rule is:

$$2 \quad \tilde{i}_t = \tilde{r} + \pi_t + 0.5(\pi_t - \hat{\pi}) + 0.5(y_t - \hat{y}_t)$$

We report the results of strict and flexible inflation targeting along with descriptive statistics in tables 1 and 2. Table 1 has 6 columns for each country. π_t is in column 1. We assume that the central bank wants to keep average inflation as low as it was during the period 1999-2003 for the UAE and Qatar, and 1999-2006 for Oman. In column 2, for the UAE the target is set to 2.5 percent; 1.5 percent for Qatar. For Oman, average inflation during 1999- 2006 is 0.5 percent; we chose $\hat{\pi}$=1 percent. Column 3 includes i_t (actual) followed by $\tilde{i}_t$ (simulated) in column 4. In the last two columns we have r_t and $\tilde{r}$.

On average, to keep inflation low and stable, and the real interest rate is reasonably positive, the UAE would have had an average short term nominal interest rate $\tilde{i}_t$ of 14.2 percent compared with actual i_t of 3.3 percent; 18.4 compared with actual of 4.7 percents for Qatar; and 16.2 compared with 2.6 percents in Oman. Table 2 is similar to table 1, with short term nominal interest rate are lower under flexible inflation targeting. Over time, when inflation is under control, both the nominal and real interest rates would be low. Most importantly, the variability of real interest rate, inflation and output would be significantly lower under inflation targeting.

3. Conclusion

A floating exchange rate regime with an inflation targeting policy could have moderated, if not fully prevented, asset price bubbles and stabilized output and inflation in the GCC countries UAE, Qatar and Oman. Targeting asset price bubbles by central banks directly is still debatable.

Data Appendix

Data are from IFS. UAE's interest rate are from IMF staff consultation documents. Hong Kong housing price is from HKMA.

i_t denote nominal interest rate; for Hong Kong, money market rate. For the UAE the 91 CD rate; Repo and Bank rates for Qatar and Oman.

π_t denotes CPI inflation rate.

r_t denotes the real interest rate, $i_t - \pi_{t-1}$

y_t is log real GDP.

The output gaps were calculated using the HP filter and data from 1980 - 2008.

(*) denotes US magnitudes.

(-) on variables denotes average value.

(^) on inflation denotes the target; on GDP denotes potential GDP (HP filter with $\lambda = 100$).

(~) denotes simulated value.

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Table 1: Actual and Simulated Strict Inflation Targeting

	UAE						Qatar						Oman					
Year	π_t	$\hat{\pi}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$	π_t	$\hat{\pi}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$	Year	π_t	$\hat{\pi}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$
1999	2.1						1.7						1999	0.5					
2000	1.4		6.5		4.4		1.7		6.6		4.9		2000	-1.2		7.3		6.8	
2001	2.8		3.2		1.8		1.4		2.5		0.8		2001	-0.8		7.5		8.7	
2002	2.9		1.7		-1.1		0.2		1.7		0.3		2002	-0.3		7.5		8.3	
2003	3.1		1.0		-1.9		2.3		1.3		1.1		2003	0.2		7.5		7.8	
Average	**2.5**		**3.1**		**0.8**		**1.5**		**3.0**		**1.8**		2004	0.7		0.7		0.5	
Std	**0.7**		**2.4**		**2.9**		**0.7**		**2.4**		**2.1**		2005	1.9		3.1		2.4	
2004	5	2.5	1.7	9	-1.4	2.8	6.8	1.5	2.6	12	0.3	2.6	2006	3.2		3.6		1.8	
2005	6.2	2.5	3.9	11	-1.1	3.0	8.8	1.5	4.5	15	-2.3	2.5	**Average**	**0.5**		**7.5**		**5.2**	
2006	9.3	2.5	5.2	15	-1	2.3	11.8	1.5	5.5	19	-3.3	2.0	**Std**	**1.4**		**0.1**		**0.8**	
2007	11.1	2.5	4.5	18	-4.8	2.6	13.8	1.5	5.5	22	-6.3	2.1	2007	6.1	1.0	2.0	11	-1.2	2.3
2008	11.5	2.5	1.4	18	-9.7	2.0	15.0	1.5	5.5	24	-8.3	2.2	2008	12.6	1.0	0.9	21	-5.2	2.6
Average	**8.6**	**2.5**	**3.3**	**14.2**	**-3.6**	**2.5**	**11.3**	**1.5**	**4.7**	**18.4**	**-4.0**	**2.3**	**Average**	**3.8**	**1.0**	**2.6**	**16.0**	**-3.2**	**2.4**
Std	**2.9**		**1.7**	**4.1**	**3.8**	**0.4**	**3.4**		**1.3**	**4.9**	**3.4**	**0.3**	**Std**	**4.6**		**0.8**	**7.1**	**2.8**	**0.2**

