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HOW CLOSE TO CURRENCY BOARDS ARE GULF COOPERATION COUNCIL CENTRAL BANKS?

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Johns Hopkins Institute for Applied Economics,
Global Health, and Study of Business Enterprise

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How Close to Currency Boards Are Gulf Cooperation Council Central Banks?

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About the Series

The Studies in Applied Economics series is under the direction of Prof. Steve H. Hanke, co-director of the Johns Hopkins Institute for Applied Economics, Global Health, and the Study of Business Enterprise (hanke@jhu.edu). This working paper is one in a series on currency boards. The currency board working papers will fill gaps in the history, statistics, and scholarship of the subject. The authors are mainly students at The Johns Hopkins University in Baltimore. Some performed their work as research assistants at the Institute.

About the Author

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Summary

We examine to what extent several Gulf Cooperation Council (GCC) countries' monetary systems operate like currency boards. The countries are Saudi Arabia, the United Arab Emirates, Qatar, Oman and Bahrain. Kuwait, another member of the GCC, is not considered in this paper since it is officially pegged to an undisclosed basket of currencies instead of to a single anchor currency, and thus does not fulfill one of the basic requirements for an orthodox currency board. We use statistical tests based on balance sheet data and analysis of legislation. We provide the spreadsheet data series of these countries' monetary systems as well.

Acknowledgments

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Keywords: Bahrain, Oman, Qatar, Saudi Arabia, United Arab Emirates, central bank, currency board.

JEL codes: E58

Introduction of the countries and their monetary system

The Gulf Cooperation Council (GCC) is comprised of six countries — Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. All share a history of using the Indian rupee as their local currency (or in Saudi Arabia's case, as an unofficial but widely used currency) in the early and mid-20th century. In 1959, to make exchange controls more effective, the government of India established a separate currency, the Gulf rupee, for circulation exclusively outside the country (India, Reserve Bank of India [Amendment] Act, 1 May 1959, reprinted in *Reserve Bank of India Bulletin,* May 1959: 564; see also pp. 562-3). The Gulf rupee, though equivalent to the domestic Indian rupee, could not be used for trade in India. After India devalued the rupee on 6 June 1966, the countries using the Gulf rupee - Oman, Qatar and what would later become the United Arab Emirates - decided to replace the Gulf rupee with new national currencies. Kuwait and Bahrain had replaced the Gulf rupee in 1961 and 1965, respectively.

Eventually, all the GCC countries pegged their currencies to the U.S. dollar. Kuwait alternated between pegging to the dollar and pegging to an undisclosed basket of currencies, and ceased its most recent dollar peg in 2007. The other five countries remain pegged to the dollar. The long duration of their pegs and the high levels of external reserves that they hold have occasionally prompted comparison of their central banks to currency boards. How accurate is the comparison? One must review the monetary history of each country since establishing a national currency, and examine the laws governing the central banks of each country. Since central bank laws contain information about each country's extent of currency board orthodoxy, they are especially important.

Bahrain

Bahrain is formerly part of the Federation of Arab Emirates (most of which is now the United Arab Emirates) and it gained independence from the United Kingdom on 15 August 1971.

Bahrain established a currency board and started issuing the Bahrain dinar (BHD) in coins and notes in 1965, replacing the Gulf rupee at a rate of 10 rupees = 1 dinar (Bahrain, Bahrain Currency Decree, Decree No. 6 (Finance), 9 December 1964, reprinted in Bahrain Currency Board annual report, 31 March 1966: 13-19). In 1973, the currency board was replaced by the Bahrain Monetary Agency, which was renamed the Central Bank of Bahrain on September 7, 2006. Currently the Bahrain dinar is pegged to the U.S. dollar at 0.376 Bahrain dinar = US$1. The rate was made official in 2001 after existing in practice for a long period (Bahrain, Decree No. 48, 25 December 2001, reprinted in Bahrain Monetary Agency annual report 2001: 61).

The Central Bank of Bahrain and Financial Institution Law (CBB Law) established the Central Bank of Bahrain as the successor organization of the Bahrain Monetary Agency. It was promulgated on September 6, 2006 with the issuance of Decree No. 64 of 2006. Though the Bahrain dinar is pegged to the U.S. dollar, the CBB Law does not mention any peg, nor does it mention that the dinar should have a set exchange rate against any other currency or basket of currencies. Article 19 of the CBB Law states, "The amount of foreign exchange reserve permanently maintained by

the Central Bank shall not be less than 100% of the value of the currency in circulation." Article 19 also states: "In exceptional circumstances, the minimum amount of the Foreign Exchange Reserve may be changed by a resolution issued by the Board, provided that such minimum shall not be less than 75% of the value of the currency in circulation." It should be noted that an orthodox currency board requires the full backing of monetary base by foreign reserves, and the monetary base is defined as the sum of notes and coins in circulation and demand deposits of financial institutions at the monetary authority. The CBB Law, however, only mentions the backing of currency in circulation without giving a definition of it.

