

Minor Currencies And Federal Reserve Trade Weights

We concluded the examination of major currencies' impact on Federal Reserve trade weights last month:

A review of U.S. trade patterns with major currency trading partners reveals little evidence for the simple model that a weaker currency leads to greater export competitiveness and a lower ability to import.

In short, the entire premise behind the floating exchange rate regime regnant over the past 35 years is wrong. As all currency traders learn quickly, the major currencies have different trading patterns and represent different underlying economies than do the minor currencies. The minor currencies are buffeted more by speculative capital flows even as their markets are shallower than the majors'. Can we reach the same conclusion reached above, or are the Federal Reserve trade weights for the minor currencies more sensitive to changes in the currencies themselves.

Recap of Data And Methodology

Before we delve into the discussion, the terms and methodology used in the analysis below are identical to that used last month. The text that follows in this section is copied verbatim from that article.

The Federal Reserve calculates a [trade-weighted dollar index](#). To do so, it has to keep track of the changing use of various currencies the U.S. receives in return for its exports and pays for its imports. In all of the charts involving trade weights presented below, export weights will be depicted in blue and import weights in green.

These weights are calculated on an annual basis and of necessity after the fact. In combination with the Federal Reserve not being able to license its dollar index for commercial purposes, this explains why many traders are unfamiliar with these data.

We have to emphasize as well these currency weights reflect their use in bilateral trade with the U.S. and do not reflect total bilateral trade. This is critical for countries from whom the U.S. imports large quantities of goods priced in dollars, such as crude oil and various metals.

Annual data are of little trading use in a continuous market such as currencies. We can create smoothed series of import and export weights via a statistical technique called [cubic spline interpolation](#); this is used twice in the charts below, once to create quarterly series from the annual numbers and a second time to create monthly numbers from the quarterly results. The resulting interpolations are far easier to absorb than the annual numbers, but as they involve two separate data transformations, we will not attempt any further statistical analysis against monthly currency values, presented in red in the charts below. In addition, please be advised all currencies will be displayed in the "USD per" convention familiar to traders of the euro, the British pound and futures traders. The currency scale will be inverted for currencies commonly expressed as "per USD" so that a rising red line always conveys strength and a falling red line always conveys weakness.

A second passage from last month is copied for clarity of reference below:

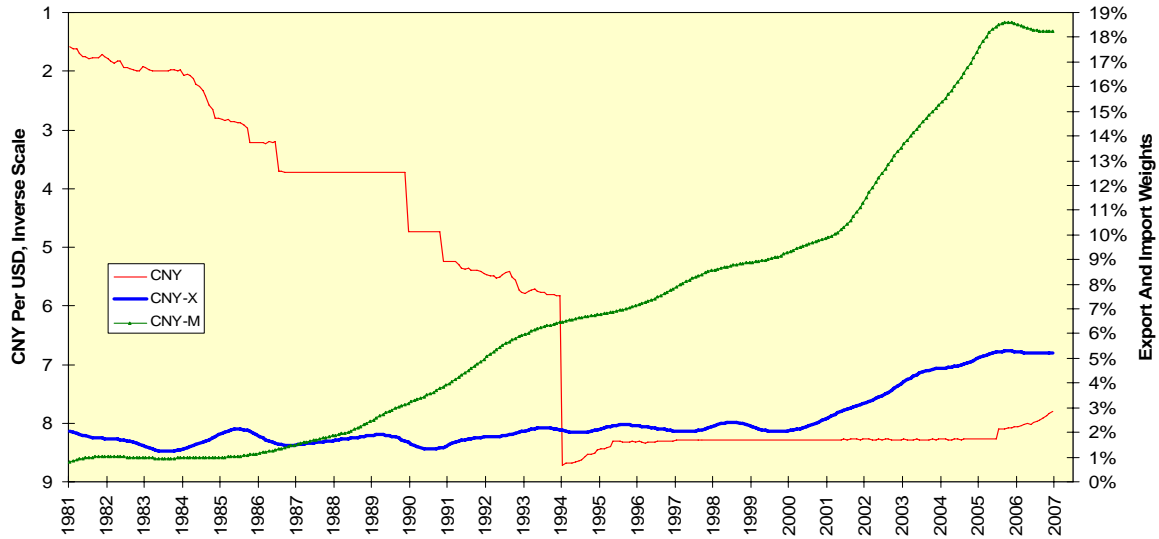
Even though the principal advocate of floating exchange rates, the late Milton Friedman, was the antithesis of a protectionist, his arguments have been seized thereby to the extent we will refer below to the notion that a weaker currency should stimulate exports and reduce imports as the protectionist argument.

East Asian Currencies

It is easy to lose in all the political rhetoric call for a stronger Chinese yuan, but export weights to China rose steadily between 2000 and 2006. Moreover, as China's wealth level grows, so should both the volume and the value-added content of its imports from the U.S. This so-called marginal propensity to import is characteristic of all growing economies.

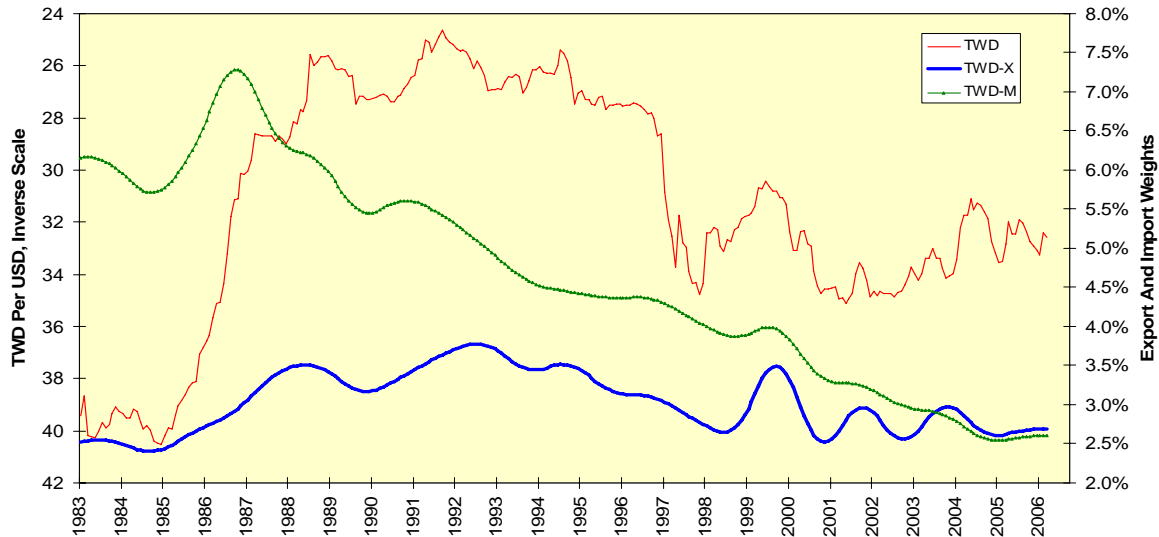
The surge in import weights from China is, of course, the dominant feature on the chart below. No nation on earth has China's cost advantages in labor, a state-controlled banking system with over \$1 trillion in foreign exchange reserves, low levels of environmental and safety costs and productivity advantages from new plant and equipment. Given these advantages, we do need to ask whether any level of the yuan would have offset these formidable advantages; the betting here is the yuan could be much stronger with no deleterious effects on Chinese exports.

