Inflation mechanisms, expectations and monetary policy in Saudi Arabia

Saudi Arabian Monetary Agency

Abstract

Saudi Arabia is a fiscally dominant open economy. The exchange rate anchor provides the long-term framework for monetary policy. There is only limited scope to diverge from US interest rates but SAMA retains flexibility in deploying prudential guidelines, adjusting reserve requirements and issuing SAMA bills to manage liquidity. Inflation developments depend strongly on international prices, as well as domestic supply side factors such as housing in particular.

Keywords: Saudi Arabia, inflation, monetary policy, inflation expectation, macroprudential tools, central bank, financial system

JEL classification: A11, A10, C32, E21, E51, E52, F10

1. Introduction

Saudi Arabia is a fiscally dominant open economy. The exchange rate anchor provides the long-term framework for monetary policy. There is only limited scope to diverge from US interest rates but SAMA retains flexibility in deploying prudential guidelines, adjusting reserve requirements and issuing SAMA bills to manage liquidity. Inflation developments depend strongly on international prices, as well as on domestic supply side factors, such as housing in particular.

2. Inflation mechanisms

The literature for Gulf countries indicates that the long-term drivers for inflation are external, comprising inflation in trading partners and exchange rate pass-through.[1] But the first factor has historically been related to higher oil prices, which also lead to higher government spending domestically. Changes in Saudi economic activity are driven by government spending, and spending on infrastructure projects and welfare programmes rose sharply in line with the higher oil price in the 2004–14 period. This demand-pull inflation from government spending affects the core inflation rate (especially in the housing market when public sector salaries are hiked) and reinforces the conclusion that Saudi inflation is related to oil prices.

Saudi Arabia has maintained over the years a broadly countercyclical fiscal stance with the aim of reducing the volatility of domestic growth and maintaining stable consumer prices. Since oil revenues cannot be systematically forecast (exhibiting nil duration dependence, also described as a random walk effect), fiscal spending is highly flexible and annual budgetary targets are indicative rather than prescriptive.

After 2006, inflation started to accelerate, reflecting higher energy prices. Externally, more expensive energy led to a rise in imported food prices and domestically it resulted in higher government spending. Housing costs rose, stimulated by higher government wages and benefits.

From a peak of 6.1% in 2008 (using 2007 as the base year), inflation has fallen to low and relatively stable levels in recent years. It stood at 2.7% in 2014 and at 2.4% year-on-year in October 2015.

Food inflation in September 2015 was 1.1% and housing inflation was 4.4%. These figures are key because food and housing are both the largest and the most volatile components of Saudi CPI basket: food (with a weight of 21.7%) peaked at 13.7% in 2008, and housing (with a weight of 20.5%) peaked at 11.4% in 2011.

***Food*:** Even if SAMA had more flexibility in setting monetary policy, this would have little effect on demand for basic foodstuffs, as demand is price-inelastic. Food prices reflect global prices, which are affected by weather conditions, demand in other (especially developing) countries, and energy prices. The latter factor means that food prices are likely to rise just as the Saudi economy strengthens due to high oil prices.

[1] See eg M Hasan and H Algoleel, "Understanding the inflationary process in the GCC Region", *IMF Working Paper*, WP/08/193, August 2008.

***Housing*:** This is both a demand-pull and a supply-side issue. Rents have been driven up by demographic pressures. The indigenous population will double by 2040, according to reliable forecasts. In the past, lack of access to conventional mortgage products inhibited the development of the housing market (and hence also SAMA's ability to influence it via interest rate changes). But recently, conventional mortgages have become available. The mortgage suppliers (mainly the commercial banks) are regulated by SAMA, which inter alia caps the loan-to-value ratio at 70%. Meanwhile, a tax on undeveloped land to free up sites for house building has been approved by the Shura Council (November 2015) and will shortly be implemented.

3. Inflation expectations

Since inflation is driven by external factors, inflation expectations based on domestic factors are unlikely to have a marked effect on prices. That said, policymakers need to have a reliable indication of where inflation is likely to head. Forward-looking estimates of inflation are lacking in Saudi Arabia (for instance there is no inflation-linked government bond market from which an implied forward inflation premium could be extracted).

Work by SAMA on an appropriate measure of inflation as a guide for policymakers, using the CPI index compiled by the Central Department of Statistics, has led to the conclusions that:

- The traditional exclusion method of constructing a core index by taking out food and housing/rent inflation (42.5% of CPI index) produces a more (not less) volatile index.
- Because energy prices are fixed administratively and are not changed frequently, their exclusion likewise does not produce a more stable number.
- A Generalised Dynamic Factor Model (GDFM) approach is more useful[2] (see footnote).

SAMA has subsequently developed a short-term inflation-forecasting model that is consistent and provides reasonably accurate results.

