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The Case for Exchange Rate Flexibility in Oil-Exporting Economies

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High oil prices are again transforming oil-exporting economies. Economies that were moribund when oil hovered in the \$20s for most of the 1990s—and at risk of bankruptcy when oil dipped to \$10 a barrel in 1998—are now booming. A new generation of skyscrapers is rising in the Gulf, in St. Petersburg, and in Moscow. Government coffers in oil-exporting economies are overflowing with the governments' (typically very large) cut from the oil windfall. Most oil-exporting economies now need an oil price of \$40 a barrel to cover their import bill, including their bill for imported labor—up from \$20 a barrel a few years ago. But with oil trading above \$90 a barrel, they still have substantial sums available to invest in the rest of the world.

One feature of oil-exporting emerging economies, though, has not changed: their propensity to peg to the dollar. Apart from Kuwait,¹ the oil-exporting economies that border the Persian

Gulf peg to the dollar even more tightly than China. Other oil-exporting economies peg to a basket, often one composed mainly of the dollar and the euro. These economies are making a policy mistake. The oil-exporting economies that now peg to the dollar—or to a basket of currencies of oil-importing economies—would be better served by a currency regime that assures their currencies depreciate when the price of oil falls and appreciate when the price of oil rises. Those that are unprepared for a managed float should peg to a basket that includes the price of oil.

The disadvantages associated with importing a monetary policy ill-suited to the needs of oil-exporting economies now outweigh the gains from importing the United States' well-developed institutional framework for conducting monetary policy. The strong dollar contributed to the difficulties many emerging economies experienced when oil prices fell in the late 1990s. Falling government revenues led oil exporters to cut spending, draw down their external assets, run up their debts, and in Russia's case, devalue and default. Those that sustained their dollar pegs also generally experienced deflation and high real interest rates.

More recently, the weak dollar has made it more difficult for the oil exporters to adjust to the rise in the price of oil. After an initial period of surprising prudence, the oil-exporting economies are increasing government spending and investing heavily in large government-sponsored mega projects. The result is high inflation: Several smaller Gulf economies now have inflation rates well above 10 percent. Low, and in some cases negative, real interest rates risk laying the basis for future trouble.

The oil-exporting economies themselves have the most to gain from greater exchange rate flexibility, but the world economy would also benefit. The large trade and current account surpluses of oil-exporting economies stem from high oil prices, not from any competitive edge from their undervalued currencies.

But the large increase in their dollar holdings over the past years has helped to mask the consequences of the large US current account deficit. More important, global adjustment will remain more difficult than it needs to be so long as the currencies of many large surplus countries remain tightly tied to the currency of a large deficit country.

1. Kuwait shifted from a dollar peg to a basket peg on May 19, 2007. It initially implemented its "basket peg" through a series of step revaluations against the dollar, but after the 1.7 percent appreciation on July 25, it has allowed small daily moves in the dinar. The dinar appreciated by 4 percent between June and the end

of October 2007. Analysts believe that the dollar has a large weight in Kuwait's basket (McSheehy and Sharif 2007).

Table 1 Summary data on major oil-exporting economies

Country	Oil and gas export revenues, 2006 (billions of dollars)	Average oil exports, 2006 (millions of barrels a day)	Population (millions)	Exchange rate regime	Change in REER, end 2001 to end 2006 (percent)
Saudi Arabia	195.6	8.8	21.4	Fixed (to dollar)	-22.2
Russia	190.8	7.4	142.9	Managed float (euro-dollar basket)	39.6
Norway	75.7	2.3	4.6	Floating	6.2
United Arab Emirates	70.2	2.2	2.6	Fixed (to dollar)	-18.9
Venezuela	60.3	2.4	25.7	Fixed	-25.6
Iran	60.1	2.4	68.7	Managed float	22.3
Kuwait	55.9	2.3	2.4	Fixed (to basket)	n.a.
Algeria	53.3	1.7	32.9	Managed float (to dollar)	-22.0
Nigeria	48.5	1.9	131.9	Managed float (plans to float 2009)	12.8
Libya	38.3	1.3	5.7	Fixed (to special drawing rights)	n.a.
Kazakhstan	24.6	1.5	15.2	Managed float	n.a.
Qatar	21.9	1.0	0.9	Fixed (to dollar)	n.a.
Oman	16.4	0.7	3.1	Fixed (to dollar)	-18.4
Bahrain	9.4	0.0	0.7	Fixed (to dollar)	-25.4

n.a. = not available

Note: Oman and UAE real effective exchange rate (REER) estimates are based on International Monetary Fund annual data, which end with 2005. For Nigeria, it reflects revenues of net oil and gas exports. Iran's exports reflect its fiscal year 2005-06.

Sources: IMF, *International Financial Statistics*; IMF Country Reports; BP Global (for energy data); national central banks; CIA, *World Factbook* (for population).

DISADVANTAGES OF PEGGING TO THE DOLLAR

Oil Exporters and Oil Importers Often Need Different Macroeconomic Policies

The most often cited advantage of pegging to the dollar is that it allows an emerging economy—especially one with weak economic and political institutions—to import the United States' relatively stable monetary policy.

However, the advantages of importing the monetary policy of a more stable economy—and the associated moves in its currency—have to be balanced against the costs of importing a monetary policy that does not meet local needs. This risk is particularly important for oil-exporting economies, as they often end up importing the monetary policy of an oil-importing economy (table 1).

Classic economic analysis differentiates between temporary and permanent shocks to the price of oil, as well as between supply and demand shocks. A temporary shock does

not require adjustment. An oil-exporting economy should save the oil windfall rather than permanently increasing consumption and investment, while the oil-importing economy should dip into its savings to cover a temporary rise in the price of oil rather than cutting back on its consumption and investment. A permanent rise in the price of oil, by contrast, allows higher levels of consumption and investment in the oil-exporting economy and necessitates a lower level of consumption and investment in the oil-importing economy. A permanent shock should lead to strong economic expansion in oil-exporting economies and real appreciation of their currencies while having the opposite effect on oil-importing economies.

In theory, the costs of importing the macroeconomic policies of an oil-importing economy are far higher in a permanent than a temporary shock. They are also larger in a global supply shock (change in oil production) than in a global demand shock (change in oil consumption). Strong demand implies monetary tightening in both oil exporters and oil importers, and weak demand implies monetary loosening in both oil importers and oil exporters. A supply shock, by contrast, calls for different policy responses. An oil-importing economy may want to loosen monetary policy—as long as inflationary expectations are contained—to help maintain demand for other goods and services. By contrast, an oil-exporting economy generally may want to offset the intrinsically expansionary effects of a rise in oil prices with a relatively tight monetary policy.

Pegging to the dollar generally has made it harder, not easier, for oil exporters to adjust to large swings in the price of oil.

In practice, though, the lines between temporary and permanent shocks and between pure supply and pure demand shocks are hard to draw. Supply—production difficulties in Venezuela, Nigeria, and Iraq—and demand—strong growth in China and India—often combine to push prices up (or down). Distinguishing between a temporary and permanent shock in real time is no easier. The fall in oil prices in 1998 and 1999 proved temporary, but that was of little use to the oil-exporting economies that lacked access to the financing needed to defer adjustment. Most oil exporters initially acted as if the recent surge in oil prices would be temporary, but at least some of the rise in oil prices now looks permanent.

