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SAUDI TRADE DEVELOPMENTS, 1980-2007

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1 Introduction

Since it first tapped into its vast reserves of oil in the 1930s, Saudi Arabia's economy has been a textbook example of rapid, export-led growth. The country's massive trade surpluses have been fueled by the high price of oil, held partly in check by the Organization of Petroleum Exporting Countries (OPEC), of which Saudi Arabia is the most prolific member. Trade policy in Saudi Arabia has been largely aimed at capitalizing on oil wealth while guarding against the fleeting nature of petrodollars. In this paper I will first examine Saudi Arabia's trade flows, trade composition, and oil production from 1980 to 2007 with reference to the Kingdom's policies toward trade diversification and mineral extraction. I will then discuss the country's history of trade liberalization and current tariff policy. After this I will turn to Saudi Arabia's terms-of-trade and the suitability of crude oil prices as a proxy; I will discuss overall price trends and price volatility trends and their effect on the trade balance and per capita income. Finally, I will examine some of the problems Saudi Arabia may face in the future and suggest trade policy remedies. All referenced tables and figures are located in Appendix A and data sources are listed in Appendix B.

2 Trade Flows and Policy

During the oil price boom in the 1970s and early 1980s, Saudi oil revenues fed the construction of an immense welfare state that closely controlled the economy's activity (Yousef 2004). Government bureaucracies focused mainly on preserving the flow of petrodollars and redistributing the gains to target sectors. One important drawback of this rapid expansion of public expenditures was that it was supported by export growth, not tax revenue. As a result, the government's ability to collect information and extract tax revenues eroded over time because it seemed largely irrelevant; this lack of information made domestic reforms particularly difficult to enact or measure (Chaudhry 1997).

When oil prices crashed in the mid-1980s, exports plummeted and the trade balance sank dramatically. Figure 1 shows exports and imports of merchandise (physical goods) as a percentage of GDP, with the difference between the two representing the trade surplus. As the graph shows, the low oil price shrank the value of Saudi Arabia's output; when combined with a surge in the value of imports, the trade balance neared zero in 1986. When service imports and exports are added to the picture—Figure 2 shows Saudi Arabia's consistent deficit in services—the overall trade balance briefly dipped into deficit territory from 1983 to 1989, as shown in Figure 3. Oil prices have such a dramatic effect on the Saudi trade balance because of the lack of export diversification. Figure 4 shows the breakdown of trade across major industrial sectors; before the oil price crash, fuels and minerals accounted for nearly 100% of total export value.

In response to the crisis, the government cut many of its earlier reforms and privatized a number of state-owned enterprises (Chaudhry 1989). Even with these measures in place, though, the government ran budget deficits starting in 1983. In addition to austerity, economic policy began focusing on alternative export sectors, partly by expanding oil production to include

other petrochemicals, and partly by pushing a manufactured exports sector that now accounts for 10% of exports (Figure 4). However, even now chemicals account for only 5% of Saudi exports (ITC 2006).

The other major response to the price crash was monopolistic: Saudi Arabia slashed oil production by some 65% in two years in order to prop up the price, encouraging other OPEC members to do the same (Figure 5). Production slowly ratcheted up from this trough during the 1990s in response to demand pressures, and while the cuts seem to have stopped the price slide, oil remained relatively cheap for the remainder of the decade (Figure 6). Thus Saudi trade strategy has been predicated on two main goals: holding oil production steady while diversifying the range of exports.