Article 25 of the CBB Law provides that the central bank may advance loans to the government and public bodies in exceptional circumstances. Except for this, the CBB Law does not mention other currency board-related topic.

Oman

Oman is an absolute monarchy and has been ruled by Sultan Qaboos bin Said Al Said since 1970. Oman has a diverse economy, a significant part of which is supported by tourism and agricultural trade. Its oil reserves are relatively small and expected to be depleted sooner than those of the other countries examined here, making economic diversification more urgent.

The Central Bank of Oman began operations in 1975, replacing the Oman Currency Board as the principal currency authority. Since 1972 the Omani rial has been fixed or pegged to the US dollar, though the exchange rate was changed several times in the early years by modest percentages. The current exchange rate of 1 Omani rial = US$2.60 has been in place since 1986.

The law regulating the Central Bank of Oman is a subsidiary part of the general Banking Law of the country. Article 31 of Chapter Three of the Banking Law mentions that the reserve of external assets should be related in value to the value of currency notes and coins in circulation, which, as discussed above, is not the same as monetary base. However, the exact ratio is not specified. The law also states that the value of the Omani rial should be declared in terms of gold, units of Special Drawing Rights, a foreign currency, or a basket of currencies, but the exact exchange rate is not specified. The Central Bank of Oman is allowed by law to provide loans to the government in respect to temporary deficiencies, but the amount of loans is restricted (Oman, Oman Banking Law, 2000).

Qatar

Qatar was a British protectorate until it gained independence in 1971. Qatar has been ruled by the House of Thani since the 19th century. According to the International Monetary Fund, Qatar has the highest per capita income in the world and the highest Human Development Index score among the Gulf countries.

Qatar and Dubai had agreed to issue a joint currency but had not yet introduced it when India devalued the rupee in 1966. Qatar first briefly adopted the Saudi riyal as a temporary measure.

Later in 1966, the Qatar and Dubai Currency Board started issuing coins and notes. Qatar started issuing an exclusively national currency, the Qatari riyal, on 19 May 1973. The issuing authority was the newly established Qatar Monetary Agency, which was renamed the Qatar Central Bank on 5 August 1993.

Currently the Qatari riyal is pegged to the U.S. dollar at 3.64 riyals = US$1. This rate was written into law by Royal Decree No. 34 of 2001 (cited in Qatar Central Bank annual report 2001: 40). The degree states that the Qatari riyal shall be pegged to the US dollar at 3.64, and sets upper and lower limits of 3.6415 and 3.6385 riyals. It cancels Royal Decree No. 60 of 1975, which stated that the riyal was officially pegged to the International Monetary Fund's Special Drawing Right (SDR).

The current Central Bank Law of Qatar was promulgated in 2006. Though the law does not mention the exchange rate regime of the Qatari riyal, it states in Article 41 that the regime and the exchange rate shall be determined by a law-decree after coordination between the Minister of Finance and the Governor of the Central Bank. Article 24 of Chapter 5 states that the Central Bank shall maintain a foreign balance of assets as currency backing of the currency in circulation, and this balance shall be no less than 100 percent of the currency in circulation. Article 85 of Chapter 12 allows the Central Bank to grant loans and issue liabilities for financial institutions not exceeding 50 percent of the capital and reserve of the bank (Qatar, Qatar Central Bank Law, No. 33, 2006).

Saudi Arabia

Saudi Arabia is the world's largest oil producer and exporter, controlling the world's second-largest oil reserves. It is categorized by the World Bank as a high-income economy with a high human development index. Unlike the other countries surveyed, Saudi Arabia was never a British protectorate. Therefore, use of the Indian rupee was unofficial rather than official before it issued its own currency.

Saudi Arabia's de facto central bank, the Saudi Arabian Monetary Agency (SAMA), was established in 1952. At first little more than a currency issuer, over the years it has developed other common central banking functions, particularly powers of financial regulation.

In June 1986, the riyal started to be officially pegged to the IMF's SDR. In practice, it was pegged to the U.S. dollar at 3.745 riyals = US$1. This rate was made official on 1 January 2003 (SAMA annual report 2003: 87). In 2015, however, the fall of oil prices and a strengthening dollar depreciated the market rate of the riyal to 3.86 per dollar, and the Saudi Arabian Monetary Agency had to use foreign reserves to support the exchange rate.

