

Can a country really go broke? Deconstructing Saudi Arabia's macroeconomic crisis

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"The Stone Age came to an end not for a lack of stones and the oil age will end, but not for a lack of oil" (Sheik Ahmed Zaki Yamani, former Saudi oil minister).¹

Abstract

It would be no exaggeration to say that the Kingdom of Saudi Arabia is reeling from a macroeconomic crisis, triggered by a collapse in oil prices since June 2014. After a period of approximately twenty months, the popular media began predicting something even more cataclysmic; bankruptcy. But can a country actually go broke? In this paper we attempt to answer this seemingly simple question by deconstructing the essence of the Saudi Arabian economy and its dependence on US\$ to fund its budgeted expenditures. We do so from a heterodox macroeconomic perspective. Specifically, a T-account analysis and stock-consistent accounting approach. The Saudi Arabian economy is relatively unique. Our analysis reveals the limitations Saudi Arabia confronts in terms of the scope for conventional macroeconomic fiscal, monetary and trade policies. Its situation is precarious, not only economically but politically. A heavy dependency on oil prices within the context of current institutions and commitment to maintaining a monetary standard are creating problems that may require profound changes. Saudi Arabia is not a 'modern money' economy. Under its current configuration it is possible for Saudi Arabia to become 'bankrupt' in US\$ terms, particularly if oil prices do not recover significantly. The looming uncertainty over future oil prices constitute challenging times for a country like Saudi Arabia that is witnessing turmoil on multiple fronts.

Key words: fiscal policy, monetary policy, oil shock, Saudi Arabia, sectoral financial balances

JEL classification: E52, E62, H62

1. Introduction

"Saudi Arabia *may go broke*² before the US oil industry buckles"(Pritchard, 2015).

An economy plunging into economic crisis with high inflation or declining GDP is something economists have grown accustomed to grapple with. But a country going broke? Is that really possible? When oil prices tumbled by over 70 percent between June 2014 and the beginning of the 2016, the popular media argued vociferously that Saudi Arabia, a major oil exporter, and monoexporter in particular, might indeed become insolvent. Here are a few headlines (emphasis added) that followed in quick succession after an International Monetary Fund (IMF) report was released in October 2015;

"IMF: Saudi Arabia *running on empty* in five years" (Ali, 2015).

¹ Quoted in Frankel (2012).

² Italics my own for emphasis.

“IMF: Saudi Arabia is in danger of *running out of money* within five year” (Goldhill, 2015).

“IMF predicts Saudi Arabia will *become bankrupt* shortly”(Matsangu, 2015).

These sensational predictions appeared towards the end of 2015; over the next few months oil prices would fall by more than 20 percent from around US\$ 50/barrel to sub-30 levels in January 2016. And the fears only got even more definitive;

“Welcome to AUSTERITY Saudi Arabia: Crashing oil prices sends economy into meltdown”(Clements, 2016).

While oil prices saw a mild recovery by June 2016, it plummeted by about 25 per cent (Carlson 2016) in a short period of just over a month, followed by a sharp recovery by over 6% in a single day (The Week 2016). This volatility indicates uncertainty for future scenarios for oil exporting countries, particularly oil monoexporters (The Week 2016b). In this paper we study the dismal state of affairs from a heterodox macroeconomics perspective to deconstruct the predicament of Saudi Arabia in the context of the recent oil shock. At the same time, we provide a sharper picture of the policy options open to it if the crisis of low oil prices were to continue.

This is an important exercise. Being at the epicentre of a sensitive region, the oil crisis in Saudi Arabia could have grave repercussions economically, politically and socially not just in the Middle East but globally. Unlike other more conventional macroeconomic stability crises such as those experienced in Japan or Greece, the Saudi Arabian crisis when seen in the context of the ongoing civil wars in the region as well as the simmering Iran-Saudi conflict, could turn out to be cataclysmic. In such a situation, sensationalism does not help – a more dispassionate macroeconomic analysis of the Saudi Arabian economy is critical. This is not to say that there is no imminent crisis; to the contrary, the situation may be more precarious than we may apprehend from newspaper headlines. And this is simply because Saudi Arabia does not have the fiscal and monetary policy instruments one typically observes applied in recent crises: austerity, negative interest rates, quantitative easing etc. In a race against time, perhaps the best hope for Saudi Arabia lies in a reversal of the oil price trend, and soon.

2. Archetype of the Saudi Arabian economy

Saudi Arabia is a high income country with a GDP per capita in PPP terms of more than US\$ 50,000 while being ranked 39th on the Human Development Index (HDI) with an absolute score of 0.837. The total population of Saudi Arabia is about 28 million of which some 30 percent are expatriates. Although expatriate workers are rewarded with high wages and allowances, as well as a tax-free income, they receive no unemployment benefits, which are available only to Saudi citizens. Apart from a direct unemployment benefit of Euro 370/month, citizens are also provided education allowances, health benefits and housing (Kukemelk, 2011). The Saudi Arabian economy is driven by oil; while oil exports constitute 90% of total exports³, the petroleum sector accounts for almost half of Saudi Arabia’s GDP and contributes to 80% of the government’s budget from where benefits and allowances to

³ In years when oil prices are high, like in 2012 and 2013, the ratio of oil to total exports increase, and vice-versa.

citizens are doled out. With such a massive dependence on oil exports, it is obvious why the oil-price crash which began in June 2014 and continues unrelentingly ever since can destabilize the Saudi Arabian economy from its very core; the word “meltdown” therefore being quite appropriate.

What makes monoexporters like Saudi Arabia quite unique in terms of macroeconomic theory is the fact that foreign exchange earnings from oil exports actually “fund” the government’s budget. While this may seem rather intuitive, it will not so be so obvious to some economists. The argument being put forth here can be understood by posing a couple of questions; how do countries which have no major current account surpluses fund their domestic budgets? Are government budgets usually funded by dollars? Do governments even need revenues, let alone dollars, before they spend? Answers to these questions provide clues in identifying the predicament of (oil) monoexporters and the options open to them if the present crisis of low oil prices were to continue over a longer period of time.