The Chinese Yuan And Its Weight In U.S. Trade



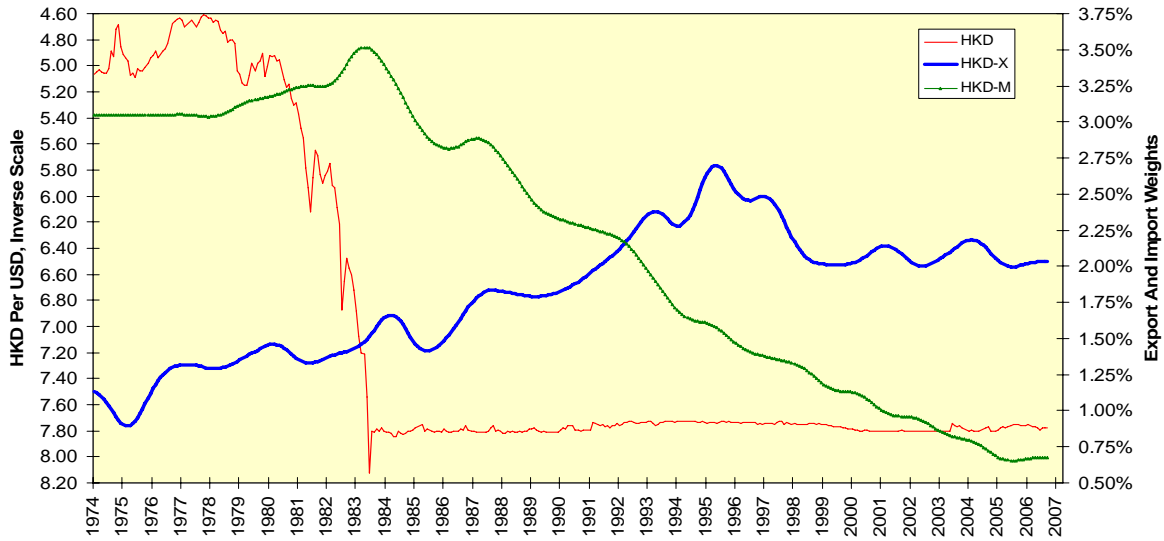
Taiwan's importance as an exporter to the U.S. has been declining steadily since the mid-1980s. In all likelihood, exports from Taiwan have been displaced by exports from China. The island's share in U.S. export weights has tracked changes in the TWD somewhat. This indicates some measure of currency price elasticity in Taiwan's import decisions.

The Taiwan Dollar And Its Weight In U.S. Trade



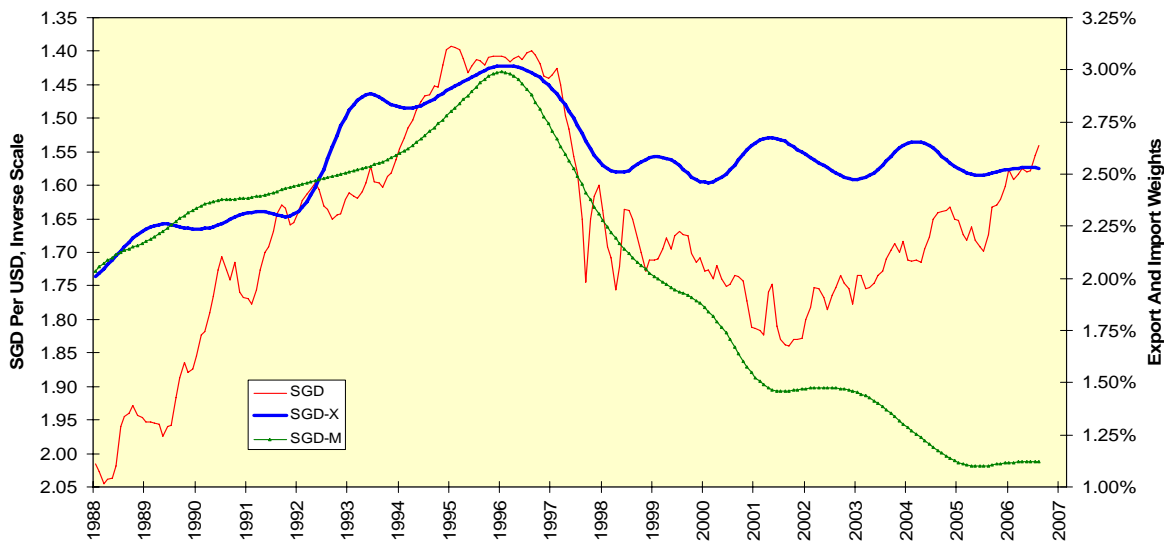
Hong Kong provides an interesting rebuttal to the protectionist argument. Its currency has been locked in a tight range since the mid-1980s, but its import weights have fallen steadily since that time. If the protectionist argument was correct, we would have to conclude the Hong Kong dollar was overvalued at this lower range. Moreover, we also would have to conclude the uptrend in export weights between 1986 and 1996 meant the HKD was overvalued. Neither is likely; as in the example of Taiwan, the simplest explanation is the best. Hong Kong's exports to the U.S. have been displaced by exports from China.