3 Trade Liberalization

With regard to trade liberalization, the economy has had to be open to trade in order to act on its oil wealth. A number of mineral rights concessions, culminating in the creation of California Arabian Standard Oil Company (CASOC)—later Arabian American Oil Company (Saudi ARAMCO)—have guaranteed that the country’s borders remain open to oil exports and machinery imports since the 1930s. However, abolition of import restrictions—with important exceptions including Israel—didn’t begin until 1960, and major reductions to tariffs followed in the late 1960s and early 1970s (Hitti and Abed 1974). In 1993 the country began negotiations to join the World Trade Organization (WTO), which ended in accession to the organization in 2005. As per the agreement with the WTO, Saudi Arabia agreed to bind all tariffs to their 2005 levels and reduce the average bound tariff on non-agricultural goods to 10.5% by 2015, the end of the implementation period (WTO 2005). The agreement also provides market access for foreign services, including foreign insurance companies, banks, and telecommunications companies, all of

which may now operate in the country subject to certain restrictions. Imports of merchandise goods have risen modestly since the agreement (Figure 1), driven partly by the lower tariff rates, but service imports have doubled since 2005 (Figure 2), probably as a result of this increased market access. This import trend could significantly damage the Saudi trade surplus if combined with lower exports from decreased world demand for oil.

The simple average tariff dropped to 11.9% in 2006 and 11.7% in 2008, with the trade-weighted average at 5.3% in 2006 (WTO 2006, 2008). However, there are important exceptions to these decreasing tariffs, such as alcoholic beverages and tobacco, which on average face prohibitive tariffs of 168% and maximum rates in excess of 1,000%. These rates were approved by the WTO on the grounds that they protect the public morals and health of the Saudi population, but the government must review the list yearly. In addition, Saudi Arabia is allowed to partially protect its iron and steel industries with higher-than-average tariffs that in some cases reach 20% (WTO 2008).

On the export side, the Saudi government agreed not to pursue agricultural subsidies and to ensure that its natural gas producers operated based on fair market practices (WTO 2005). This was in response to accusations that the low cost of industrial feedstock—much of which was a byproduct of oil production, such as natural gas—gave an unfair input cost advantage to downstream producers in Saudi Arabia’s industrial sector. Indeed, the steel-rolling industry began in 1967 as an offshoot of the government’s oil and petrochemical agency PETROMIN (Hitti and Abed 1974), which in an effort to allay criticism raised the cost of natural gas by 50% in 1997.

4 Terms-of-Trade

A country’s terms-of-trade—the price of its exports relative to its imports—can have significant effects on its trade and income. Because oil and petro-

chemicals make up 85-90% of Saudi Arabia's exports, it seems reasonable to expect that oil prices are an appropriate proxy for terms-of-trade in the absence of a comprehensive index. Further, half of Saudi imports are in goods whose prices have changed little in the last 30 years—transportation equipment (19%), basic manufactures (16%), non-electric machinery (15%), and chemicals (10%) (ITC 2006) have undoubtedly been effected by cost shifts from technological change, but not nearly to the same degree as, say, telecommunications or electronic machinery. Thus the distribution and prices of imports are relatively stable and export prices are dominated by petrochemicals, making oil prices an appropriate stand-in for Saudi terms-of-trade.

Figure 6 shows the spot price of a barrel of Dubai Fateh crude oil in US dollars; comprehensive Saudi oil prices are only available intermittently before 1989, and the price of Dubai Fateh is generally close to the mid-quality crude oil that makes up the bulk of Saudi production. Clearly Saudi terms-of-trade took a steep dive when oil prices dropped in the mid-1980s, and remained poor until the end of the 1990s. The fact that oil revenues have typically comprised 75% of the government's budget suggests that terms-of-trade deterioration was a major factor in Saudi Arabia's budget deficits throughout the 1980s and 1990s.

Terms-of-trade volatility is of concern when government revenues depend on exports because high volatility may complicate budget balancing. Figure 7 shows the standard deviation in US dollars of monthly average crude oil spot prices within each year. High price volatility in the 1990s may have contributed to both the large trade balance swings shown in Figure 3—because the value of exports was unpredictable—and the budget deficits in the 1990s—because accurate fiscal spending is difficult to calculate when revenues are uncertain. This volatility has been even higher since the turn of the century, rising along with oil prices. It is possible that industries and consumers in oil-importing countries were willing to withstand a low

price-high volatility situation with regard to oil, but that the high price-high volatility combination proves untenable for their budgeting and they begin to substitute away from petroleum products. Thus terms-of-trade volatility may damage Saudi Arabia's long-run trade surplus.