No matter what the reason for a change in the price of oil, the oil-exporting economies that peg to the dollar would benefit if economic conditions in the United States generally moved in line with those in oil-exporting economies. Unfor-

tunately, the US and major oil-exporting economies often have been out of sync. This is a key reason why oil-exporting economies that peg to the dollar have not been beacons of macroeconomic stability. For example, the 1997/1998 Asian crisis produced a demand shock that pushed the price of oil down. It also generated a wave of capital inflows to the United States that—in conjunction with US-led technological innovation—helped push up the value of US equities and the dollar. In 2000, oil prices and the dollar moved together, as a booming US economy drove the recovery in commodity prices (figure 1). More recently, though, a housing slump has slowed US growth even as world growth has stayed strong, leading the dollar to fall relative to many other currencies.

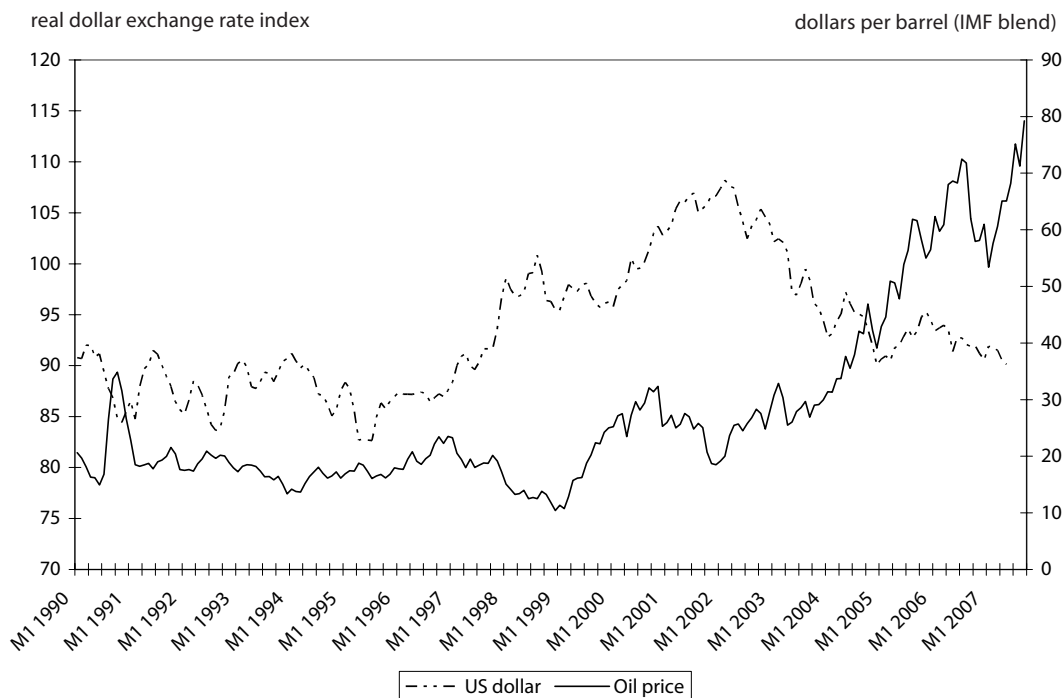
Dollar Pegs Imply Too Much Deflation or Inflation During Adjustment

Work by the International Monetary Fund (IMF) indicates that a 100 percent increase in the real price of oil typically leads to a 50 percent real appreciation of the currencies of oil-exporting economies (Lee, Milesi-Ferretti, and Ricci 2007). This adjustment could come from a change in the exchange rate. Countries that allow their currencies to float—even with extensive management—would likely experience a nominal appreciation when oil is strong and a nominal depreciation when oil is weak (Frankel 2006). Countries that peg to the dollar or another currency could achieve a similar result through a one-off revaluation—or devaluation.

However, if the country's exchange rate remains fixed, the adjustment in the real exchange rate necessarily will come through changes in domestic prices. A rise in the price of oil implies a temporary rise in inflation; a fall in the price of oil implies a period of deflation. If an oil-exporting economy pegs to the dollar, the need for a change in domestic prices would be present even if the dollar holds steady relative to other currencies. But if the dollar falls relative to other currencies, pulling down the nominal exchange rate of the oil-exporting economies that peg to the dollar, the increase in inflation needed to generate the expected real appreciation goes up. Both the rise in the price of oil and the fall in the dollar put pressure on domestic prices.

Holding the nominal exchange rate constant and allowing all the real adjustment to come from changes in the price level has two important consequences. First, the process of inflationary and/or deflationary adjustment is slow. Much of the rise in domestic prices associated with a rise in the oil price will come after the price of oil has stabilized. Moreover, once started, inflationary adjustment can develop its own momentum, as economic agents anticipate rising price levels and

Figure 1 Oil versus real dollar, 1990–2007



Source: IMF, *International Financial Statistics*.

demand higher nominal wages. In some cases, the resulting inflationary momentum pushed up the real exchange rate even after oil prices had turned down, setting the stage for a real overvaluation. The adjustment to a fall in oil prices through a fall in domestic prices can also be slow—though in some cases the pressures associated with a fall in the price of oil led to a sudden devaluation rather than a prolonged period of deflation. Even if adjustment is slow on the upside, it can be sharp and sudden on the downside.

Second, the inflationary—or deflationary—adjustment process can lead to large swings in the real interest rate. In the 1990s, real interest rates in the oil-exporting economies that pegged to the dollar were far higher than those in the United States. For example, in 1999, Saudi Arabia had an inflation rate of -1.3 percent while the United States had an inflation rate of over 2 percent, so real interest rates in Saudi Arabia were close to 7 percent at a time when the economy was contracting.² In 2006 and 2007, by contrast, real interest rates in the oil-exporting economies are generally far lower. Real rates in Saudi Arabia—using the stated inflation data,