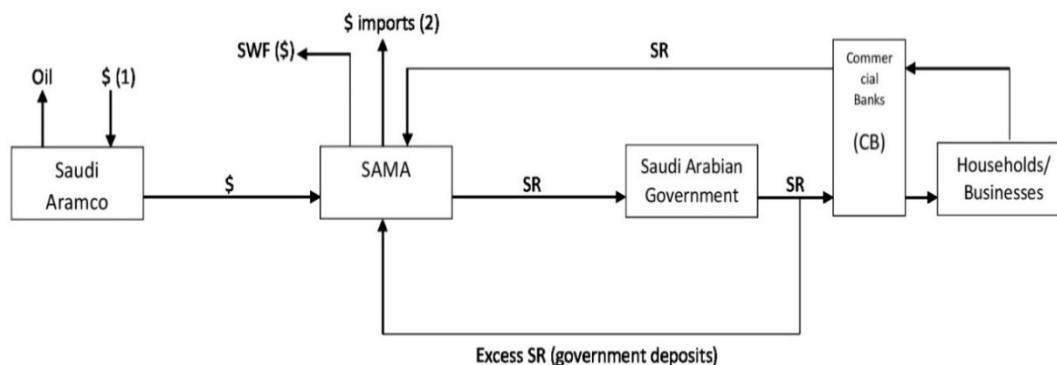
Figure 1 illustrates the flow of US dollars (\$) and Saudi riyals (SR) through the economy. The figure being schematic, only major components in the sequence are included. The process begins with export of oil by Saudi Aramco, Saudi Arabia’s national petroleum and natural gas producer. A portion of its \$-revenues is transferred to the Saudi Arabian Monetary Agency (SAMA), the country’s central bank. The SR equivalent of the \$-amount is then transferred by SAMA into the Government’s account (Ministry of Finance or the Treasury) held at the central bank, which can be used for its budgetary expenditures. This step actually describes the funding process, i.e. how \$s enter the government’s budget as “revenues”. Limiting SR spending to \$ revenues is equivalent to state (or reserve) money being backed fully (100 percent) by foreign exchange reserves.⁴ Although this condition may be relaxed in economic downturns when \$-revenues plummet, it ensures that excessive spending does not take place when \$-revenues are abundant. Moreover, since SAMA allows full convertibility of \$s to SR (Al-Jasser and Banafe, nd, p. 260) at a fixed exchange rate of 3.75 SR per \$⁵ it is important to ensure balance between issue of SR and \$-reserves.

Continuing with Figure 1, when the government spends, SR in its account flows to households and businesses (HH/B) through commercial banks (CB). Through these transactions, SR reserve money or reserves will be transferred from SAMA to commercial banks. However, a significant portion of household consumption and business investment are for imported goods. When imports are made by the domestic private sector, SR reserves will flow back from commercial banks back to SAMA in exchange for \$s while at the same time reducing deposits held by HH/B. In other words, the reserves injected into commercial banks on account of spending by the government are now returned to SAMA to procure \$s for imports. Tax collections being low in Saudi Arabia, these reserves remain in the banking system. We will return to the implications of this feature later in the paper. The difference between (1) and (2) as marked in Figure 1 is the current account \$-surplus on the balance of payments – which is then used for investments in a Sovereign Wealth Fund (SWF). The difference between (3) and (4) in the figure are SR balances (usually surplus) of the government held at SAMA as “Government Deposits”.

⁴ Currency (notes and coins) in Saudi Arabia are backed fully by gold reserves.

⁵ The Saudi Arabian monetary system can be categorized as a \$-exchange standard.

Figure 1: Flow of \$ and SR through the Saudi Arabian economy



Two specific comments are worth mentioning here; first, unlike Saudi Arabia, domestic currencies of (economically speaking) “sovereign” nations of the world are neither backed by precious metals and/or a foreign currency. A sovereign government does not need to deposit \$ in its account with the central bank for procuring funds (currency and/or reserve money) to spend – it can “borrow” money from the central bank against issue of government securities. The danger, however, for Saudi Arabia is its high marginal propensity to import at almost 20 percent of GDP and 50 percent of oil revenues. Unrestrained government expenditure could put pressure on the SR to depreciate. To maintain its currency peg, the SAMA would have to deplete its \$ reserves; an unsustainable option in the longer term. Hence, by restricting the overall size of the government budget, the possibility of excessive imports is avoided. In this way, a “shortage” of \$s cannot arise in Saudi Arabia since issue of SR is constrained by \$s received by the government primarily from oil revenues. This brings us to the second point; the possibility of an excess supply that can put pressure on SR to appreciate is also circumvented by SAMA’s willingness to hold \$ at the going exchange rate and invest it in foreign assets through a sovereign wealth fund (SWF). Obviously, if an SWF did not exist, the forex market would be flooded with excess \$ that could have caused the SR to appreciate. Through the SWF, Saudi Arabia, like many other major oil exporters, also believed that it had effectively circumvented the Dutch Disease. Overall, a fixed exchange rate system and capital account convertibility have ensured confidence and stability of SR.

3. T-accounts analysis of the oil crisis

Macroeconomists are usually averse to accounting, preferring models that establish causality to the simple logic of debit and credit. The implications of macroeconomic policies are also often put to empirical tests using sophisticated econometric methods while no attempt is made to analyse the repercussions on various agents in the economy from an accounting standpoint. Not only does the accounting approach help the economist to track financial flows through the economy but they reveal the financial position of each agent (sector) at the end of a transaction sequence in terms of changes in their assets and liabilities. This has important implications for financial stability as well as in revealing the sequential impact of shocks through:

“explicit modelling of the financial sector as distinct from the real economy, so allowing for independent growth and contraction effects from finance on the

economy ... [and] accounting identities (not the equilibrium concept) as determinants of model outcomes in response to shocks in the environment or in policy” (Bezemer, 2010).