The Hong Kong Dollar And Its Weight In U.S. Trade



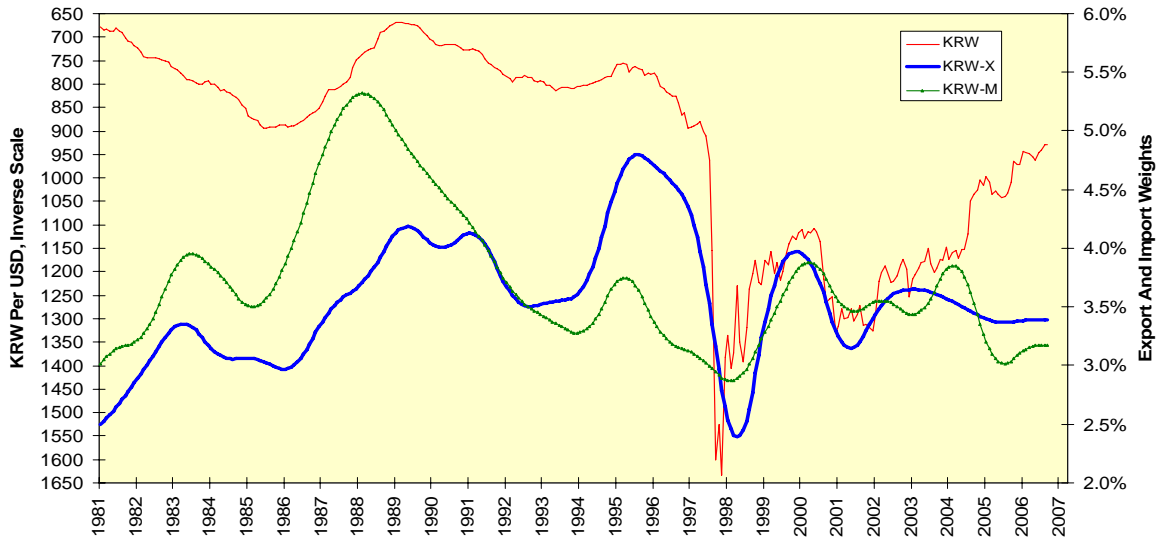
We can draw the same conclusion by examining Singapore, which we will group with the East Asian rather than the South Asian countries by virtue of its largely Chinese population. The 1997-2001 decline in the SGD did nothing to arrest its falling import weights, not did the 2002-2006 rally do anything to accelerate the downtrend already in place. These simply reflect China's ascendancy. Export weights to Singapore rose modestly in the mid-1990s "Asian Tiger" epoch, but have flattened since.

The Singapore Dollar And Its Weight In U.S. Trade



The final entrant amongst the East Asian currencies is the Korean won. This currency was affected massively by the 1998-1998 Asian crisis. Import weights from Korea, which had been in decline since 1988, did reverse after the KRW's plunge, and did decline after the KRW's post-2004 rally. The real impact, however, was the large drop in export weights to Korea during the Asian crisis period. This reflected both changes in the currency and the large drop in Korean national income during this period.

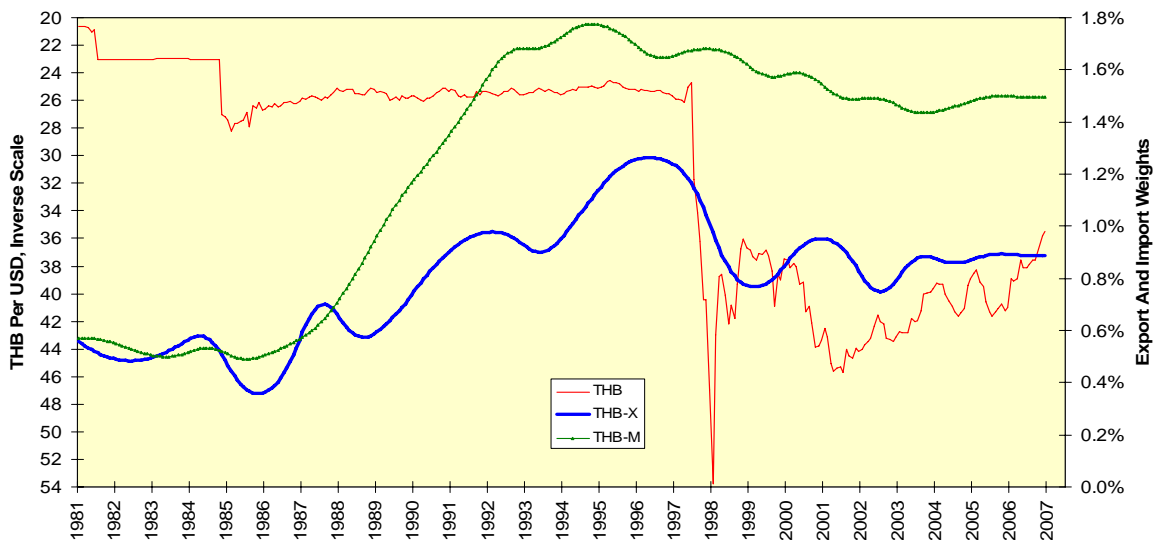
The Korean Won And Its Weight In U.S. Trade



South Asian Currencies

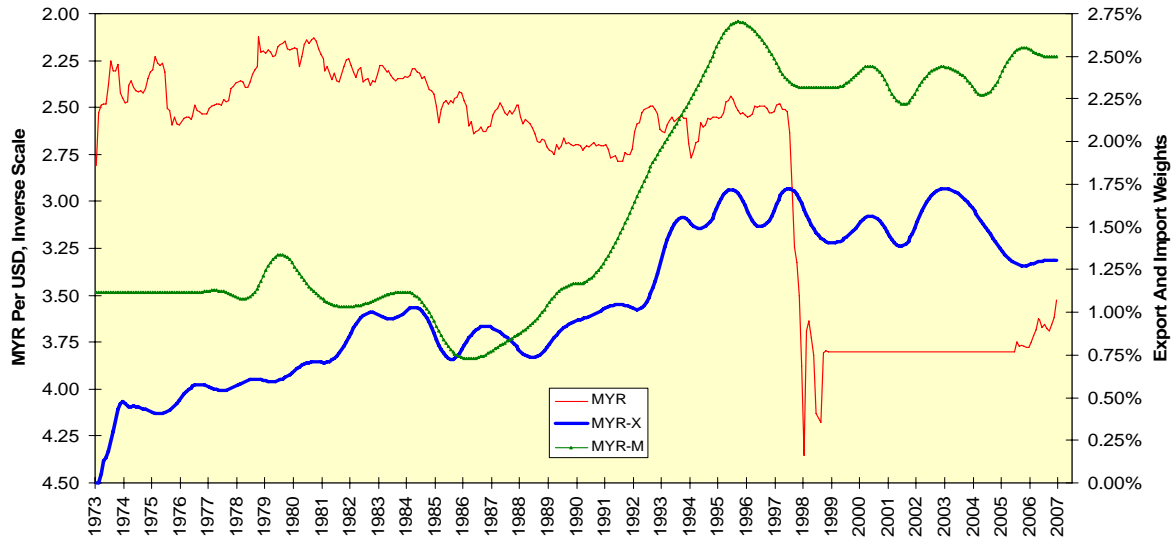
Speaking of the Asian crisis, let's go to the currency that started it all, the Thai baht. Prior to 1998, both the import and the export weights for the baht were trending higher. The cheaper baht did nothing to increase its import weights, and the loss of purchasing power in Thailand did surprisingly little to reduce export weights to Thailand. Overall, Thailand's contribution to U.S. trade is and has been fairly minor.