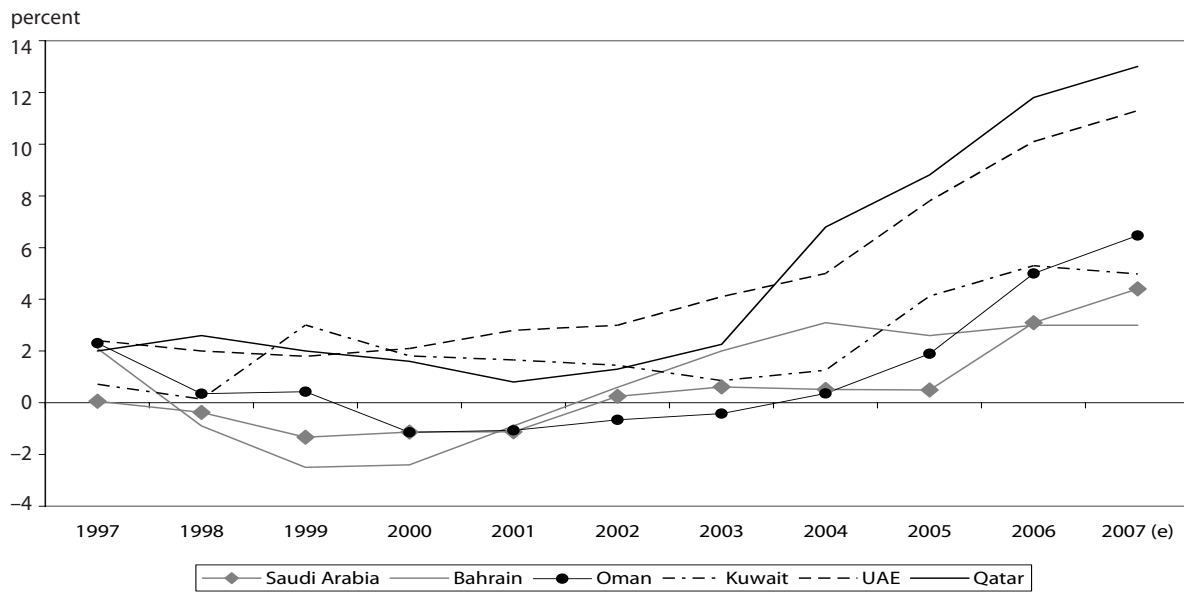
2. Real interest rates are computed by subtracting the year-over-year inflation rate realized over any given period from the reported one-year nominal deposit rate (IMF, *International Financial Statistics*, and Bloomberg data). Data for 2007 have been estimated using the latest available inflation data and the end 2006 deposit rate.

which probably understate actual inflation (Cevik 2006)—are now close to zero. Real interest rates in Venezuela, which pegs to the dollar, and Russia, which pegs to a dollar-euro basket, are now negative.

The small oil-exporting city-states in the Gulf sometimes argue that they should peg to the dollar for much the same reason that Hong Kong pegs to the dollar: Their small, open economies particularly need a stable anchor. They also hoped that the ready availability of imported labor would mute inflationary pressures. In practice, though, these states now have some of the highest inflation rates—and the most negative real interest rates—in the world (figures 2 and 3). Nominal interest rates are around 5 percent and inflation rates are above 10 percent in the United Arab Emirates (UAE) and Qatar (Cevik 2007). Imported labor ends up putting pressure on rents and prices of services. The dollar’s recent slide relative to the rupee and the currencies of other countries that supply labor also looks set to increase the cost of imported labor. The economic cycle of small oil-exporting economies is more closely tied to the price of oil than is the economic cycle of larger, more diverse economies—and the costs of pegging to a depreciating dollar when the price of oil is rising are likely higher for small oil-exporting economies.

The overall result: Pegged exchange rates contribute to highly procyclical macroeconomic policies. A rise in the price

Figure 2 GCC inflation rates, 1997–2007



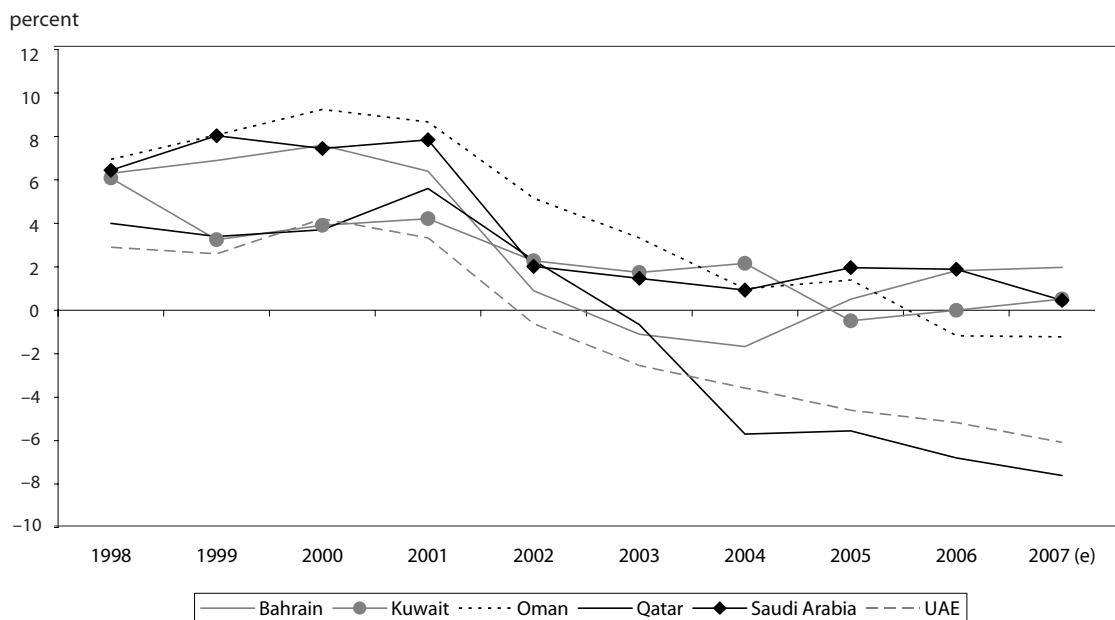
e = estimate

GCC = Gulf Cooperation Council

Note: 2005–06 Saudi inflation is likely understated.

Sources: IMF, *International Financial Statistics*; Moody's Investors Service.

Figure 3 GCC realized real interest rates, 1998–2007



e = estimate

GCC = Gulf Cooperation Council

Note: Real interest rate = one-year deposit rate minus realized consumer price inflation.

Sources: Bloomberg; IMF, *International Financial Statistics*.

of oil leads to an increase in government revenue, in spending (and government-sponsored investment), and in inflation. High inflation leads to negative real interest rates. Fiscal and monetary policies turn expansionary at the same time. The same dynamics also work in reverse: A fall in the oil price leads to a fall in revenue, a fall in spending, disinflation if not deflation, and a rise in real interest rates. To paraphrase a famous (though culturally inappropriate for the Persian Gulf) metaphor from former Federal Reserve Chairman William McChesney Martin, the central banks of oil-exporting economies that peg to the dollar often spike the punch just as the party gets going instead of taking away the proverbial punch bowl.

Getting Paid in Dollars Is Not a Good Reason to Peg to the Dollar

Many oil-exporting economies argue that they peg to the dollar because oil is priced in dollars. Linking their currency to the dollar eliminates the apparent mismatch between the government's dollar-denominated oil revenues and its local currency spending.

This logic, however, fails to accurately diagnose the real fiscal problem of oil-exporting economies. Oil-exporting economies' fiscal difficulties stem from large fluctuations in the dollar price of oil, not from a mismatch between dollar revenues and local currency spending. Large swings in the dollar price of oil—Brent crude has traded between \$10 and \$80 a barrel over the past 10 years³—translate into large swings in the revenues of the governments of oil-exporting economies.⁴ They consequently face a mismatch between their volatile revenues and their relatively stable spending commitments.

Pegging to the dollar does not help reduce the volatility of oil revenues. A more flexible exchange rate, by contrast, could help dampen oil-related swings in government revenues.