Table 1 presents T-accounts of monetary flows of \$s and SR through the (hypothetical) Saudi Arabian economy. Once again we are considering only the major components of overall flows for illustrative purposes, namely primarily oil revenues, government spending out of these revenues and imports by HH/B. The values chosen are arbitrary too and not based on actual data. Credit money created by the banking system is also ignored and so too are indigenous production and consumption transactions.

The inflow of money into the economy begins with a receipt of \$s 1000 as foreign exchange (FE) from export of oil by Saudi Aramco. The company’s bank receives cash of \$1000 from the bank of Saudi Aramco’s customer, while at the same time it carries the company’s deposit account on its books. The sequence of transactions (with hypothetical values) that follow have been described in Table 1 along with corresponding entries in the book of accounts.

The “flow” of money from transactions yields a final “stock” position in assets and liabilities as shown in Table 2. The initial inflow of \$1000 from Saudi Aramco to the Saudi government ultimately results in an increase in HH/B net worth of SR 1875 and government deposit of SR 750 while at the same time allowing SAMA to increase its asset accumulation in an SWF to the tune of \$ 700 (= SR 2625).

A careful examination of the hypothetical T-accounts yields some interesting insights into the nature of the Saudi macroeconomy. For all practical purposes Saudi Arabia’s currency could have been \$s, which flow through the economy, and with the excess mopped up into a SWF. But there is one option which opens up from the flow of SR; HH/B accumulate⁶ net financial assets in riyals (in our example, SR 1875) while the \$-SWF is actually controlled by the government/SAMA. Moreover, the massive inflow of \$s from oil revenues could have caused the riyal to appreciate, which is now maintained at a fixed rate by adjusting \$-inflow and outflow via the budget. One additional comment is warranted here; as can be seen from Table 2, it is (theoretically) possible with full convertibility for HH/B to convert all their SR financial assets into \$s. However, in this single-period example, even if this extreme possibility were to occur the government would be able to honour its commitment of converting SR into \$s at a fixed exchange rate, although it would result in a lesser amount leftover for investment in SWF.

⁶ In reality, financial assets are held not just by HH/B but by the entire domestic private sector including commercial banks and financial institutions.

Table 1: Economy-wide transaction sequence using hypothetical values, pre-oil shock
 [Note: for each entity, assets are on the left-hand and liabilities on the right-hand column.]

| Saudi Aramco | | Saudi Aramco's Bank | | SAMA | Government | Commercial Bank (CB) | Household/Business (HH/B) | Description |
|------------------|------------------------|---------------------|------------------------|---|--------------------------|-----------------------------|---------------------------|--|
| Deposit + \$1000 | Net Worth (NW) +\$1000 | Cash (FE) +\$ 1000 | Aramco Deposit +\$1000 | | | | | Saudi Aramco deposits cheque with its bank |
| Deposit -\$1000 | NW -\$1000 | Cash (FE) -\$1000 | Aramco Deposit -\$1000 | Cash (FE) +\$1000 | | | | Saudi Aramco issues cheque in favour of government. \$ transferred from Aramco's bank to SAMA. |
| | | | | Government Deposit +SR 3750 | Deposit at SAMA +SR 3750 | | | SAMA credits Government a/c with corresponding SR @ \$1=SR 3.75 |
| | | | | Government Deposit -SR 3000 | Deposit at SAMA -SR 3000 | HH/B Deposit +SR 3000 | Deposit at Bank +SR 3000 | Government spends SR 3500 on HH/B who deposit SR in CB |
| | | | | Reserves of CB with SAMA + SR 3000 | | Reserves with SAMA +SR 3000 | | Reserves transferred from SAMA to CB |
| | | | | Reserves of HH/B with SAMA -SR 1125 (= -\$ 300) | | HH/B Deposit -SR 1125 | Deposits at Bank -SR 1125 | Spending by HH/B of SR 1125 (= \$300) on imports |
| | | | | Outflow of \$ 300 for imports | | | | Reserves going back to SAMA for buying \$ |

Table 2: “Stock” position using hypothetical values of individual entities, pre-oil shock

| SAMA | | | |
|---|----|--|---------|
| Foreign exchange \$ 700 2625 (\$1000 -\$300) invested in SWF | SR | Government Deposits (SR 3745 – SR 3500) | SR 750 |
| | | Reserves of banks with SAMA (SR 3000 – SR 1125) | SR 1875 |

| Saudi Government | | | |
|---------------------------|----|--|--|
| Deposits with SAMA 750 | SR | | |

| CB | | | |
|----------------------------|----|-------------------------------|----|
| Reserves with SAMA 1875 | SR | HH/B Deposit accounts 1875 | SR |

| HH/B | | | |
|---------------------------|----|------------|----|
| Deposits at banks 1875 | SR | NW 1875 | SR |

4. The impact of the oil crisis on Saudi Arabia

The oil price crash has contagious repercussions on balance sheets; beginning with Saudi Aramco and eventually moving through to HH/B. Table 3 explains the consequence of such an exogenous shock on the (hypothetical) Saudi Arabian economy constructed in Table 1 and 2. A not-so-unimaginable fall in oil price first reduces the oil revenues of Saudi Aramco from \$1000 to just \$100. On transfer of SR 375 (= \$ 100) to SAMA, it gets credited to account of the government, which now has total deposits of SR 1125 (= SR 750 from pre-crisis period + SR 375). However, if it chooses not to cut expenses of SR 3000, then the consequent impact on balance sheets can be seen in Table 4 and 5 for both periods together and independently for the post-crisis period respectively.