The Thai Baht And Its Weight In U.S. Trade



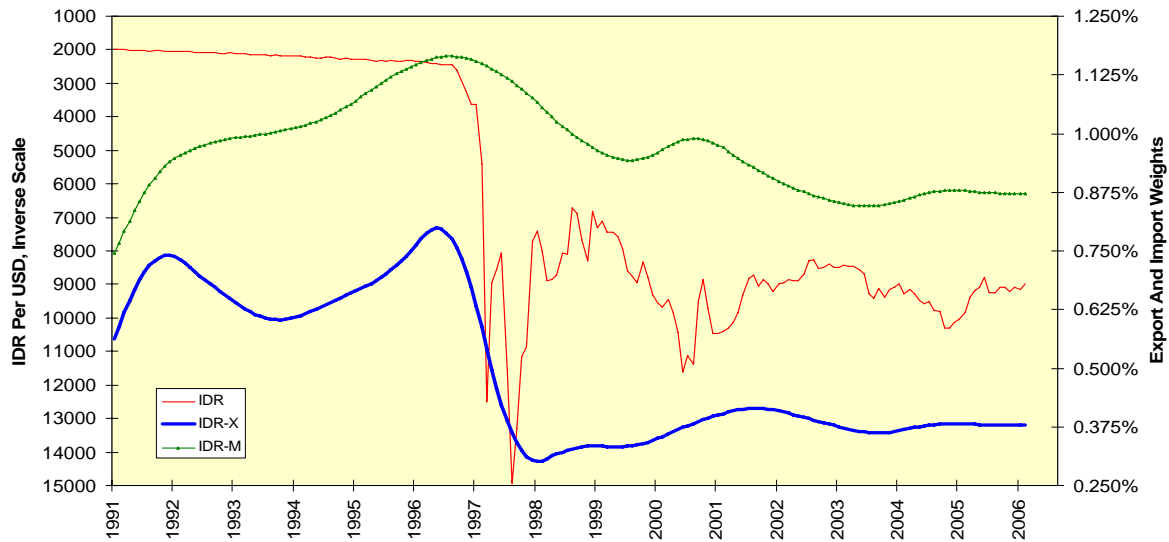
The picture for Malaysia is similar to that of Thailand. Both import weights from Malaysia and export weights thereto grew rapidly between 1986 and 1996, and then were unaffected by the ringgit's sharp drop. Neither the MYR nor the course of the Malaysian economy affected its trade weights with the U.S.

The Malaysian Ringgit And Its Weight In U.S. Trade



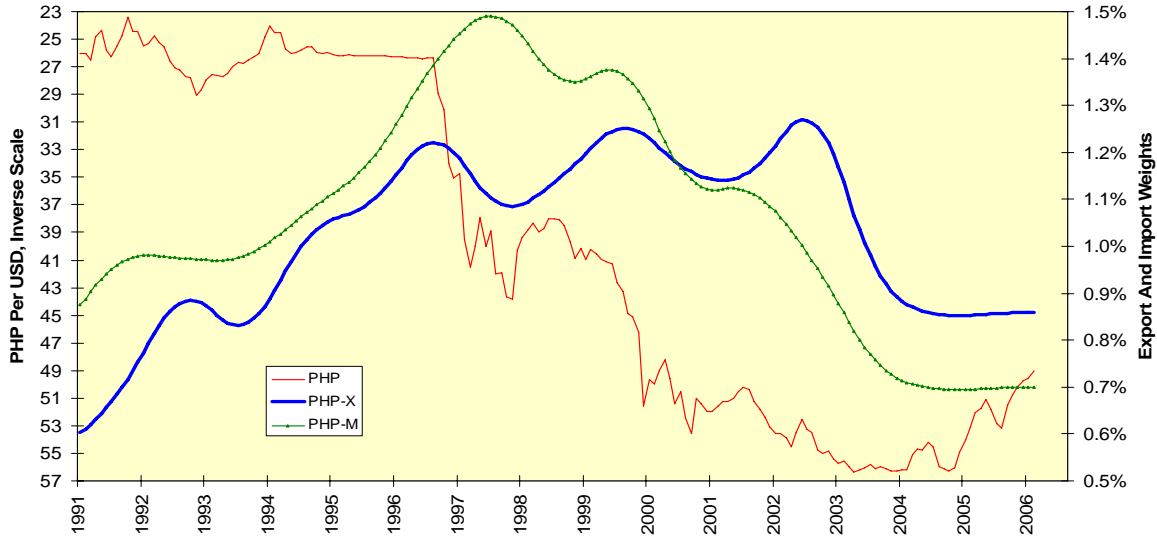
Indonesia also suffered in the Asian crisis. The 1997 collapse of the IDR preceded a decline, not the theorized increase, in import weights. The same cannot be said for export weights, however: The archipelago's sudden impoverishment led to a swift decline in export weights, one that has yet to recover.

The Indonesian Rupiah And Its Weight In U.S. Trade



The last South Asian currency to be examined is the Philippine peso. It stands as another refutation of the protectionists. Its import weights fell sharply after the PHP fell in 1997, but export weights to the suddenly poorer country actually trended higher between 1998 and 2003 before falling sharply in 2004.