A concrete example helps illustrate this point. For the past decade, Saudi Arabia has pegged its currency to the dollar

at a constant rate of 3.75 Saudi riyal to the dollar—so one riyal has been worth 27.7 US cents. The Saudi government's revenues from oil exports have swung wildly, hitting a low of \$40 billion (150 billion Saudi riyal) in 1998 and a high of \$160 billion (600 billion Saudi riyal) in 2006. If the Saudi riyal had instead been pegged to a basket composed of equal measures dollar and oil (indexed 3.75 Saudi riyal to the dollar corresponds to the 2001 oil price), the riyal would have fallen to a low of 20 cents in 1998 and risen to 50 cents in 2006. The revenue stream from Saudi Arabia's oil—expressed in Saudi riyal—would also still have risen and fallen with the price of oil, but the peaks and troughs would have been smaller. The result: less volatility in the revenue from oil exports in the currency that really counts—the oil-exporting economy's own currency (figure 4).

A currency that appreciated would tend to reduce the local currency revenues from oil when oil was high, and a currency that depreciated would tend to increase those revenues when oil was low. This does not reduce the size of the country's oil windfall—the windfall just shows up as a rise in the external purchasing power of a country's currency rather than a rise

Oil-exporting economies tend to save in dollars because they peg to the dollar, not because oil is priced in dollars.

in the government's oil export revenue. It would, however, change the way the windfall is distributed. If the country's currency is pegged to the dollar, the government initially captures the entire windfall through a rise in its revenues. If, by contrast, the country's currency rose along with the price of oil, the government's local-currency revenue windfall would be smaller, but the external purchasing power of all local salaries would rise.

Look to Fiscal Policy—Not Dollar Pegs—to Cure Dutch Disease

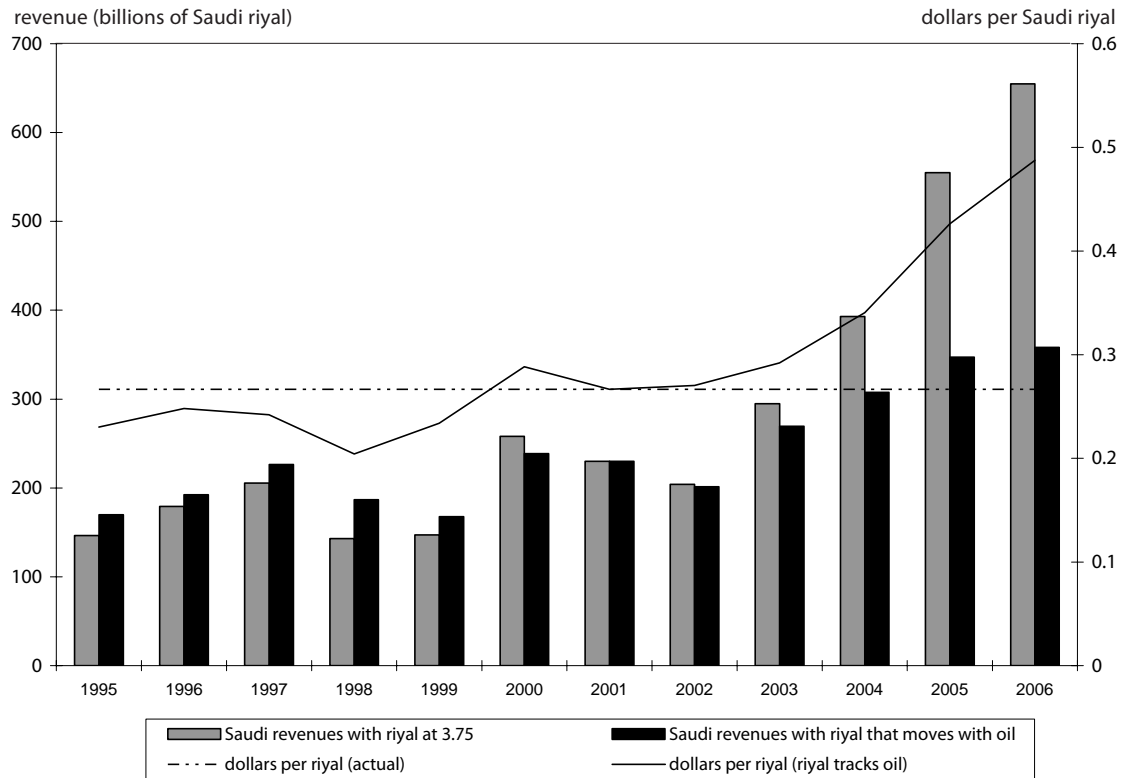
Another argument often made in favor of dollar pegs is that oil-exporting economies should avoid allowing their currencies to appreciate when oil appreciates in order to insulate their nonoil economy from large swings in the price of oil. Pegging to the dollar is argued to be an effective defense against Dutch disease—the risk that an expanding oil sector will siphon resources out of other sectors, leading the nonoil economy to contract.

This argument is not persuasive. If a rise in the real value of the currency of an oil-exporting economy is damaging when oil is strong, surely it is more damaging when oil is low—yet

3. The standard deviation of annual oil price moves over the past 10 years is \$11 a barrel (Gianella 2007).

4. The exact institutional arrangements for transferring oil export revenues to the government differ from country to country. Three examples are illustrative: For oil revenue, Russia's government relies on export taxes (collected in dollars) and the mineral resource extraction tax (collected in rubles) rather than full ownership of a single national oil company. It gets an estimated 85 percent of the marginal revenue from any increase in oil price (Gianella 2007). Kuwait, by contrast, owns the national oil company. It allows the company to deduct its expenses from its sale of crude, a pricing structure that gives the government 100 percent of the marginal revenue associated with a rise in oil prices. Back when oil was in the \$20s, the government of Kuwait received over 80 percent of the country's oil revenue. That total is now around 90 percent. Saudi Arabia also relies on a national oil company—Aramco—rather than on an export tax. But Aramco benefits from a slightly different institutional arrangement: 93 percent of its profits are transferred to the government through dividends and royalties, with Aramco retaining 7 percent (Marcel 2006).

Figure 4 Exchange rate flexibility could stabilize Saudi oil revenue with riyal that appreciates by 50 percent of the increase in the price of oil, 1995–2006



oil-exporting economies that pegged to the dollar experienced exactly that unhealthy combination in the late 1990s. More recently, dollar pegs have led the currencies of oil-exporting economies to depreciate even as oil rose. The need to avoid Dutch disease may justify policies that limit the real appreciation of the currencies of oil-exporting economies when the price of oil rises, but it hardly justifies a real depreciation.