Table 1 reports the comovement of Saudi terms-of-trade and terms-of-trade volatility, measured using oil prices, with GDP per capita and the trade balance. As expected, there is a positive correlation between oil prices and GDP per capita (0.792): high oil prices represent a terms-of-trade gains, which increases national welfare (Krugman and Obstfeld 2009). There is also a strong positive relationship between oil prices and the trade balance (0.915): price increases inflate the value of exports relative to imports. Interestingly, there are also positive correlations between oil price volatility and GDP per capita (0.361) and the trade balance (0.678): theory suggests that price volatility should drive away buyers of Saudi oil, harming both trade and income. However, neither of these relationships is particularly strong. Further, they may be caused by the correlation between oil prices and volatility (0.658): if high prices bring high volatility along with high income and trade surpluses, it would create a positive relationship among the three measures.

5 Potential Trade Issues

One problem the Saudi economy may face is the fragility of an export-led growth strategy. As demonstrated by the crash in the 1980s and the bubble in 2008, oil prices are subject to speculative swings and fast reversals that can have lasting effects on oil exporters' budgets and trade balances. If Saudi Arabia's growth is predicated solely on its export sector, these swings may continue to retard the country's ability to enact social reforms and pursue a development strategy, as happened in the late 1980s. In addition to price instability, oil faces lower demand as countries move to cleaner, more efficient

technologies and renewable energies. The remedy for both of these problems is the same: Saudi Arabia must pursue a growth strategy based on domestic demand and local industrial development, while ensuring that exports move towards goods with long-term demand potential.

Another problem with Saudi Arabia's trade strategy is its increasing terms-of-trade volatility. As oil prices climb and become more unpredictable, oil importers may substitute away from oil in favor of other fuels; this substitution would harm the trade balance, and may drive more violent price swings. The remedy for this problem is diversification of exports into less volatile goods and services.

Both these solutions—growth strategy reform and trade diversification—are made difficult by WTO accession. First, Saudi Arabia is unable to nurture a fledging industrial sector if it can neither offer cost advantages with its cheap natural gas nor protect domestic firms from foreign competition with steel tariffs, which will undoubtedly be dismantled as liberalization continues. This makes it especially susceptible to the so-called “Dutch disease”—the growth of export-centered sectors as agriculture and manufacturing languish—that partially explains oil-exporters' poor performance (Karl 1998). Second, trade diversification is a difficult prospect for the same reasons, especially when combined with the prohibition on export subsidies. In addition, Saudi Arabia may very well see higher imports as it dismantles tariffs and raises input prices. Combined with lower exports from oil demand drops, this would damage the trade balance and lower Saudi per capita income.

Thus trade liberalization, while eliminating short-term efficiency losses in the Saudi economy, may cause long-term damage by harming the trade balance and locking the country into a fragile, export-led growth strategy based on a narrow set of declining-demand goods.