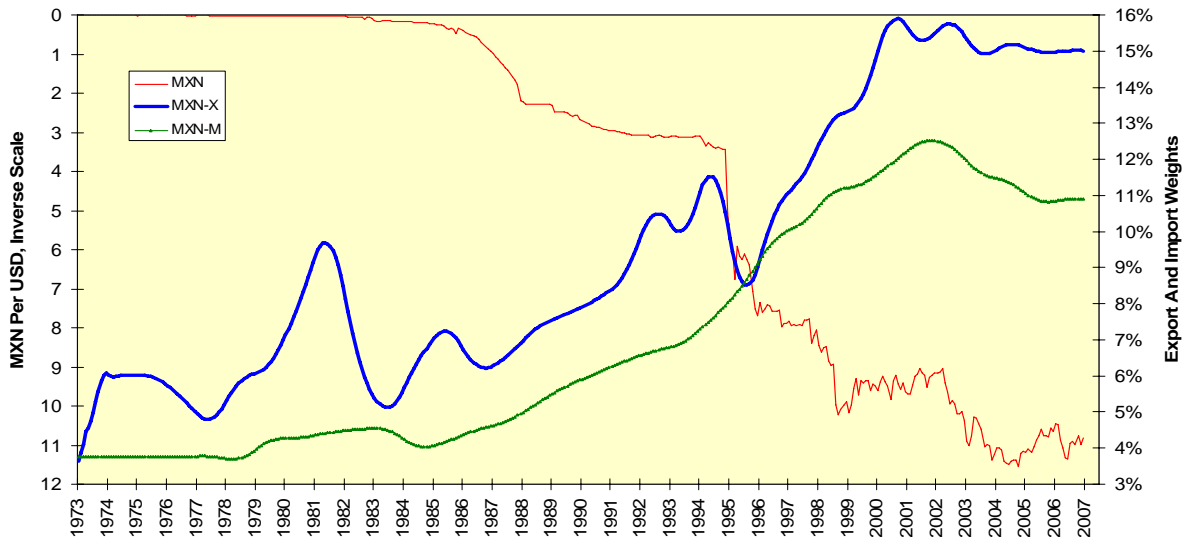
The Philippine Peso And Its Weight In U.S. Trade



Latin American Currencies

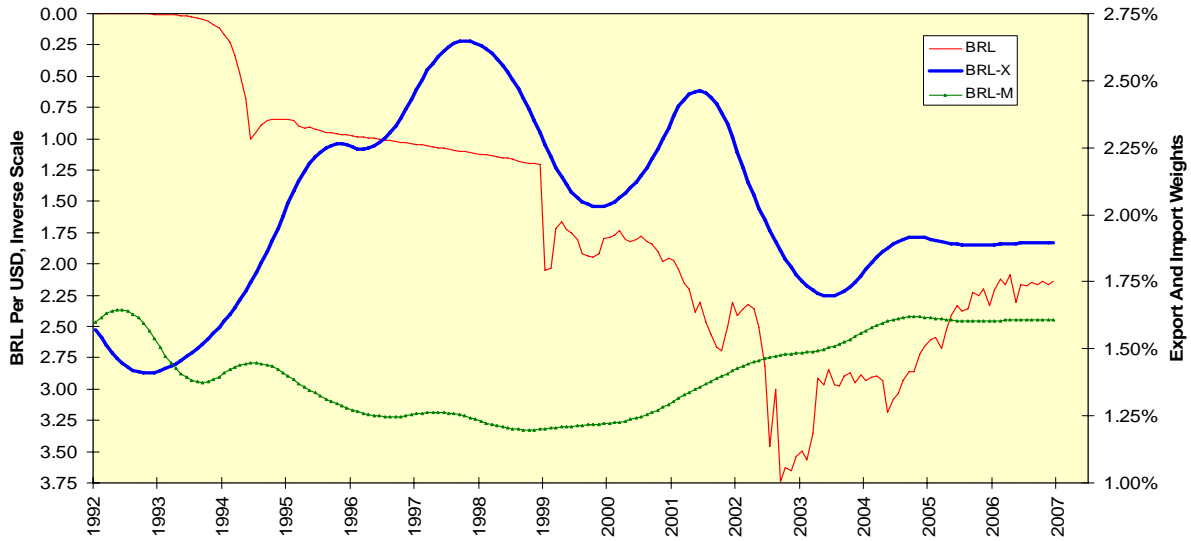
Mexico is a special case on several levels. Its peso has collapsed on three different occasions without triggering the macroeconomic collapses normally associated therewith. As a member of NAFTA, its trade with the U.S. on both the import and export sides has grown regardless of the currency. Its major source of foreign exchange, crude oil exports, is priced in USD, and it has another major source of dollars, the remittances of Mexican nationals living and working in the U.S. And like Colombia, discussed below, Mexico has large, undocumented sources of U.S. dollars. U.S. export weights to Mexico surged after NAFTA and have leveled off near a large 15% level. Import weights from Mexico have fallen as many of the light manufactured exports from Mexican maquiladora plants have been displaced by cheaper good from China. All of these factors combine to make the MXN rate largely irrelevant the U.S.' fourth-largest trading partner.

The Mexican Peso And Its Weight In U.S. Trade



The Brazilian real has a short history. It came into being in 1994 following the untimely demise of a litany of predecessors, but even so it has managed to collapse thrice in twelve years. In defiance of the protectionists' theories, the impact on import weights has been minimal. Export weights to Brazil have declined since 1997, a period in which economic growth in Brazil has been strong. This may be a rare case when the currency price elasticity of demand exceeds income elasticity of demand.

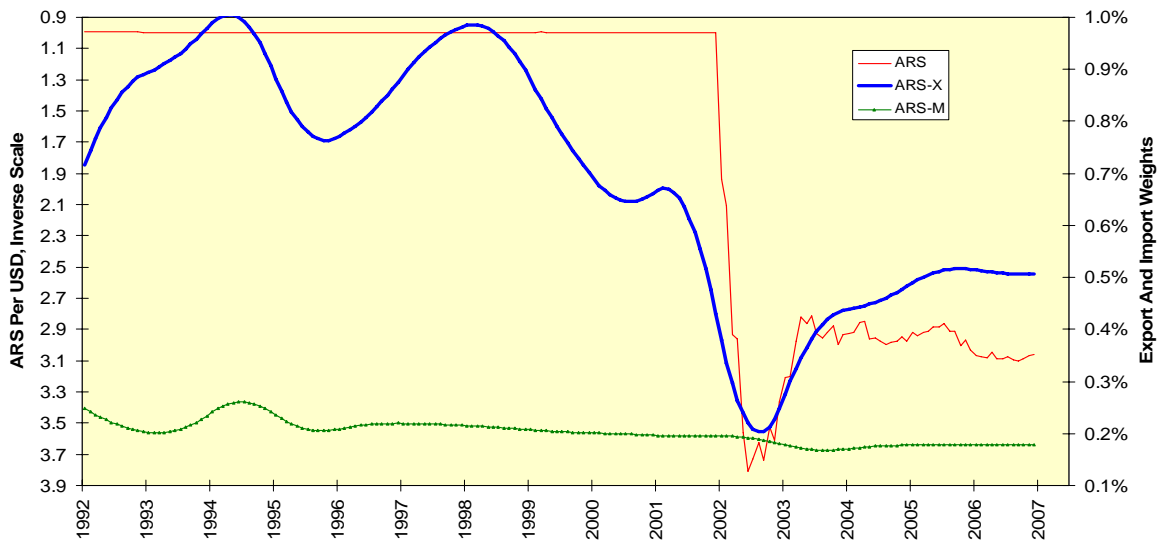
The Brazilian Real And Its Weight In U.S. Trade