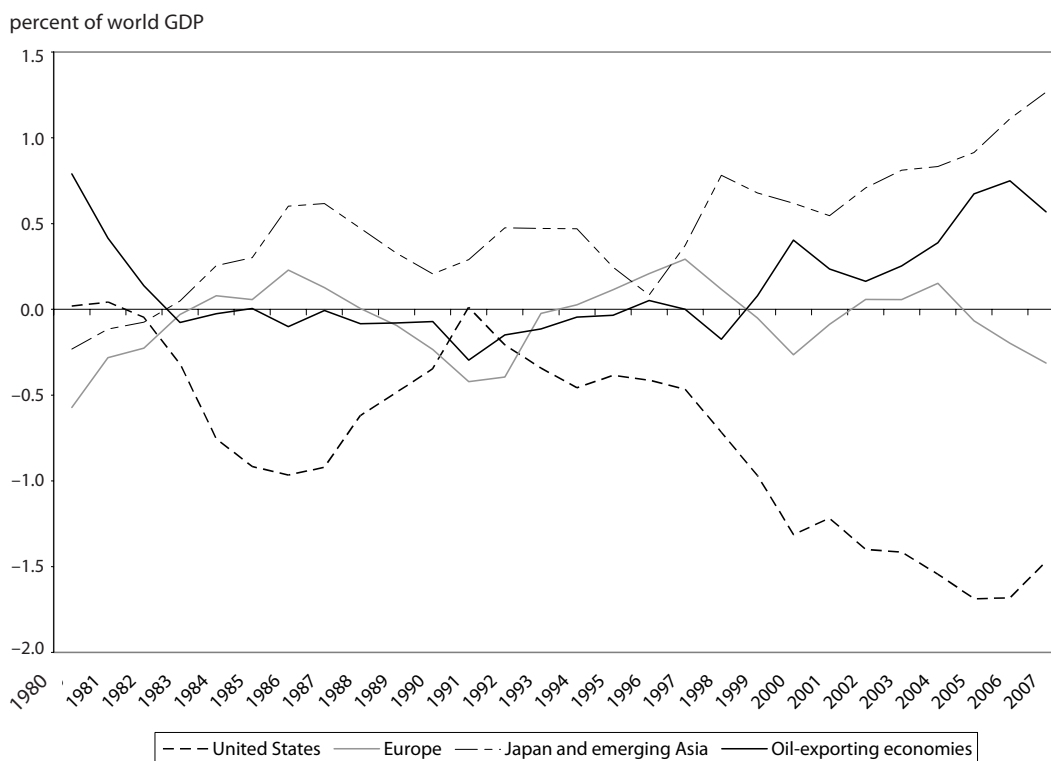
Most important, a conservative fiscal policy—not a dollar peg, a euro peg, or even a basket peg—is the key to avoiding Dutch disease. Norway is a prime example: Its oil revenue initially flows into Norway’s oil fund (recently renamed the Government Pension Fund—Global), not to the budget. Only the real income from the oil fund’s financial assets is theoretically available to support current spending (Norges Bank 2007).⁵ Poorer countries with larger immediate needs and countries with larger oil reserves and thus a more durable revenue stream from oil will likely opt to spend a higher fraction of their current oil income than Norway. But the basic principle still holds. A country that pegs to the dollar and spends the majority of any surge in oil revenues—whether

from the discovery of a new oil field or a surge in oil prices—will still experience a real appreciation. A country that channels the majority of any increase in its oil revenues into an endowment fund can avoid Dutch disease no matter what its currency regime.

EXCHANGE RATE FLEXIBILITY COULD FACILITATE GLOBAL ADJUSTMENT

Surpluses in one part of the world have to be offset by deficits elsewhere. So long as oil-exporting economies believed the surge in oil prices would prove “temporary” and built up their foreign assets rather than increasing their spending or investment, the oil-importing economies collectively had to run a large deficit. However, the recent large increase in the surplus of oil-exporting economies has been offset entirely by an increase in the US external deficit. Europe’s external balance has not changed much, while East Asia’s collective surplus has actually increased—even though East Asia imports more oil than the United States. A rise in oil prices ended up adding to the deficit of the region with the largest existing deficit, not cutting into the surplus of the region with the largest existing surplus (figure 5).

5. Recently Norway relaxed this constraint; it is currently spending a bit more than the oil fund’s real income.

Figure 5 Global current account balance (IMF WEO data/forecast), 1980–2007

Note: The 2007 forecast is based on the IMF's 2007 oil price estimate (\$68.5 a barrel).

Source: IMF, *World Economic Outlook*.

The exchange rate regimes of the oil-exporting economies arguably contributed to this peculiar—some would say perverse—result.

If the currencies of the oil-exporting economies rose with the price of oil, the external purchasing power of salaries paid in the local currency would rise automatically. The combination of dollar pegs and the dollar's 2003 and 2004 fall worked in the opposite way. The external purchasing power of salaries paid in local currency fell even as the country's export revenues soared. The increase in imports eventually came, but it came only after budgets were adjusted to increase spending—and in the Gulf, after policy decisions to use more of the windfall to finance domestic investment.⁶

In principle, a rise in the currency could reduce the price of existing imports enough to offset any increase in import volumes, leading to a fall in overall spending on imports.⁷

6. Rebucci and Spatafora (2006) and IMF (2006a, 2006b) both found that the initial increase in imports in the oil-exporting economies was relatively modest in comparison with earlier oil price spikes. Recent Russian balance of payments data—and anecdotal evidence from the Gulf—suggest a much stronger increase in imports (Bank of Russia 2007; IMF 2007a, 2007b).

7. This is the Marshall-Lerner condition. The volume of oil an economy exports—and its price—are not a function of the country's own exchange rate

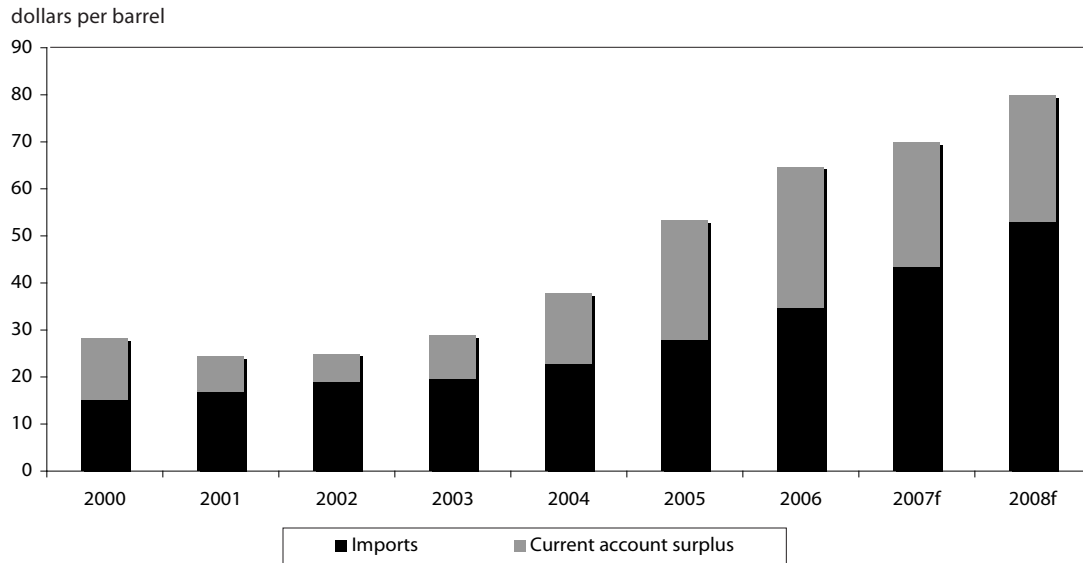
In practice, once the oil windfall starts to trickle down into private hands, both import volumes and the import bill of oil-exporting economies tend to grow quite rapidly. High saving rates in certain oil-exporting economies generally have stemmed from a rise in government saving rather than a rise in private saving (IMF 2006a, 2006b). See figure 6.