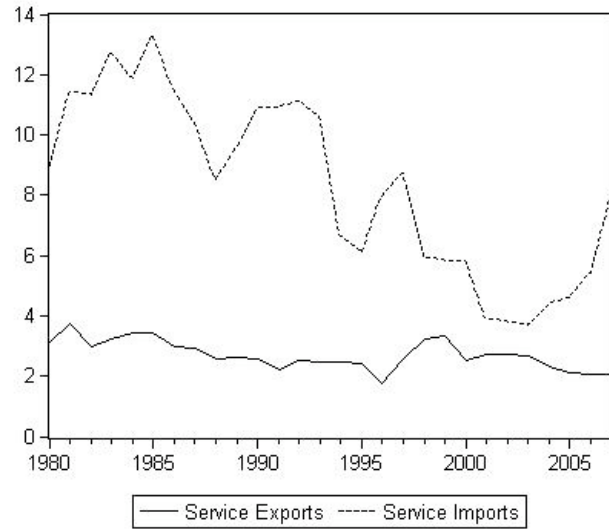
A Tables and Figures

Table 1: Comovement of Saudi Economic Variables

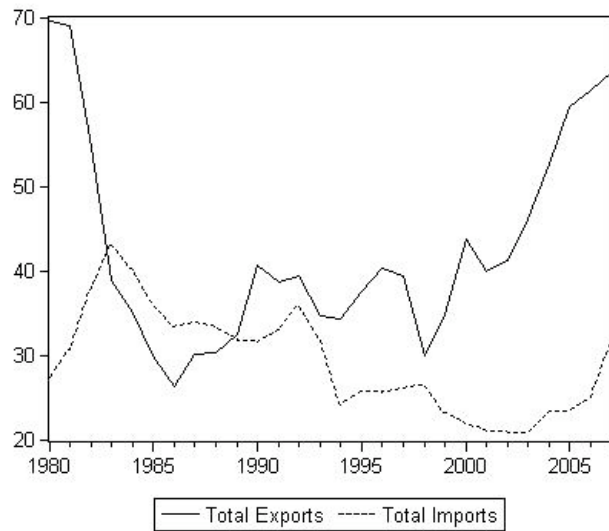
Covariance / Correlation	Oil Price	Oil Price Volatility
Oil Price Volatility	21.0 / 0.658	189.7 / 1.000
GDP per capita	$3.8 \cdot 10^4$ / 0.792	$2.9 \cdot 10^3$ / 0.361
Trade Balance	$5.1 \cdot 10^{11}$ / 0.915	$6.4 \cdot 10^{10}$ / 0.678