4. Monetary policy

(i) Framework

The SAMA Charter of 1957 (Article 1) states that SAMA's mandate is to stabilise the internal and external value of the Saudi riyal. SAMA has never treated this as an inflation target objective. Using the familiar concept of the monetary policy trilemma, whereby it is impossible for a central bank to achieve more than two of the following three objectives simultaneously, namely, a stable exchange rate, free capital

[2] GDFM methodology allows the identification of the various sources of price fluctuations by using a few common factors that can explain a large proportion of the covariation across economic series. The biggest advantage of GDFM is its ability to separate long-term movements of variables from short-term fluctuations.

movement (absence of capital controls) and an independent monetary policy, Saudi Arabia has chosen the first two. The exchange rate has been pegged to the dollar at a fixed rate since 1986, and there are no capital controls. But the course of monetary policy is closely tied to the policy of the Federal Reserve. However, SAMA has developed a variety of tools ranging from altering reserve requirements to targeted prudential guidelines with respect to affecting the volume of various types of bank credit available in the economy.

The exchange rate targeting regime has the rationale that:

- Changes in the exchange rate have no effect on exports since they are dominated by oil and petrochemicals, whose prices are set in the world market.
- Foreign exchange receipts and payments are primarily in dollars.
- Exchange rate stability encourages investments and promotes diversity in the economy.
- The current exchange rate arrangement anchors inflationary expectations in the household and business sectors since Saudi inflation has tracked US inflation reasonably well over time.

(ii) Monetary process and causative factors for money supply

In fiscally dominant economies, such as Saudi Arabia, the role of monetary policy is to support fiscal policy by maintaining price stability. Oil revenues are the most important driver for the Saudi economy. About 80% of government spending is financed by oil revenues, in contrast to other economies where public spending is largely financed by local taxes. SAMA receives oil income in dollars and deposits the riyal equivalent of dollars to the Ministry of Finance's account. Since the dollars go into the FX reserves, there is no immediate impact on domestic liquidity. As the government disburses funds, these generate rounds of economic activity in the private sector through a multiplier process. This activity can be categorised as the non-oil economy.

Ultimately, the foreign exchange outflows (the private sector balance of payments deficit) closely approximate over time the riyal spending by the government in excess of local taxes/service charges.

It is the combination of the government's net domestic spending and the resulting private sector balance of payments deficit that dominates changes in domestic liquidity. The data for 2014 illustrate this (Table 1). M3 growth was 11.9% up from 10.9% in the previous year. The change in bank claims on the rest of the economy accelerated to SAR 134.3 billion from SAR 124.5 billion in 2013. Other items and residuals amounted to SAR 53.5 billion. The result was a change in M3 of SAR 184.3 billion. But bank credit creation and residual factors were overwhelmed by the size of the government's net domestic expenditure, which would have resulted in a far higher rate of M3 growth had it not been wholly offset by the private sector balance of payments deficit.

Causative factors for change in broad money supply (M3) Table 1

Billions of Riyals	
	2014
Net government domestic expenditure *	834.5
Less: private sector balance of payments deficit	-838.0
Equals: Change in domestic liquidity due to fiscal spending	-3.5
Change in bank claims on private and non-financial public sector	134.3
Other items (net)	53.5
Total: Change in M3	**184.3**
* Domestic spending not financed by domestic taxes	
Source: SAMA 51st Annual Report (table re-presented)	

(iii) Recent developments in the financial system

Historically, bank credit growth has not been a driver of inflation. But in recent years, the growth of bank assets has been higher than that of both overall GDP and non-oil GDP, which is a strong evidence that financial deepening of the economy is finally taking place. This implies that a future source of both consumer price inflation and asset price inflation might come from excess credit creation. Due to SAMA's prudent and highly conservative stance, Saudi banks were largely immune to the recent global financial crisis. They are modestly leveraged, well capitalised, highly liquid, adequately provisioned and sustainably profitable. In 2014, ROA and ROE were 1.9% and 14.2%, respectively. Bank capital and reserves have doubled in size since 2007 and they exceed the Basel III minimum requirements on all points. This positive view was endorsed by the IMF in June 2015, which pointed out that: "Saudi banks' strong capital, profitability and liquidity will help them weather a slowing in the pace of economic growth. SAMA continues to further strengthen its regulations and supervision of the financial sector, and this will support the continued development and stability of the financial system."

Compared to overall GDP, the provision of credit is low. The ratio is about 45%, below most emerging economies, but similar to other oil exporters, a reflection of the fact that the country's large oil sector does not need much borrowing. The ratio for the non-oil sector is much higher at around 80%. While lending to the private sector drives the banks' growth, their expansion nonetheless remains largely dependent on the oil price and government spending since many loans are to companies that rely on public contracts. This is true of the retail sector as well, which is dominated by lending to civil servants.

(iv) Prudential and macroprudential policy

SAMA has long relied on providing informal and formal guidance to the banks as a means of steering the availability of credit. SAMA's toolkit is set out in Table 2.