The need to deter too rapid an increase in spending and imports is sometimes cited as a reason for oil-exporting economies to maintain pegs, as a pegged exchange rate—or more accurately the difficulties of real adjustment associated with pegs—could encourage oil exporters to use fiscal policy to sterilize the oil windfall by building up the country's external assets. However, the populations of most oil-exporting economies expect to share in the oil windfall, making such policies difficult to sustain. As important, rigidities that inhibit adjustment also can work the other way. Countries tend to be at least as reluctant to cut spending when the price of oil falls as to increase spending when the price of oil rises.

To rely on the governments of oil-exporting economies to correctly judge the long-term price of oil—and thus the right

regime, so the impact of a change in the exchange rate on the trade balance boils down to its impact on imports.

Figure 6 Imports and current account surplus of emerging oil exporters expressed in terms of oil price, 2000–2008



f = author's forecasts

level of domestic spending and investment—is risky. Rather than adjusting spending as oil prices change, it is far easier to allow the external purchasing power of a country's existing spending to vary with the price of oil. More exchange rate flexibility would reduce the risk of an overly conservative response to a rise in the price of oil as well as the risk of an insufficiently conservative response to a fall in the price of oil.

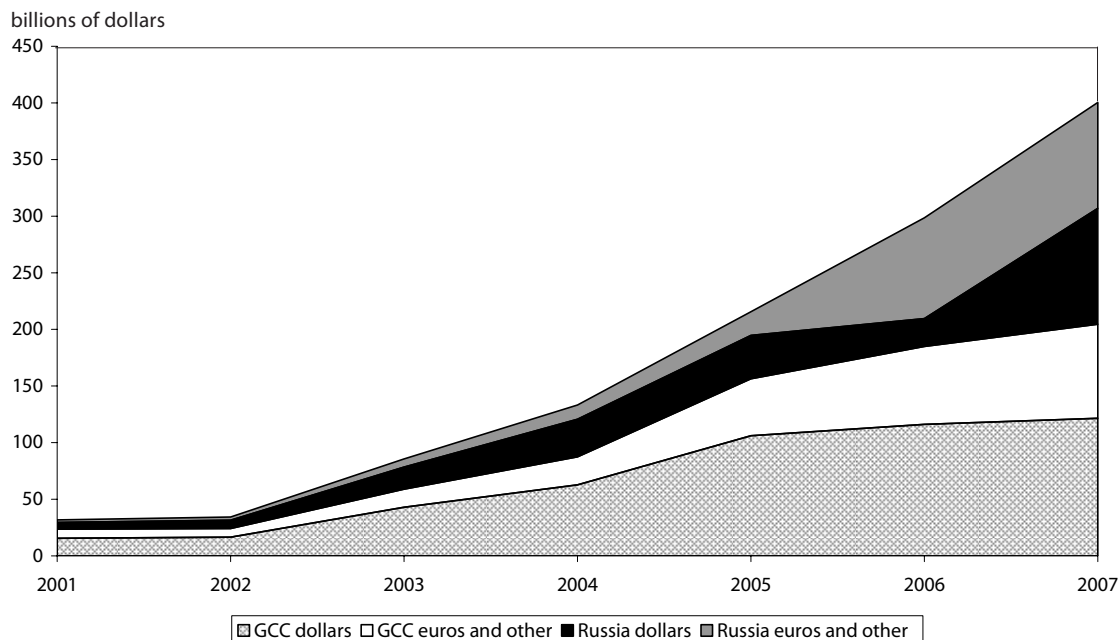
The pace of economic adjustment to a rise in the price of oil is primarily a function of the persistence of the gap between the increase in oil export revenues and the increase in spending on imported goods and services. However, the allocation of rapidly growing external portfolios of oil-exporting economies also shapes the global response to a rise in surpluses of oil-exporting economies. Many oil exporters—particularly Russia and the Gulf countries—are far more willing to buy American financial assets than to buy American goods (European University Institute and Gulf Research Center 2007, European Central Bank 2007).⁸ Imports from the United States account for 5 percent of Russia's total imports while dollars account for a bit under 50 percent of the Bank of Russia's reserves. Imports from the United States account for about 10 percent of the Gulf's total imports, while recent estimates (Woertz 2007, Institute of International Finance 2007) suggest dollar-denominated assets account for as much as 60

8. This is why IMF analysis suggests that a rise in the price of oil would increase the US current account deficit even if the oil-exporting economies increased their imports to match the increase in their export revenues (Rebucci and Spatafora 2006).

percent of the Gulf's portfolio.⁹ As a result, a surge in saving in the oil-exporting economies—and specifically a surge in government saving—leads to a surge in demand for dollar-denominated assets. Strong demand for dollar-denominated assets, in turn, facilitates the expansion of the US current account deficit (figure 7).

The fact that oil is priced in dollars is sometimes argued to be a key source of the “exorbitant privilege” that the United States enjoys because of the dollar's international status. Yet nothing requires that oil-exporting economies hold dollar assets just because oil is priced in dollars. The dollars earned from the sale of oil can easily be exchanged for euros and other financial assets. Oil-exporting economies tend to save in dollars

9. Reliable data on the currency composition of the savings of major oil exporters are rare. Gulf central banks and oil investment funds do not disclose the currency composition of their assets (and some investment funds do not disclose the size of their holdings). US data also fail to capture those dollars that the oil investment funds hold “offshore” and will not attribute to the Gulf dollars handed over to external managers (Setser and Ziemba 2007; Toloui 2007; BIS 2007; Higgins, Klitgaard, and Lerner 2006). Most analysts believe that the Gulf central banks generally hold a much higher fraction of their assets in dollars than the large oil investment funds. The UAE holds around 95 percent of its reserves in dollars (down from 98 percent in 2005) and has indicated that the dollar's share could fall to 60 percent over time (Derrick 2007). Oman holds 80 percent of its reserves in dollars, and Qatar between 65 and 90 percent (Brown 2007). The Saudis have not released data on the currency composition of the foreign assets of the Saudi Arabian Monetary Agency but the estimates of Saudi banks range from 75 to 85 percent (Bourland 2007, Sfakianakis 2007). The Qatari investment authority recently indicated that dollar-denominated assets constitute only 40 percent of its portfolio (Reuters 2007). Roughly a third of Kuwait's equity investment portfolio is in dollars (Sender 2007).

Figure 7 Estimated official flows: GCC versus Russia, 2001–07

GCC = Gulf Cooperation Council

Sources: IMF balance of payments data (for overall growth in official assets) and author's estimates (for portfolio composition and 2007 official asset growth).

because they peg to the dollar, not because oil is priced in dollars. Oil-exporting economies that let their exchange rates float—like Norway—or that peg to a dollar-euro basket—like Russia—generally have lower dollar shares in their portfolio than countries that peg to the dollar.¹⁰ But so long as the Gulf countries peg to the dollar, they—like China—cannot sell dollars without running a risk of pushing their own exchange rate down. The investment funds of some of the smaller Gulf economies do seem to have diversified away from the dollar. Consequently, this constraint is likely to be more severe for the large oil-exporting economies than for the smaller economies.¹¹

10. Russia reduced the dollar share of its reserves from around 70 percent in 2004 and 2005 to around 50 percent in early 2006, even though it still prices its oil in dollars. In late 2006, Russia reported that 45 percent of the stabilization fund and 49 percent of its broader reserves were in dollars, with the remainder mostly in euros and pounds (Johnson 2006, Russian Ministry of Finance 2006). Norway also provides detailed data on the composition of the portfolio of its government pension fund: 33 percent of its equity portfolio and 30 percent of its bond portfolio are invested in the United States (Norges Bank 2007).