- $\hat{\pi}_t$ is average from 1999-2003 for UAE and Qatar. For Oman (1999-2006) we chose 1 percent as a target.
-Std is standard deviation.

Table 2: Actual and Simulated Flexible Inflation Targeting

	UAE							Qatar							Oman							
Year	π_t	$\hat{\pi}_t$	$y_t - \tilde{y}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$	π_t	$\hat{\pi}_t$	$y_t - \tilde{y}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$	Year	π_t	$\hat{\pi}_t$	$y_t - \tilde{y}_t$	i_t	$\tilde{i}_t$	r_t	$\tilde{r}$
1999	2.1							1.7							1999	0.5						
2000	1.4		2.1	6.5		4.4		1.7		6.5	6.6		4.9		2000	-1.2		-2.1	7.3		6.8	
2001	2.8		-2.4	3.2		1.8		1.4		3.3	2.5		0.8		2001	-0.8		1.0	7.5		8.7	
2002	2.9		-6.3	1.7		-1.1		0.2		-3.2	1.7		0.3		2002	-0.3		-0.7	7.5		8.3	
2003	3.1		-1.8	1.0		-1.9		2.3		-7.1	1.3		1.1		2003	0.2		-3.1	7.5		7.8	
Average	**2.5**		**-2.1**	**3.1**		**0.8**		**1.5**		**-0.1**	**3.0**		**1.8**		2004	0.7		-2.5	0.7		0.5	
Std	**0.7**		**3.4**	**2.4**		**2.9**		**0.7**		**6.2**	**2.4**		**2.1**		2005	1.9		-1.3	3.1		2.4	
2004	5.0	2.5	0.4	1.7	9	-1.4	2.5	6.8	1.5	-1.2	2.6	5	0.3	1.8	2006	3.2		0.4	3.6		1.8	
2005	6.2	2.5	1.1	3.9	11	-1.1	2.4	8.8	1.5	-3.1	4.5	7	-2.3	1.8	**Average**	**0.5**		**-1.2**	**5.3**		**5.2**	
2006	9.3	2.5	2.8	5.2	17	-1.0	2.9	11.8	1.5	-0.1	5.5	8	-3.3	2.8	**Std**	**1.4**		**1.5**	**2.8**		**3.5**	
2007	11	2.5	1.6	4.5	19	-4.8	2.6	13.8	1.5	3	5.5	7	-6.3	2.35	2007	6.1	1.0	1.7	2.0	12	-1.2	2.4
2008	12	2.5	1.4	1.4	19	-9.7	2.3	15.0	1.5	7	5.5	6	-8.3	2.75	2008	12.6	1.0	2.7	0.9	22	-5.2	2.2
Average	**8.6**	**2.5**	**1.5**	**3.3**	**15.0**	**-3.6**	**2.5**	**11.3**	**1.5**	**1.1**	**4.7**	**6.6**	**-4.0**	**2.3**	**Average**	**9.4**	**1.0**	**2.2**	**2.6**	**17.0**	**-3.2**	**2.3**
Std	**2.9**		**0.9**	**1.7**	**4.7**	**3.8**	**0.2**	**3.4**		**4.0**	**1.3**	**1.14**	**3.4**	**0.5**	**Std**	**4.6**		**0.8**	**0.8**	**7.1**	**2.8**	**0.2**

- $\hat{\pi}_t$ is average from 1999-2003 for UAE and Qatar. For Oman (1999-2006) we chose 1 percent as a target.
-Std is standard deviation.

Figure 1: Hong Kong Real Interest Rate and Change in Housing Price Index