In this illustrative example the fall in oil revenues is accompanied by a fiscal deficit of SR 2625 (SR 375 – SR 3000) and a current account deficit of \$ 200 (\$ 100 – \$ 300). Obviously in this case SAMA has abrogated its commitment to back the issue of SR with \$ revenues. The danger of this is seen in Table 4; not only can imports exhaust \$-reserves if the situation continues over a longer period of time but more perilous is the fact that if HH/B decide to convert their total financial assets into \$s it would leave \$-reserves at zero. Saudi Arabia would then be at the verge of “bankruptcy” as it would have no \$s left. Fortunately, this is not the real picture. Over the years, Saudi Arabia has accumulated \$ reserves and this cannot be exhausted by a fiscal deficit and current account deficit of just one year. Nonetheless, one thing is clear – a fiscal deficit and current account deficit cannot be sustained indefinitely either. From what seemed a comfortable position in Table 2, the current account deficit along with a fiscal deficit has turned the situation into a precarious one. At some point of time, Saudi Arabia could reach the predicament illustrated in Table 4.

Table 4: Consolidated “stock” position using hypothetical values of individual entities, pre- and post-oil shock

| | | | |
|--|------|--|-----------|
| SAMA | | | |
| Foreign exchange \$ 500 1875 (\$700 + \$ 100 – \$300) invested in SWF | SR | Government Deposits (SR 750 + SR 375 – SR 3000) | – SR 1875 |
| | | Reserves of banks with SAMA (SR 1875 + SR 3000 – SR 1125) | SR 3750 |
| Saudi Government | | | |
| Deposits with SAMA 1875 | – SR | | |
| CB | | | |
| Reserves with SAMA 3750 | SR | HH/B Deposit accounts | SR 3750 |
| HH/B | | | |
| Deposits at banks 3750 | SR | NW 3750 | SR |

Do the changes ascertained above correspond to the actual situation developing in Saudi Arabia over the last few years, in particular, post-crisis? Table 6 presents facts and figures pertaining to the Saudi Arabian economy drawn from a recent IMF Report (IMF, 2015, pp. 39-42). There is both a decline in SAMA’s foreign assets as well government deposits with the latter turning negative as discerned in Table 3 and 4. The \$s available in the SWF fell considerably in 2015 by about 8%, to a point currently sufficient to cover just about 3 years of imports (IMF, 2015, p. 42).

Table 5: “Stock” position of individual entities using hypothetical values, post-oil shock period only

| | | | |
|---|------|--|------------|
| SAMA | | | |
| Foreign exchange – \$ 200 750 (+ \$ 100 – \$ 300) Drawn from SWF | – SR | Government Deposits (+ SR 375 – SR 3000) | – SR 2625 |
| | | Reserves of banks with SAMA (SR 3000 – SR 1125) | SR 1875 |
| Saudi Government | | | |
| Deposits with SAMA 2625 | – SR | | |
| HH/B Banks | | | |
| Reserves with SAMA 1875 | SR | HH/B Deposit accounts | SR 1875 |
| HH/B | | | |
| Deposits at banks 1875 | SR | NW 1875 | SR |

What is however most critical, but not captured by the IMF (2015) data, is the stock of financial asset accumulation by the domestic private sector (BB/H) in SR. What if domestic private sector consisting of households and businesses as well as commercial banks and financial institutions choose to convert their financial assets held in riyals into dollars? We have already mentioned the dire consequence of this possibility in our hypothetical example and Table 6 does show some increase in \$ outflows on the capital account although it has not reached alarming proportions so far. As elaborated later in the paper, such an event would require a fundamental change in the present rules of the game; either the Saudi government suspends full convertibility on the capital account and/or the fixed exchange rate peg of \$ 1 = SR 3.75 would have to be revoked. But can Saudi Arabia afford such an adjustment in a politically charged landscape?

Once the intricacies of stock-flow consistency are recognized from T-accounts it can put into the more holistic sectoral financial balances (SFB) model that presents a vivid picture of the possible direction in which the economy could move. Most importantly, these options maintain the stock-flow consistency that we have highlighted in the previous sections.

Table 6: Changes in key parameters for the Saudi Arabian economy from actual data (in billions)

| Item description | 2012 | 2013 | 2014 | 2015 |
|--|--------|--------|--------|----------------------|
| Increase in deposits at SAMA | SR 329 | SR 125 | -SR 81 | -SR 354 [#] |
| Increase in total assets of the government | SR 330 | SR 162 | -SR 96 | x |
| Current account balance | \$ 165 | \$ 136 | \$ 81 | -SR 155 |
| Portfolio Investments (outflow) | \$ 3.2 | \$ 7 | \$ 28 | x |
| Other investments (outflow) | \$ 11 | \$ 54 | \$ 33 | x |
| SAMA's total net foreign assets | \$ 648 | \$ 717 | \$ 724 | \$ 661 [*] |

Source: IMF (2015) Tables 2 (p. 40) and Table 4(p. 42)

[#] <https://www.mof.gov.sa/English/DownloadsCenter/Budget/Ministry's%20of%20Finance%20statement%20about%20the%20national%20budget%20for%202016.pdf>

^{*} <http://www.sovereignwealthcenter.com/fund/39/Saudi-Arabian-Monetary-AgencyInvestment-Portfolio.html#.VrQyj7J97md>

5. From T-accounts to Sectoral Financial Balances (SFB)

The SFB model developed by the post-Keynesian economist, Wynne Godley, builds on the double entry accounting axiom that every debit has a corresponding credit or for every asset there must be a corresponding liability. These fundamental accounting axioms must hold true – an identity or a truism. If we divide an economy into three sectors namely the private domestic sector, the domestic government sector and external (consisting of both private and government) sector then net financial asset accumulation across these sectors must sum to zero. Therefore,

$$(T - G) + (S - I) + (M - X) = 0 \quad (1)$$

where G = government expenditure, T = tax revenues, S = private sector savings, I = private sector investment, M = imports and X = exports⁷. Note that a current account surplus (deficit) where $X - M > 0$ ($X - M < 0$) implies outflow (inflow) of capital from (into) the domestic economy and accumulation of liabilities (assets) by foreigners. Rewriting (1) we get:

$$(S - I) = (G - T) + (X - M) \quad (2)$$

Equation (2) establishes that net asset accumulation of the private sector must entail a corresponding accumulation of liabilities by at least one of the two sectors; the government and/or the foreign sector.