11. Venezuela, for all its political differences with the United States, still holds 80 percent of its reserves in dollars (Parra-Bernal 2007), though a growing share of its dollar reserves seem to be held “offshore.” Libya also seems to hold a large share of its reserves in “offshore” dollars (BIS 2007). Iran, by contrast, has shifted its reserves out of the dollar (Ahmad 2007).

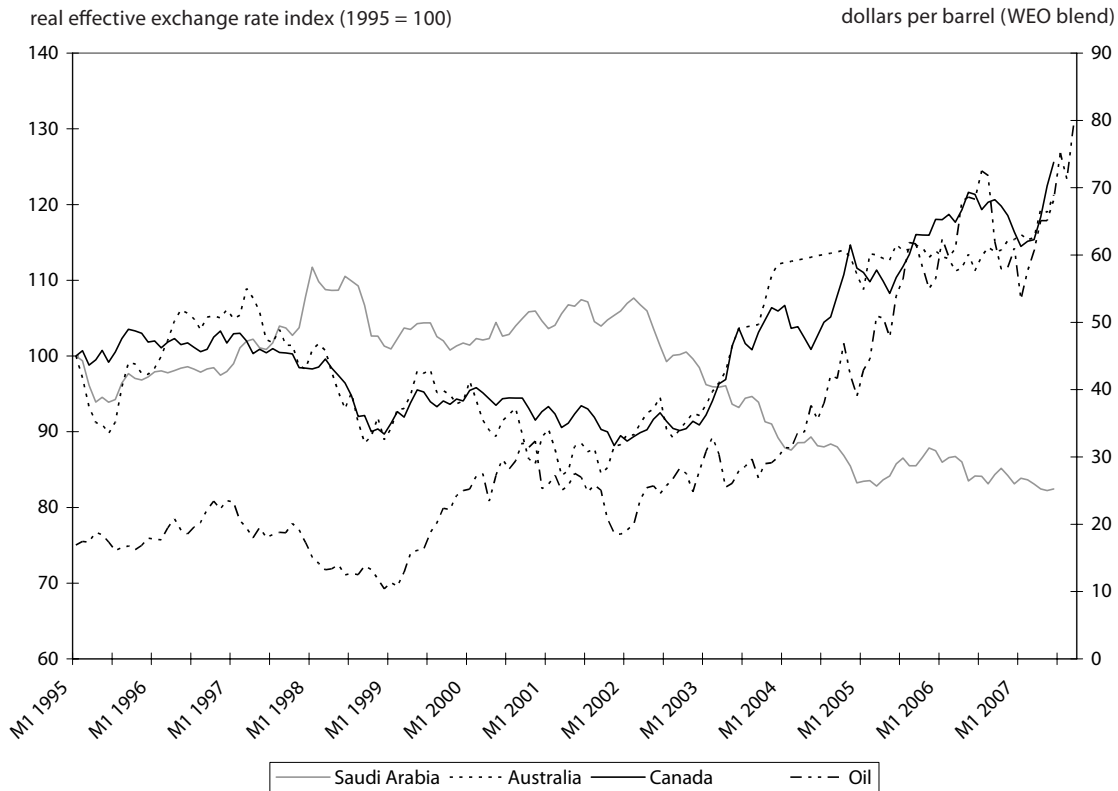
The United States' ability to tap petrodollars to finance its large external deficit depends far more on oil-exporting economies' willingness to maintain dollar pegs than on the continuation of the market practice of pricing oil in dollars. This, however, does not mean that the United States has an interest in encouraging oil-exporting economies to maintain their dollar pegs. The longer the United States draws on petrodollar financing to defer a necessary adjustment, the greater the risks to both parties. The United States will become ever more exposed to a sudden shift in the portfolio of oil-exporting economies. The oil-exporting economies with dollar-heavy portfolios, particularly those that trade extensively with Europe and Asia, will be more exposed to further falls in the dollar (Angermann, Schaefer, and Thiesen 2007).

ALTERNATIVES TO PEGGING TO THE DOLLAR

Dollar pegs are not a necessary result of dependence on exporting a commodity that generally is priced in dollars. Other exchange rate regimes are possible. Many advanced commodity-exporting economies—Norway, Australia, New Zealand, and Canada—allow their currencies to float.

One often-discussed policy shift, a revaluation, would help to address current concerns about imported inflation without

Figure 8 Australian and Canadian real exchange rates move with oil; Saudi real exchange rate does not, 1995–2007



WEO = World Economic Outlook

Source: International Monetary Fund.

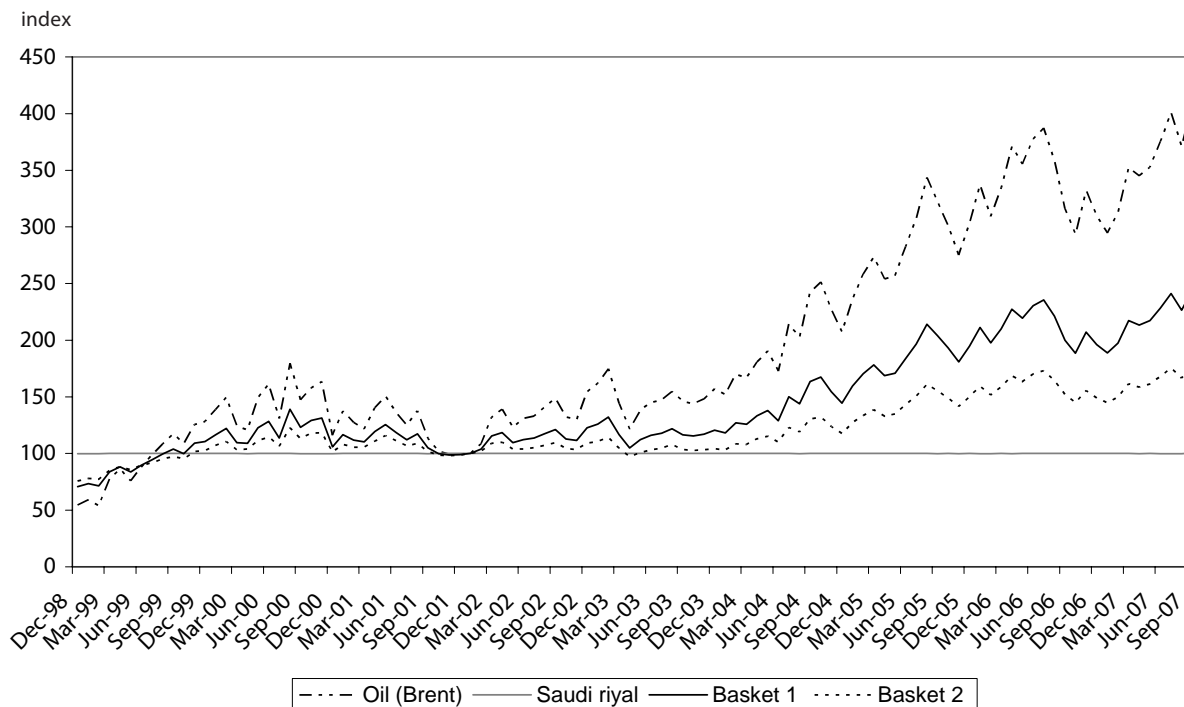
changing much else. The monetary policies of oil-exporting economies would continue to be tied to the monetary policy of the United States—and the oil-exporting economies would remain exposed to further falls in the dollar. Alternatives to both a pure dollar peg and a series of revaluations to the dollar are discussed below.