Argentina, like Brazil, has gone through multiple currencies. These have included the peso ley, the austral and a direct peg to the USD. There is also the little matter of frequent defaults, nationalizations and other non-currency impediments to the free flow of goods and services.

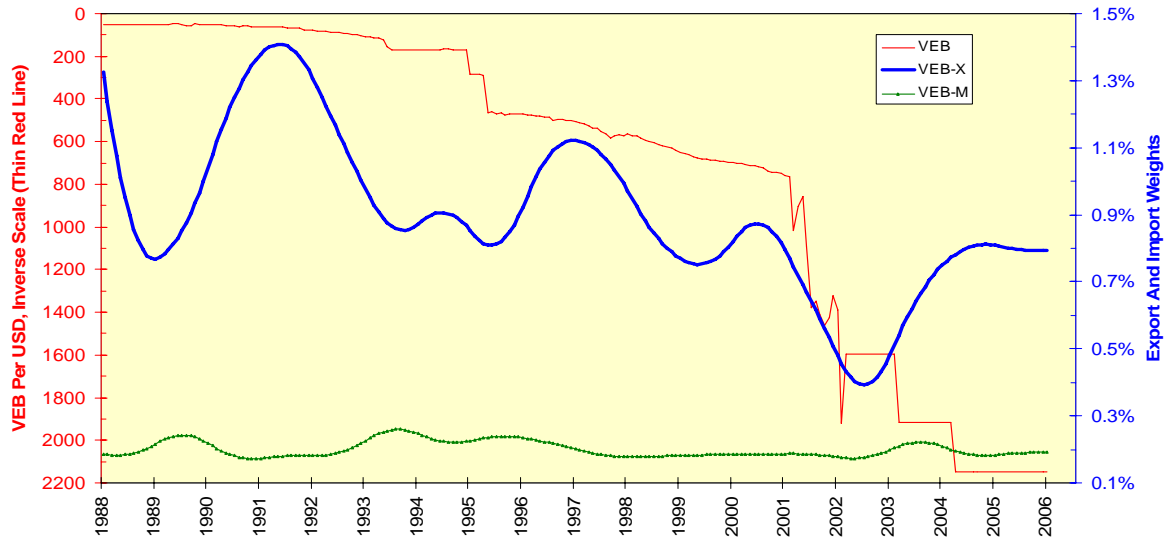
Import weights from Argentina scarcely have budged since 1992. Export weights to Argentina began to fall in 1999 as the country suffered during its dollar-peg epoch, and then collapsed going into the 2002 debt default. They have rebounded somewhat with the ARS; we take this to be an income effect, not a currency effect.

The Argentine Peso And Its Weight In U.S. Trade



Import weights from Venezuela have been quite low as Venezuela's chief export to the U.S., crude oil, is priced in USD. Export weights have fallen as the bolivar has weakened during the Chavez era; whether this is currency-related, income-related or politics-related is difficult to discern.

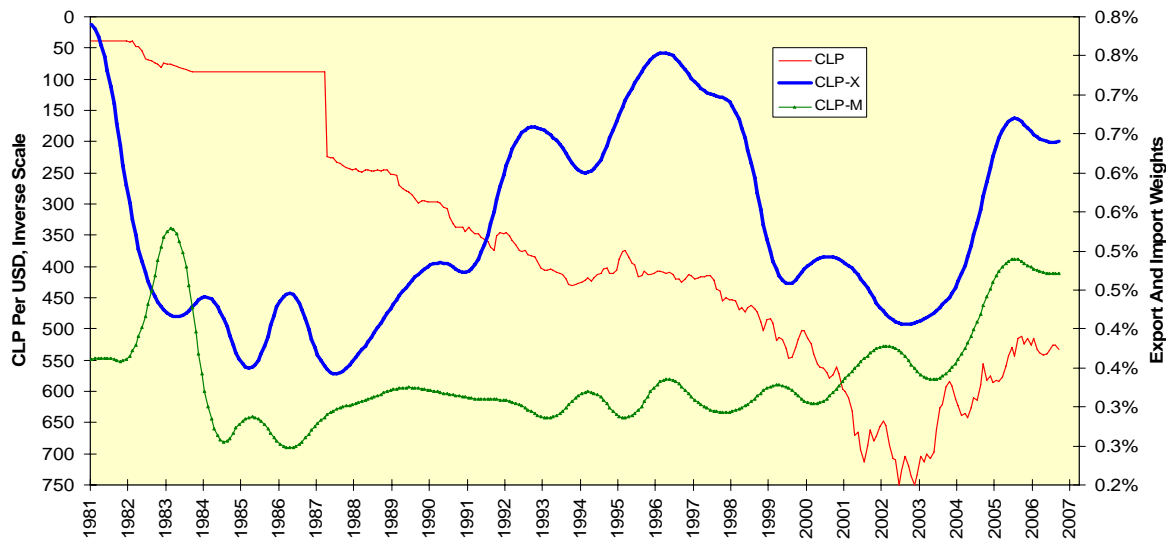
The Venezuelan Bolivar And Its Weight In U.S. Trade



Chile so much enjoys a reputation as South America's success story that first-time observers have trouble absorbing the extent of the peso's decline since 1988. Export weights to Chile rose between 1988 and 1996 even as the CLP fell, and then fell into 2003 as the CLP fell. Factors other than currency movements likely were involved.