This equation can be mapped on to a 4-quadrant (Q-1 to Q-4) graph as in Figure 2. The line SI_0 drawn at an angle of 45° through the origin is a set of points where $(S - I) = 0$. Consider point A on the SI line; if $(S - I) = 0$ then from (2), $(X - M) = -(G - T) = (T - G)$ or a fiscal surplus. If $(S - I) = 0$, a positive current account balance must then be equal to a fiscal surplus; given that the domestic private sector is neither accumulating assets nor liabilities, if foreigners are accumulating net financial liabilities then the domestic government must be accumulating an equal amount of financial assets.

Now consider a point such as B where in absolute terms $(X - M) > -(G - T)$. Therefore,

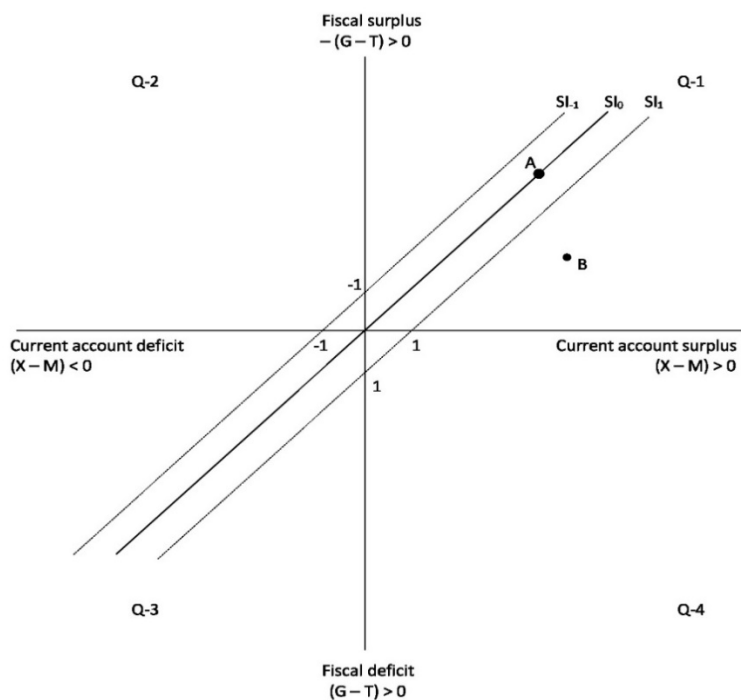
$$(X - M) - [-(G - T)] > 0 \text{ or}$$

$$(X - M) + (G - T) > 0$$

From (2) we therefore have $(S - I) > 0$ at point B. In general all points to the right (left) of the SI line are points where $S - I > 0$ ($S - I < 0$), i.e. the domestic private sector is accumulating a positive quantity of net financial assets (liabilities). Each of the dashed lines parallel to the SI line are possible combinations of fiscal and current account balances that yield a certain level of net financial asset accumulation by the domestic private sector; for example SI_1 yields one percent net financial asset accumulation, while points on SI_{-1} imply a one percent net financial accumulation of liabilities by the domestic private sector.

⁷ Though we usually speak of imports and exports, these include goods, services as well as non-tradable items on the current account.

Figure 2:The SFB template



The (hypothetical) Saudi Arabian example illustrates how T-accounts are linked to the SFB model. From Tables 2 and 5, i.e. for each period independently, we have:

$$\begin{array}{rclcl}
 (S - I) & = & (G - T) & + & (X - M) \\
 \text{Pre-crisis:} & + \text{ SR } 1875 & = & - \text{ SR } 750 & + & + \$ 700 (= \text{ SR } 2625) \\
 \text{Post-crisis:} & + \text{ SR } 1875 & = & + \text{ SR } 2625 & + & - \$ 200 (= - \text{ SR } 750)
 \end{array}$$

A limitation of the SFB equation is that it does not establish cause and effect. However, since it is an identity that must hold true, desired or exogenously induced changes in a sector's financial balances will have cyclical repercussions on the economy; the feedback to the equation working through changes in income.

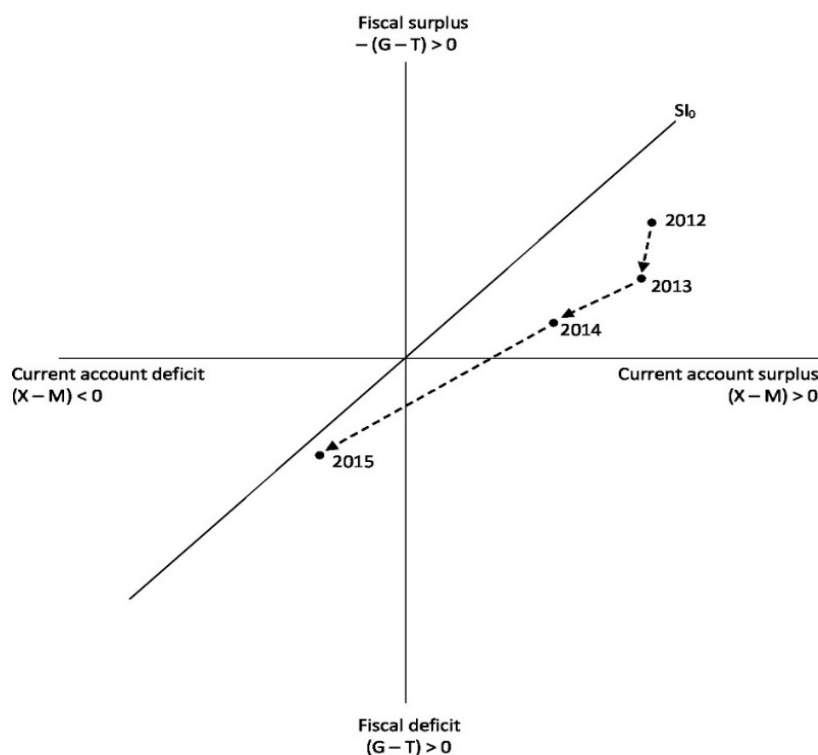
Table 7: SFB equation values as percentage of GDP for Saudi Arabia from actual data