Pegging to an Advanced Economy Other than the United States

The euro is the most obvious alternative. However, the euro-zone also is not ideal for a major oil-exporting economy, as it too imports oil and other commodities. Moreover, shifting from a dollar peg to a euro peg after the euro already has appreciated substantially also might not accomplish much. By some measures the euro is now overvalued against the dollar. If oil stays high, the last thing most oil exporters need to do is to start to peg to the euro just when the euro starts to depreciate against the dollar.

Pegging to the currency of another commodity exporter has obvious appeal. Australia is one candidate. Australia does not export oil, but the same forces that push up the price of oil often simultaneously push up the price of other commodities. The Australian dollar has moved together with the price of oil more frequently than the US dollar—or the Saudi riyal. But this correlation may not hold during a major oil-supply shock. Moreover, Australia has a substantial current account deficit. The Canadian dollar seems a better fit, given Canada’s external surplus and its energy exports. However, Canada’s substantial manufacturing sector is deeply integrated into the US economy, so its economic cycle has historically been correlated closely with that of the United States (figure 8). Most emerging oil exporters have smaller manufacturing sectors and trade more with Europe and Asia. Norway is as closely integrated with Europe as Canada is with the United States; it too is not a perfect fit. No single currency seems ideal.

Figure 9 Oil basket peg, December 1998–September 2007
(in dollars; January 2002 = 100)



Notes: Basket 1: 50 percent oil (Brent), 25 percent US dollars, 15 percent euro, 10 percent yen.
Basket 2: 30 percent oil (Brent), 30 percent US dollars, 30 percent euro, 10 percent yen.

Pegging to a Basket of Currencies

Many oil-exporting economies currently peg to a basket. The Russians peg to a euro-dollar basket; Libya pegs to the special drawing rights (SDR; a basket of dollars, euros, pounds, and yen); and Kuwait recently decided to shift back to a basket peg.¹² The Gulf Cooperation Council (GCC) reportedly has considered shifting to a basket peg after its planned—but increasingly unlikely—2010 monetary union.

Shifting from a dollar peg to a basket peg would reduce other oil-exporting economies’ exposure to further falls in the dollar against the euro—though a euro-dollar basket does not help if both the euro and the dollar fall against many Asian currencies. Pegging to a broad basket would reduce an oil exporter’s exposure to the moves of any one currency. However, it does not really help manage oil price volatility. The real price of oil has increased relative to a basket of euros, dollars, yuan, and yen—not just relative to the dollar. The currencies of oil-exporting economies consequently face pressure to appreciate

in real terms against a basket of currencies of oil-importing economies, not just against the dollar.

Pegging to a Basket that Includes the Price of Oil

Jeffrey Frankel (2003) has suggested that oil-exporting economies should peg their currencies to the price of oil. A one-to-one peg to oil goes too far. So long as the price of oil remains volatile, pegging directly to the price of oil would result in excessive swings in the exchange rate. A less draconian option—pegging to a basket that includes the oil price—would assure that the currency of an oil exporter generally moves with the price of oil while dampening the volatility associated with a pure oil peg.

Figure 9 plots moves in the price of oil, moves in the Saudi riyal, and moves in two potential basket pegs—one with a 50 percent oil share, the other with a 30 percent oil share. Even if oil’s share in the basket were only 30 percent, moves in the price of oil would have dominated other currency moves over the past few years, leading the currency of oil exporters to appreciate against both the euro and the dollar. Such

12. Kuwait had a basket peg before it joined the GCC’s common dollar peg in 2003.

an arrangement would mimic the response of most floating currencies to commodity price shocks, without requiring that oil-exporting economies be ready to manage their own autonomous monetary policy.

A Managed Float

Floating—whether a pure float or a managed float more like that practiced today in many emerging economies—offers a final alternative to existing dollar pegs. Exchange rate flexibility has helped advanced commodity-exporting economies manage commodity price fluctuations. For example, during the Asian crisis, the Australian dollar depreciated along with commodity prices. This depreciation—along with the fact that most of Australia's external debt was denominated in Australian dollars—helped the country avoid a recession. When commodity prices rebounded, so did the Australian dollar.

The oil-exporting economies that are unprepared for a managed float should peg to a basket that includes the price of oil.

Norway and Canada have resisted joining the monetary unions with their respective large neighbors despite—or perhaps because of—their large oil exports. Many emerging economies, including several commodity-exporting emerging economies, now also float successfully. Mexico both exports oil and floats relatively cleanly. Two other commodity-exporting emerging economies—South Africa and Brazil—allow substantially more exchange rate flexibility than is the norm for large oil exporters. The South African Reserve Bank and Brazil's central bank intervene in the foreign exchange market far more frequently than does the Federal Reserve or the European central bank (ECB). But their currencies are still substantially more flexible than the currencies of many oil-exporting economies.

CONCLUSION

Pegging to the dollar generally has made it harder, not easier, for oil exporters to adjust to large swings in the price of oil. All too often, the dollar has fallen when the price of oil is rising and risen when the price of oil is falling. Dollar pegs will not prevent the currencies of oil-exporting economies from eventually appreciating in real terms. Indeed, higher levels

of government spending in oil-exporting economies—along with a surge in private and state-led investment—are currently pushing up wages, prices, and imports in most oil-exporting economies with fixed exchange rates. But the fact that adjustment has started does not eliminate the case for changing policy. The adjustment process has been slow, and too much of the necessary real appreciation has come from a potentially damaging rise in inflation.

The current de facto currency union between many oil-exporting countries and the United States is an anachronism. The macroeconomic policy needs of the United States and the large oil-exporting economies are unlikely to converge—and the dollar is unlikely to start moving together with the oil price. Many emerging economies have experimented successfully with a managed float. Those oil-exporting countries that lack the institutions to conduct an autonomous monetary policy should peg to a basket that includes the price of oil.

Exchange rate flexibility would reduce the need for domestic prices in the oil-exporting economies to rise and fall along with the price of oil, create additional room for monetary policy to reflect domestic conditions, and help oil-exporting economies manage the large swings in government revenue that accompany large swings in the oil price. The time has come to decouple the currencies of large oil-exporting economies from the dollar.

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