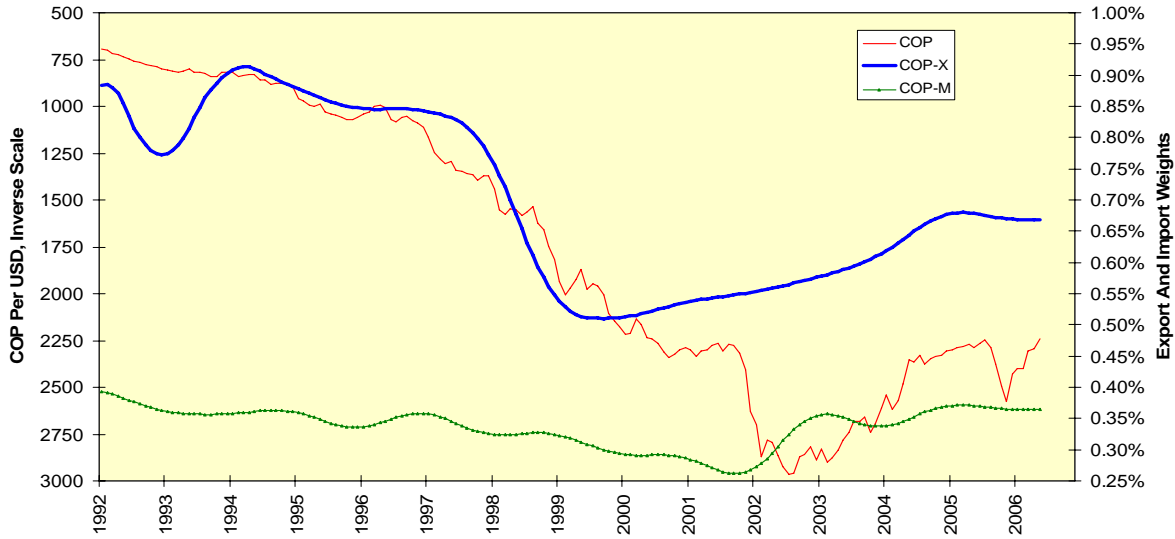
In addition, the weights of imports from Chile have increased even as the CLP rose after 2003. Chile's efficiencies in agricultural exports – its leading export, copper, is priced in USD – probably account therefor.

The Chilean Peso And Its Weight In U.S. Trade



Export weights to Colombia have tracked movements in the peso in a manner consistent with standard theory. Import weights from Colombia have increased since 2002 even in the face of a firmer COP. The U.S.-Colombia trade picture is so distorted by undocumented flows that further comments will be withheld.

The Colombian Peso And Its Weight In U.S. Trade



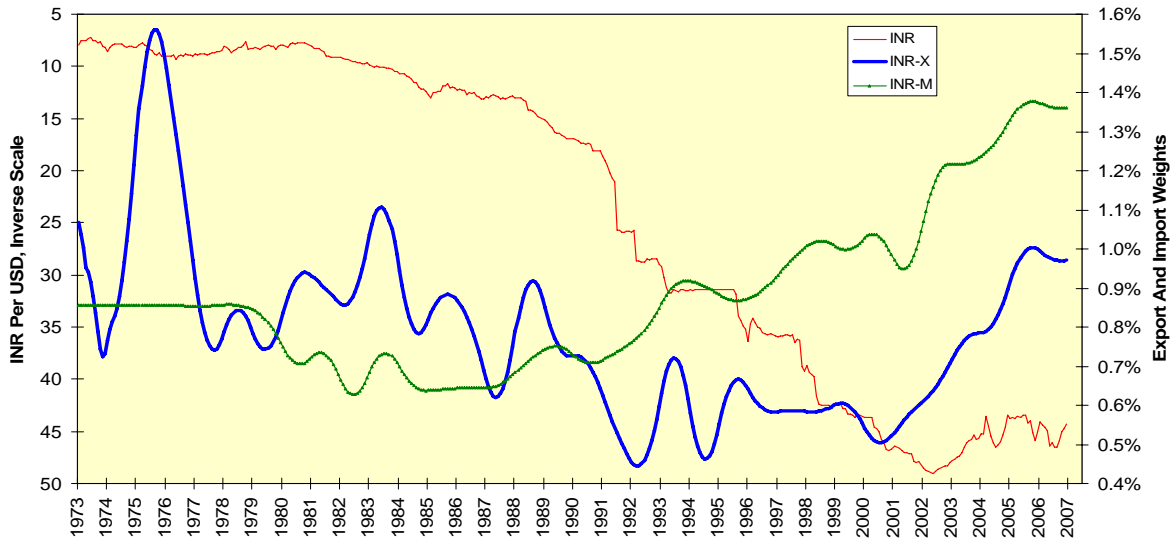
Other Currencies

The final group of currencies, those for India, Russia, Saudi Arabia and Israel all represent special cases and thus are discussed on a non-geographic basis.

The growing importance of the U.S.-India bilateral economic relationship is not reflected well in the trade data. At the risk of being tendentious, it is increasingly a post-industrial relationship. Included are skilled labor imported from India and information services outsourced to India.

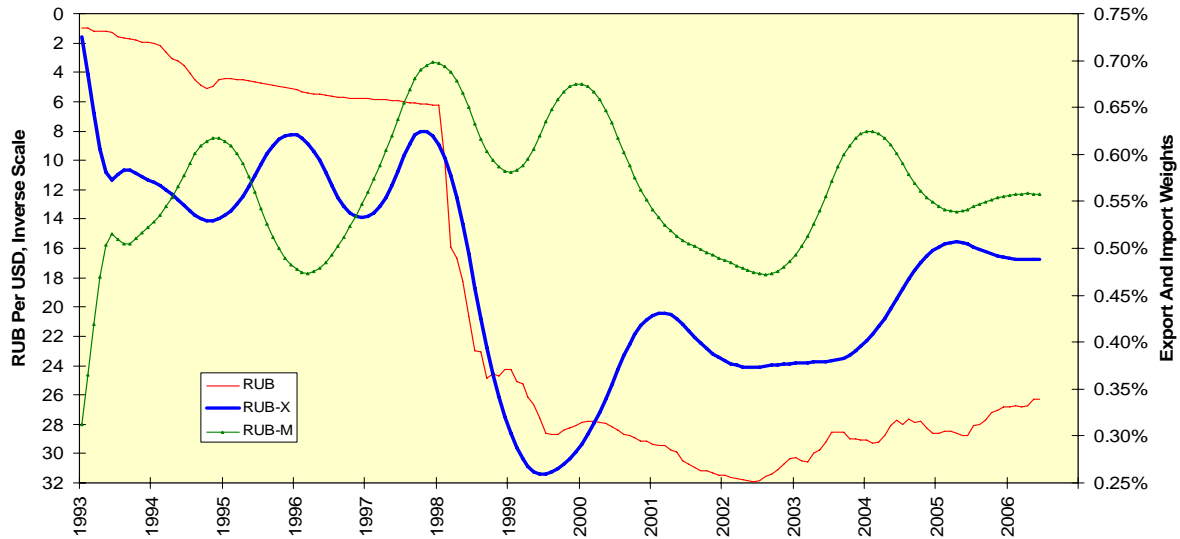
Import weights have been increasing steadily since the late 1980s; in all likelihood, this reflects the modernization of the Indian economy far more than the decline in the rupee. Export weights to India have jumped since 2001 even as the rupee has remained near its lows.