| Year | (S - I) | (G - T) | (X - M) | GDP growth rate |
|-------|---------|---------|---------|-----------------|
| 2012 | 10.4 | -12 | 22.4 | 9.6 |
| 2013 | 12.4 | -5.8 | 18.2 | 1.4 |
| 2014 | 7.5 | 3.4 | 10.9 | 0.2 |
| 2015* | 6.7 | 13 | -6.3 | -13.35 |

Sources: IMF (2015), Table 1 & 3. *Data for 2015 is from Kingdom of Saudi Arabia Ministry (2016).

In Table 7 the components of the SFB equation are listed along with GDP growth rate from the IMF (2015) study for Saudi Arabia and the Saudi government's budget report (Kingdom of Saudi Arabia, 2016). Here, based on the T-account analysis and (2) above, we can deduce the value of net financial accumulation of the domestic private sector ($S - I$) from the values of $(G - T)$ and $(X - M)$. The trend in SFB from Figure 3 is disconcerting; the domestic private sector net financial asset accumulation is on the decline and is being sustained only through increase in fiscal deficits. As the current account balance turns negative and grows as a direct consequence of the oil shock, for the domestic private sector to have net financial asset accumulation, the government must run a larger fiscal deficit. There is no option. If fiscal surpluses are maintained the private sector will end up accumulating net financial liabilities, which are claims (assets) either of the foreign sector and/or the domestic government on the domestic private sector. Although such accumulation of debt may be possible for a limited period of time, a linear build-up is unsustainable as it would have to settle claims of a sector external to itself within a finite time horizon.

Figure 3: Saudi Arabia's changing SFB



(Figure not to scale)

While the government has been able to maintain positive net financial accumulation in the private sector with an increase in the fiscal deficit there are extraordinary challenges in using fiscal policy in the Saudi Arabian context.

6. Fiscal policy constraints in Saudi Arabia

The speed and intensity of the oil crash has forced the Saudi Arabian government to run a massive fiscal deficit of some 13 percent of GDP in 2015 (Table 7) after a series of budget surpluses in oil prices in the first half the decade. Although it is often claimed that “fiscal policy

is the primary macroeconomic management tool” (Al-Darwish *et al*, 2015, p. 2) for Saudi Arabia, it is important to understand that its fiscal policy is inextricably linked to the current account on the balance of payments (BoP), capital account convertibility and fixed exchange rate system – the trilemma, which is usually related to the lack of independence in monetary policy in such contexts, also confines fiscal policy. Saudi Arabia is not a “modern money” economy and does not have the same fiscal space as (or economically speaking), a sovereign economy has.

Given that SR are fully backed by \$s, all else constant, a reduction in the current account surplus should translate into lower injections of SR into the economy. However, as seen in Table 3 and 5, the government could actually abrogate on this condition and decide to run a fiscal deficit by running up its liabilities with SAMA while at the same time running down its \$ balances in the SWF to fund imports. If this policy is pursued over a longer period of time without a revival of oil prices and/or other exports, the economy would eventually run out of \$s. The only other possibility is to constrain imports; unfortunately, given fixed exchange rates, imports would decline only through a lower fiscal deficits and contraction of GDP. We can only conjecture on the disquieting ramifications of this wilting of the Saudi Arabian economy.

The T-account analysis presented above also reveals another precarious possibility that Saudi Arabia has to contend with – convertibility of SR assets into \$s. The domestic private sector can claim that their accumulated stock of financial assets (of SR 3750 as in Table 4) be converted into \$s.

Both the above situations point towards a solution; repealing capital account convertibility and/or the fixed exchange rate standard. Instead of GDP contractions forcing a reduction in imports, the SR could go into free fall and depreciation of SR could do the job. But at what cost? A devaluation of SR would impact the cost of imports and with 80 percent of food imported, inflation could have serious repercussions on the standard of living. Moreover, devaluation or the possibility of depreciation of SR could induce capital flight, making it necessary to impose restrictions on capital account convertibility. With these measures, Saudi Arabia would be in a position to reclaim its fiscal space. However, more than economics, it is the political consequences of such a drastic step that makes it an unlikely choice for the government. Still there are ominous signs that Saudi Arabia may have to ultimately revoke the peg:

“Will Saudi Arabia now abandon its dollar peg?” (Ellyatt, 2015).

“Pressure Grows on Saudi Arabia to Ditch Dollar Peg” (Stubbington and Lohade, 2016).

“Will Oil Slump Force Saudi Arabia to Abandon Riyal's Dollar Peg?” (Nereim, 2016).

The possible revocation of the dollar peg is already impacting the SR-\$ forward market; one report in late December 2015 claimed that “12-month forward contracts on the Saudi Riyal reached 730 basis points over recent days. This is the highest level reached since the worst days of last oil crisis witnessed in February 1999” (FX Street, 2016). The Wall Street Journal also reported early this year that “forward contracts surge to 16-year high this week seen as

sign of increasing strain on the peg” (Stubbington and Lohade, 2016). The threat of capital flight is also looming over Saudi Arabia. Net capital outflows are presently at 8 percent of GDP but there is a clear and present danger that “capital flight will accelerate” (Evans-Pritchard, 2015).