SAMA's macroprudential toolkit

Table 2

Instrument	Regulatory Requirement
Capital Adequacy Ratio	Basel requirement of minimum 10%
Provisioning	General: 1% of total loans
	Specific: Minimum 100% of NPLs
Leverage Ratio	Deposits less than or equal to 15x Capital and Reserv
Cash Reserve Ratio	7% for Demand Deposits
	4% for Time/Savings Deposits
Loan to Value (LTV)	Mortgage loans at or below 70% of
	residential real estate value
Debt Service to Income (DTI)	Monthly repayments at or below 33% of employed
	salary and 25% of retired person
Statutory Liquidity Reserve	Liquid Assets at or below 20%
Liquidity Coverage Ratio (LCR)-Basel III	100% by 2019 (already fulfilled)
Net Stable Funding Ratio (NFSR)-Basel III	100% by 2019 (already fulfilled)
Counterparty Exposure	Individual Exposure at or below 25% of bank capital
	(in practice at 15%)
Foreign Exposure	SAMA approval needed before foreign
	lending (qualitative measure)

Note: *The Basel III metrics, the Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) are designed to improve the liquidity of the banks and reduce the insolvency risk. Under the LCR, high-quality and highly liquid assets must be available to exceed the net cash outflows expected for the next thirty days. Similarly, the NSFR promotes banks' resiliency over a longer period. Banks' resources must exceed their long-term commitments.*

SAMA applies its own macroprudential measures as well as the standard ones.

Loan-to-value ratios (LTVs): Since November 2014, it has enforced a 70% LTV ratio designed to prevent leverage-enhanced speculation on domestic property.

Debt service-to-income ratios: These ratios also apply to individual borrowers dating back to 2005 when, to ensure that levels of household debt remained sustainable, SAMA capped the amounts that can be deducted from individuals' monthly salaries and paid as instalments to lenders.

Dynamic countercyclical loan loss provisions: After the global financial crisis, Saudi banks' total provisions against NPLs dipped below 100%. SAMA insisted that they should increase them, and by 2014 loan-loss provision rose to 170% of NPLs.

True macroprudential measures would go beyond individual banks to economy-wide rules. Their application in Saudi Arabia would not be straightforward:

- Credit to GDP is not as relevant for oil-reliant economies as it would be in more diversified economies, because overall GDP for oil economies tends to be more volatile. A better alternative for Saudi Arabia would be to target credit to non-oil GDP. But even this approach is problematic since the non-oil economy is still linked to the oil price. Furthermore, credit in the kingdom is growing naturally

year-by-year due to the financial deepening of the Saudi economy, something that does not apply to the same extent in developed economies.

- Inflation in asset prices is especially difficult to manage as these can move for many reasons besides overheating in the financial system.
- The third idea under discussion, ie foreign exchange controls, is becoming more acceptable in the international monetary system, provided that controls are applied temporarily in order to smooth capital flows. But this runs contrary to the free market philosophy that SAMA has always nurtured.

In 2015, SAMA published its first *Financial Stability Report*, which analysed the state of the financial system and outlined the work that needed to be done, such as identifying systemically important financial institutions and monitoring whether the LTV ratio had slowed the build-up of credit risk in real estate. A shadow banking sector hardly exists in Saudi Arabia, but SAMA is keeping a particularly close watch on lending by the new real estate lending companies and on the new field of microfinance lending to small businesses.

SAMA also ran stress tests including one designed to see how the banks would respond to a rise in global interest rates. In fact, their profitability actually improved under this scenario because of their non-interest-bearing deposits, which means that when rates rise the banks' lending margins actually go up. The banks are also resilient to a drop in oil prices and would survive for at least one working week even if there was a run on their deposits. As well as these top-down tests, SAMA requires each bank to run its own stress tests twice a year and to report the results.

5. Conclusion

The oil price is at the root of the monetary and fiscal challenges facing Saudi Arabia. In the context of domestic inflation, high oil prices tend to lift import prices while at the same time leading to higher domestic government spending owing to higher oil revenues, and putting upward pressure on consumer prices. Food and housing/rental costs constitute over 40% of the total weight of the CPI basket. Since Saudi Arabia is a fiscally dominant economy and changes in exchange rates do not affect the volume of exports, monetary policy targets a stable exchange rate and this tends to stabilise domestic inflationary expectations.

Recent work has given policymakers a short-term inflation forecast tool but there is a lack of economic indicators that would give longer-term inflation expectation data.

While the tight relationship between net domestic government spending and the private sector balance of payments deficit dominates monetary expansion, credit creation by the banks is also a factor and will likely grow in importance in the future. SAMA will continue to strengthen prudential framework to help safeguard the banking system. SAMA's conservative approach, although criticised in the past, was amply vindicated in the aftermath of the global financial crisis.