The Indian Rupee And Its Weight In U.S. Trade



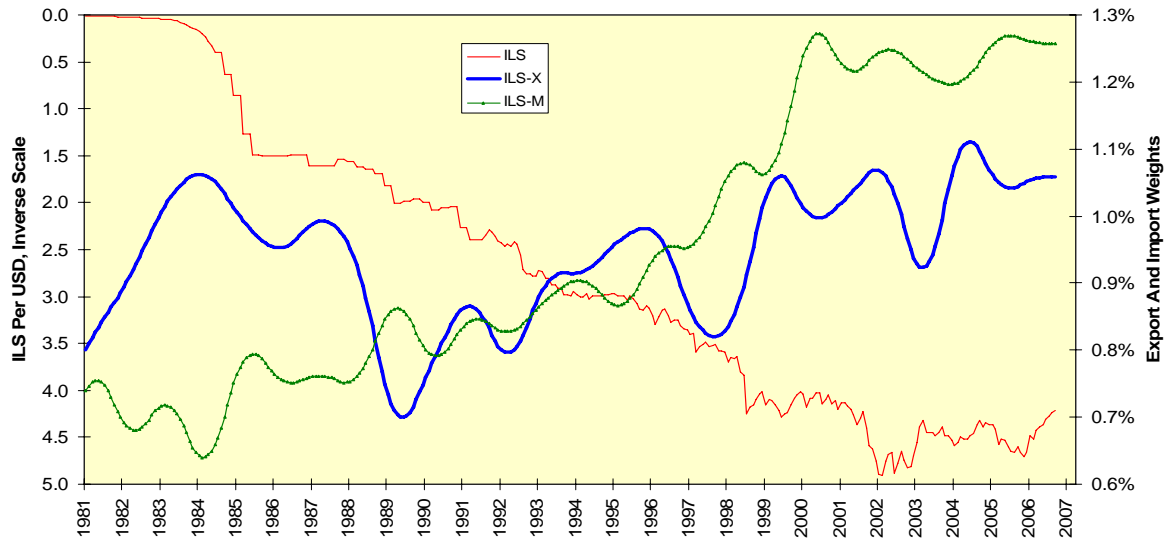
Export weights to Russia fell during the country's 1998 default and have rebounded since during the ruble's modest recovery. Bilateral trade between the U.S. and Russia is very small and is confined to specialty goods and minerals.

The Russian Ruble And Its Weight In U.S. Trade



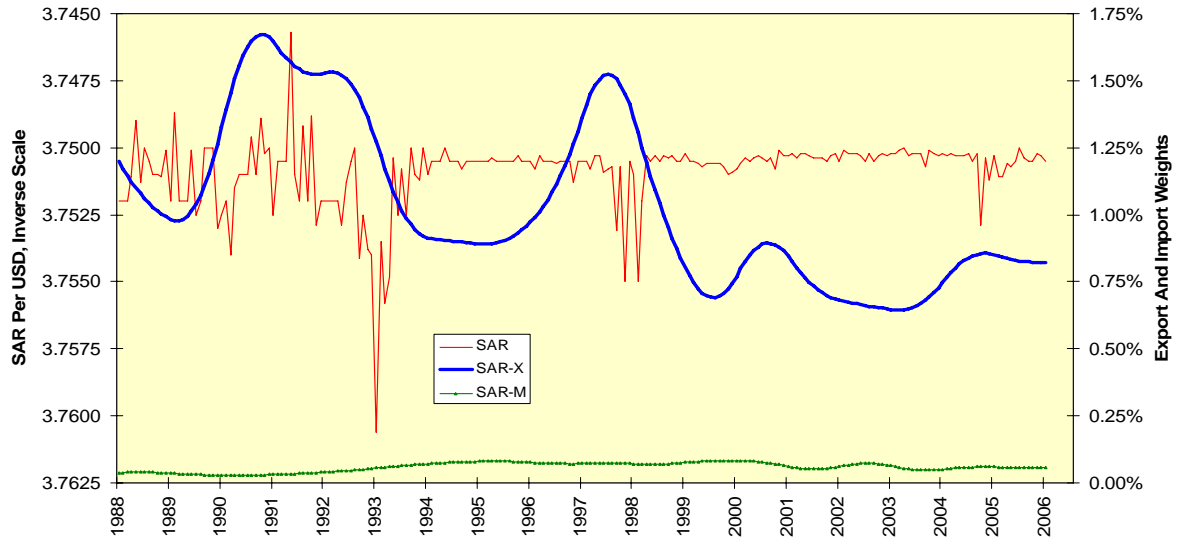
The increasing import weights from Israel during the shekel's 1982-2002 decline are as expected in classic theory. The generally increasing export weights to Israel during this same period are antithetical to classic theory. Too much U.S.-Israel trade is dollar-denominated or is confined to sectors such as technology and military hardware for currency movements to be a real factor.

The Israeli Shekel And Its Weight In U.S. Trade



Finally, we come to an absolute special case, Saudi Arabia. The riyal is de facto fixed – note the range – and import weights skirt near zero. Their principal export is priced in USD. Export weights to Saudi Arabia have declined somewhat over the years, but given the importance of military hardware and other sensitive exports to Saudi Arabia, this data stream probably does not reveal much.

The Saudi Riyal And Its Weight In U.S. Trade



We have reviewed 26 currencies with as many as 34 years of trade data accounting for 100% of the Federal Reserve's trade-weighting scheme.

We found some isolated instances wherein export weights to countries whose currencies had appreciated rose and some isolated instances wherein import weights from countries whose currencies had depreciated rose. These were noted duly.

The preponderance of evidence, however, is income elasticities, trade agreements, economic integration, and the terms in which goods and services are priced and other factors all are more important than currencies in affecting trade flows.