With these emerging pressures, rather than increasing fiscal deficits, the Saudi Arabian government has been coerced to turn to “austerity” and “fiscal consolidation” instead. Although there may be several variants on how to reign in the fiscal deficit, austerity essentially comes to either raising revenues and/or cutting expenditures. Ideally for Saudi Arabia the increased revenues should come from larger current account surpluses but when this is not possible then, as can be seen in Table 1 and 3 above, a reduced fiscal deficit (lower net expenditure) would decrease the quantum of net financial asset accumulation of HH/B (more generally, the domestic private sector) for any given level of domestic consumption expenditure and imports. This can also be understood from (2) and Figure 3 where given that Saudi Arabia is currently facing a current account deficit and fiscal deficit, i.e. $(X - M) < 0$ and $(G - T) > 0$ respectively, then

$$(G - T) < |(X - M)| \text{ implies } (S - I) < 0,$$

where $|(X - M)|$ is the absolute value of the current account balance.

Net accumulation of financial liabilities by the domestic private sector is economically unsustainable over a longer period of time. At some time it is likely to result in deleveraging and a balance sheet recession. Nonetheless, in the shorter run, such austerity measures would not only dampen demand for imports but moreover the reduction in accumulated financial assets of the private sector might help in reducing available funds that could take to capital flight. In spite of these benefits, the formidable challenge for the Saudi Arabian government both in raising domestic revenues and in cutting expenditures is political, not economic.

Recommendations of a typical neoliberal model of austerity – balanced budgets with structural reforms – are pouring in from all quarters, notably the IMF, reiterated in the popular media. Revenues could be increased through taxes on property, corporate sector profits and even personal income taxes. Privatization of state-owned companies could be another way of bringing in cash (and some \$ too); there is a buzz that the government “is even considering listing shares in its ginormous state-owned oil company, Saudi Aramco, in a bid to raise funds” (Barnato, 2016). But more than raising revenues for the government, taxes act as a useful drain of reserves from the system. In the case of Saudi Arabia such a drain could check imports⁸ and ease the pressure on the burgeoning current account deficit.

On the expenditure front, the budget document for 2016 (Kingdom of Saudi Arabia, 2016) lists out several spheres in which drastic cuts, rationalization and optimization measures are proposed so that the fiscal deficit does not go out of control. However, as seen in so many countries across the world, austerity would leave less disposable income in the hands of the private sector, causing a contraction in GDP and employment. At a point of time when youth employment is at a threatening 30 percent and some 3 million jobs will need to be created by 2020 (Huileng, 2016), the warnings of an Arab Spring revolt in Saudi Arabia cannot be taken lightly. As heterodox economists have argued, austerity and mass employment creation are

⁸ Especially imports of luxury goods.

not complementary and the exigency of the situation in the Middle East makes matters even worse.

To add to Saudi Arabia's predicament are regional conflicts, which likely make it impossible for the government to slash major expenditures.

"The increase in spending has mainly resulted from the additional salaries for civil and military Saudi employees, beneficiaries of social security and retirees – as per the supreme Royal Decrees issued during the current fiscal year – which amounted to SR 88 billion, representing 77 percent of the increase in total expenditure in addition to what has been spent on military and security projects which amounted to SR 20 billion, which is equivalent to 17 percent of the increase, and SR 7 billion spent on various other projects" (Kingdom of Saudi Arabia, 2016, p. 2).

We can only wait and watch to see the fiscal response of the government in the days to come. But as put by one commentator, "time is a luxury that Saudi Arabia can no longer take for granted" (Al-Khatteeb, 2015).

7. Saudi Arabia's trade policy challenges

Given its political realities perhaps the "best" option for Saudi Arabia is to raise non-oil exports and curb imports. But here the larger global economic environment will make it harder for Saudi Arabia to do so. Although a recent report by McKinsey (2015) proposes that with some \$ 4 trillion investments, Saudi exports could pull it out of its present predicament, the hypothesis seems over optimistic. Almost 62 percent of non-oil exports in 2014 were from petrochemical exports. To make matters worse;

"Saudi Arabia has lost twice. It lost the support provided to these products for the purpose of export (there is no published data from a reliable source regarding the size of that support), and it lost 17.16% of the revenue because of the lower prices of petrochemical exports" (Ben Rubien, 2015).

Moreover, the reliance on the non-oil domestic private sector to accommodate the growing numbers of unemployed seems tenuous given that in the last 18 months, the manufacturing PMI⁹ has fallen from almost 62 in June 2014 to less than 54 in January 2016; "the lowest reading in survey history, due to slower expansions in output, new orders."¹⁰ The continuing decline in oil prices and overall commodity price slump on account of China's slowdown has resulted in low levels of capacity utilization; for instance, in the chemical industry it is presently around 80 percent (ICIS Chemical Business).

On the import front, a slowdown in government expenditure and GDP growth will reduce the demand for foreign goods. Amongst its major imports are vehicles, machines, engines and pumps as well as electronic equipment. While these are likely to show a downward trend, defence imports are rising. Saudi Arabia is now the world's largest importer of arms, reflecting on its security concerns. While food does not account for a major portion of its

⁹ PMI refers to Purchasing Managers' Index

¹⁰<http://www.tradingeconomics.com/saudi-arabia/manufacturing-pmi>

overall imports, Saudi Arabia still imports about 80 percent of its food requirements (Sharif, 2014). What is worrisome for Saudi Arabia is that a fall in imports will be induced not by a depreciation of exchange rates but by a contraction in GDP; a vicious circle of falling exports, GDP and imports.