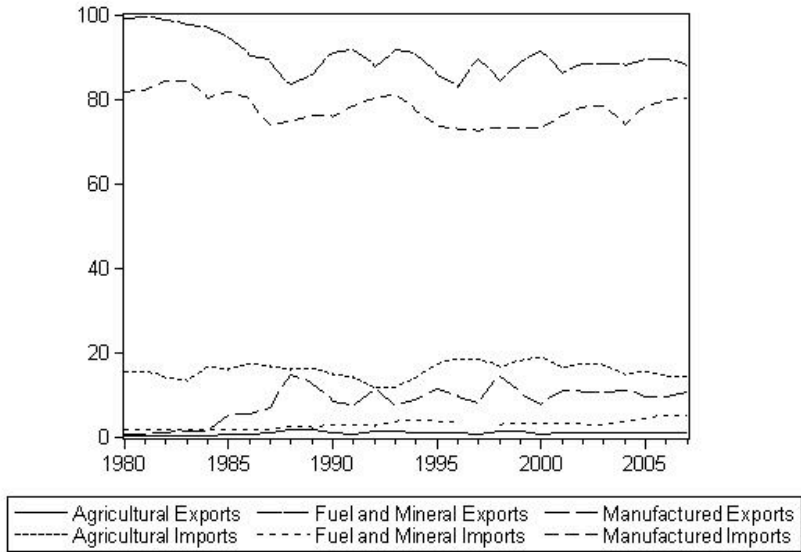
Saudi Service Trade
% GDP, 1980-2007



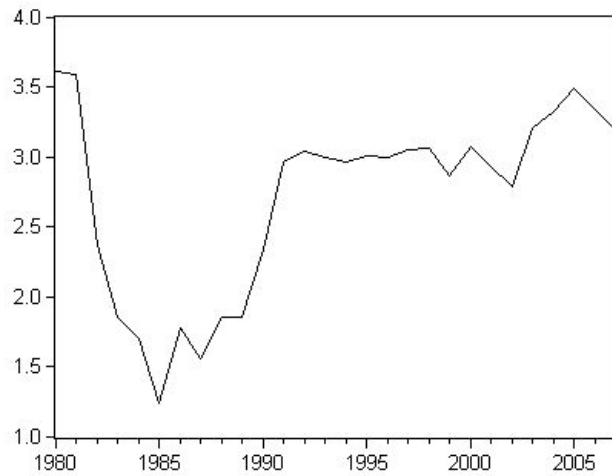
Saudi Total Trade
% GDP, 1980-2007



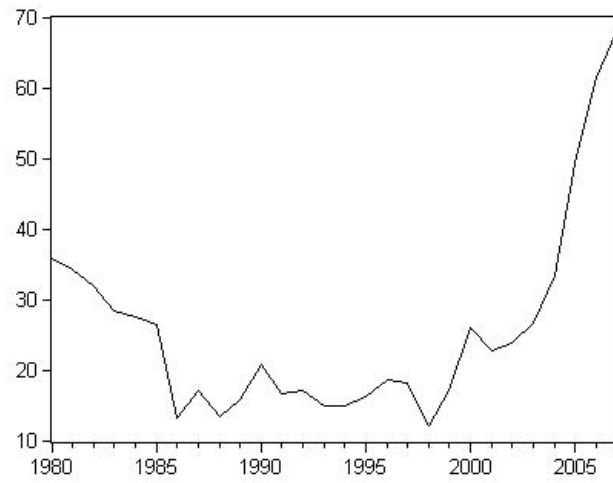
Composition of Saudi Trade
% total exports or imports, 1980-2007



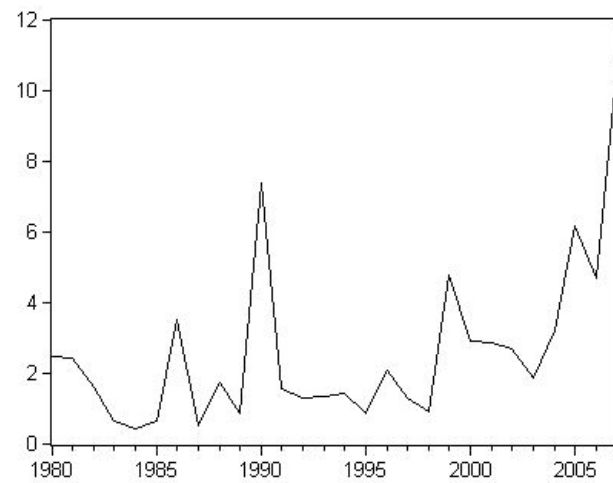
Saudi Crude Oil Production
Billion barrells per year, 1980-2007



Crude Oil Price
USD/barrel of Dubai Fateh, 1980-2007



Crude Oil Price Volatility
Annual st. dev. of Dubai Fateh, 1980-2007



B Data Sources

Table 1: Author's calculations based on the WTO Statistics Database, <<http://stat.wto.org/StatisticalProgram/WSDBStatProgramHome.aspx?Language=E>>, the International Monetary Fund (IMF) World Economic Outlook Database (April 2009 Edition), <<http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>>, and the IMF Primary Commodity Prices Database, <<http://www.imf.org/external/np/res/commod/externaldata.csv>>.

Figures 1-3: Author's calculations based on the WTO Statistics Database, <<http://stat.wto.org/StatisticalProgram/WSDBStatProgramHome.aspx?Language=E>>, and the IMF World Economic Outlook Database (April 2009 Edition), <<http://www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx>>.

Figure 4: Author's calculations based on the WTO Statistics Database, <<http://stat.wto.org/StatisticalProgram/WSDBStatProgramHome.aspx?Language=E>>.

Figure 5: Author's calculations based on the Energy Information Administration's database of International Energy Statistics, <<http://tonto.eia.doe.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=53&aid=1>>.

Figures 6-7: Author's calculations based on the IMF Primary Commodity Prices Database, <<http://www.imf.org/external/np/res/commod/externaldata.csv>>.

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