8. Limitations of monetary policy in Saudi Arabia

Before we delve into monetary policy in Saudi Arabia, a brief note on money is necessary. Endogenous money theory has long argued that central banks are not in a position to control money supply (McLeay *et al*, 2014). Instead, by setting an interest rate target and maintaining it through sale and purchase of bills and bonds, they influence the level of aggregate consumption and investment demand in the economy so as to keep inflation in check. State money or reserves are created by government expenditure thereby increasing the quantum of reserves in the banking system. Given a certain level of demand for reserves, this additional infusion of liquidity would usually lead to a fall in overnight interest rates in interbank money markets. To raise interest rates back to the target rate, central banks engage in the sale of bills and bonds that suck out excessive liquidity in money markets. The sale of bonds is therefore seen as a monetary policy instrument and not a tool of fiscal policy to raise funds for the government.

In the case of Saudi Arabia, it is obvious that given a fixed exchange rate system along with full convertibility, Saudi Arabia has acceded to the well-known “trilemma” or “impossible trinity” in economics. The option that it has chosen to relinquish is “independent” or “sovereign” monetary policy. What this specifically implies is that SAMA’s target interest rate is set not with the objective of maintaining low and stable inflation and/or full employment in Saudi Arabia but instead to ensure that there is no build-up of pressure on the SR-\$ exchange rate. To do so, the interest rates in Saudi Arabia must track the Feds Fund rate or else given full capital account convertibility of SR, capital flows would disrupt economic stability.

The challenge, however, arises from the fact that “large external surpluses and fiscal spending fuel a liquidity surplus in the banking system” (Al-Darwish *et al*, 2015, p. 41). Tables 1 and 2 clearly reveal the process by which this happens; government spending infusing reserves into the system. With low taxes these reserves remain within the banking system which by itself would drive interbank rates down to zero, thereby incentivizing borrowing and capital outflows from Saudi Arabia. To prevent these outflows, SAMA’s monetary policy is essentially “liquidity management” which effectively “curbed excessive money supply growth, drained liquidity from the system and made it more difficult for speculators to acquire the riyals they wanted.” (Al-Hamidy and Banafe, nd, p. 304).

The primary tool for such liquidity management is now short-term treasury bills called SAMA Bills. Reverse repo rates have also been consistently set above the Feds Fund rate. From time-to-time, SAMA also used minimum reserve requirements to reduce surplus reserves with banks. The issue of longer term public debt has been kept to a minimum in Saudi Arabia, making it seem as if government spending is “funded” by oil revenues rather than public debt. In 2014 public debt stood at just 1.6 percent of GDP.¹¹ With the drastic fall in \$ revenues along with a large fiscal deficit in 2015 the concern over excess reserves within the banking

¹¹<http://www.tradingeconomics.com/saudi-arabia/government-debt-to-gdp>

system is now a major cause of concern, which is exacerbated by pressure on SR to depreciate and the threat of capital flight. It is therefore not surprising that immediately after the Fed increased interest rates, SAMA increased reverse repo rates (and not repo rates) by 25 basis points to 0.75 percent so that capital outflows are prevented. In this way, rather than responding to the slow growth and high unemployment domestically, Saudi Arabia's monetary policy is subservient to its goal of exchange rate stability. Bond sales have also increased; public debt currently stands at 5.8 percent of GDP and a significant increase since 2014 levels. More than "funding" of its expenditure, it is actually imperative that SAMA drains excess reserves with banks and curbs speculation given the declining \$-reserves available with the country.

It is important to highlight the critical role that independent monetary policy could play in tackling the oil crisis. Norway, another major oil exporter has lowered interest rates significantly over the last year so as to depreciate the Norwegian krone and bring about an adjustment in its current account. This option is closed to Saudi Arabia. But even if it were to be opened up, the question is whether it would suffice in raising Saudi Arabia's rather limited range of exports and more problematically, whether contraction in imports and inflation (due to depreciation of SR) triggers off an unmanageable social and political fallout.

9. Conclusion

The paper concludes on a note of predictive ambiguity as well as cautionary pessimism on what lies ahead for the Kingdom of Saudi Arabia. A lot depends on its power to influence global oil prices and strategy to do so. It is becoming increasingly clear that Saudi Arabia is turning away from OPEC and the historical approach of propping up oil prices by restricting output. Instead, Saudi is producing at record high levels with the hope that lower oil prices will drive U.S. shale oil producers out of the industry (Manners, 2016). While Saudi can sustain these low prices given its low costs of extraction and massive \$-reserves, bankrupt shale oil producers will be forced out of existence (Cunningham, 2016). This strategy has already paid dividends; oil prices have seen a rise since early 2016 partly due to demand growth but also partly due to decreased supply (Bomey, 2016). But will this trend continue? Will U.S. shale oil producers return? Will the buoyant demand endure? There are no definitive answers.

We can draw one unequivocal conclusion from our analysis – if the oil price recovery is weak over the next few years, something will have to give way in Saudi Arabia. Perhaps the most likely will be the present fixed exchange rate system and full convertibility of the riyal. But with the low complexity and low elasticity of Saudi Arabian exports, it is unlikely that a lower value of the SR will suffice to ensure a current account surplus. On the other hand, import contraction is more likely but this will have implications on security, long term investment and growth as well as inflation (particularly food inflation). If Saudi Arabia chooses not to tamper with its monetary standard, then the only option for it would be severe austerity. But once again the political fallout of such a measure could be grave, perhaps even forcing Saudi Arabia to turn to the World Bank and IMF for structural adjustment support.

Finally, to answer the question raised in the title of the paper – it is possible that Saudi Arabia could go broke in terms of dollars. Although it could never go broke in terms of riyals, without a strong indigenous economy, Saudi Arabia may find its present predicament undermining the very core of its existence.

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SUGGESTED CITATION: Sashi Sivramkrishna, "Can a country really go broke? Deconstructing Saudi Arabia's macroeconomic crisis", *real-world economics review*, issue no. 76, 30 September 2016, pp. 75-94,

<http://www.paecon.net/PAEReview/issue76/Sivramkrishna76.pdf>

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