Though in reality the Saudi riyal is pegged to the U.S. dollar, in Article 2 of the Currency Law the value of Saudi riyal is defined as 0.197482 grams of fine gold, known as the parity rate. Article 6 states that the Saudi Arabia Monetary Agency shall keep full cover in gold and foreign currencies convertible into gold equal to the value of currency it issues, but the exact definition of "currency issued" is not specified. Contrary to the case in Bahrain, Oman, and Qatar, Article 6 of SAMA's charter states that the Agency shall not make advances to the government or private parties

(Saudi Arabia, Currency Law issued by Royal Decree, 1959; Charter of The Saudi Arabian Monetary Agency Issued by Royal Decree, 1957).

United Arab Emirates

The United Arab Emirates, established in December 1971, is a federation of seven emirates. The UAE is a highly developed economy with a high level of human development and is one of the wealthiest countries in the Middle East, with the seventh-largest oil reserves in the world.

Before 1966, all the emirates in the UAE used the Gulf rupee issued by India. In 1966, in all of the emirates except Abu Dhabi, the Qatar and Dubai riyal had started to circulate, and during this transition away from the Gulf rupee the Saudi riyal was used in the country as well. The UAE dirham was eventually introduced on 19 May 1973. On 28 January 1978, the dirham was officially pegged to the SDR. In practice, it was pegged to the U.S. dollar most of the time. Since 2002 the dirham has been officially pegged to the dollar at 3.6725 dirhams = US$1.

The UAE Currency Board was established on 19 May 1973. It was mandated to manage the currency and the country's gold and foreign exchange reserves, but did not have regulatory authority and was not empowered to manage the UAE's monetary policy. Despite its name, it was not a true currency board. Its minimum ratio of external reserves to the monetary base was 70 percent rather than 100 percent, and it acted as a lender of last resort to commercial banks (see Krus and Schuler 2014: 241-2 for a summary of its differences from a true currency board). On 10 December 1980, Union Law No. 10 was passed, which established the new Central Bank of the UAE, replacing the former Currency Board (United Arab Emirates, Union Law No. 10, 2 August 1980).

By Article 40 of the law, the Central Bank of UAE is allowed to grant interest-free loans to the Government in order to provide liquidity for the Treasury. Article 62 states that the official exchange rate of the UAE dirham shall be defined in a Union Decree issued on the proposal of the Board of Directors and the approval of the Council of Ministers, which means that the peg is not set by the central bank law itself. In Article 74, it is stressed that currency in circulation and demand deposits held with the Bank, together forming the monetary base, shall be covered by net foreign assets, gold coins, and bullions. Their ratio to the monetary base is required to be no less than 70 percent.

To what extent do these monetary systems operate like currency boards?

To repeat, the central banks just surveyed are sometimes thought of as being close to currency boards because of their pegs to the U.S. dollar and their high levels of external reserves. To analyze the extent to which they behave like currency boards, it is useful to first define what characterizes a currency board. An orthodox currency board is a monetary system that has a fixed exchange rate between the local currency and the foreign currency, which is called an anchor currency, and provides immediate and full convertibility between them. An orthodox board maintains net foreign reserves that are 100 percent or slightly more of its entire monetary base, to provide completely credible backing for the convertibility requirement. It does not lend to the

government or hold government deposits, and does not issue interest-bearing securities for purposes of discretionary monetary policy. Some monetary authorities that follow currency board practice in other respects do not keep their foreign reserves slightly above its monetary base. Rather, they do not have an upper limit for it. It is better to call them quasi currency boards to distinguish them from orthodox currency boards (Hanke 2002, especially p. 202). Also, of the five institutions that we study, only Saudi Arabian Monetary Agency satisfies an essential condition of currency board orthodoxy: that the monetary authority not be allowed by law to lend to government or to other financial institutions. Therefore, we must examine to what extent the monetary systems of Saudi Arabia, UAE, Bahrain, Qatar and Oman fit other criteria of a currency board, and thus determine if they could be classified as currency boards or quasi currency boards.

Criterion 1: Rigid exchange rate

To prepare for potential currency unification, the five countries examined in this paper have officially pegged their currencies to the U.S. dollar, as mentioned above. However, the strength and credibility of the pegs vary among the five countries. The exchange rate pegs have been written into law for Bahrain and Oman; for Kuwait, Saudi Arabia, and UAE, the pegs are determined by central bank decrees. Therefore, Bahrain and Oman provide higher credibility and stability for their exchange rate regimes than the other countries. Nonetheless, all five countries fulfill the first criterion of an orthodox currency board: a rigid exchange rate. All have been officially linked to the dollar since at least 2003 (some were unofficially linked to the dollar, prior to 2003).

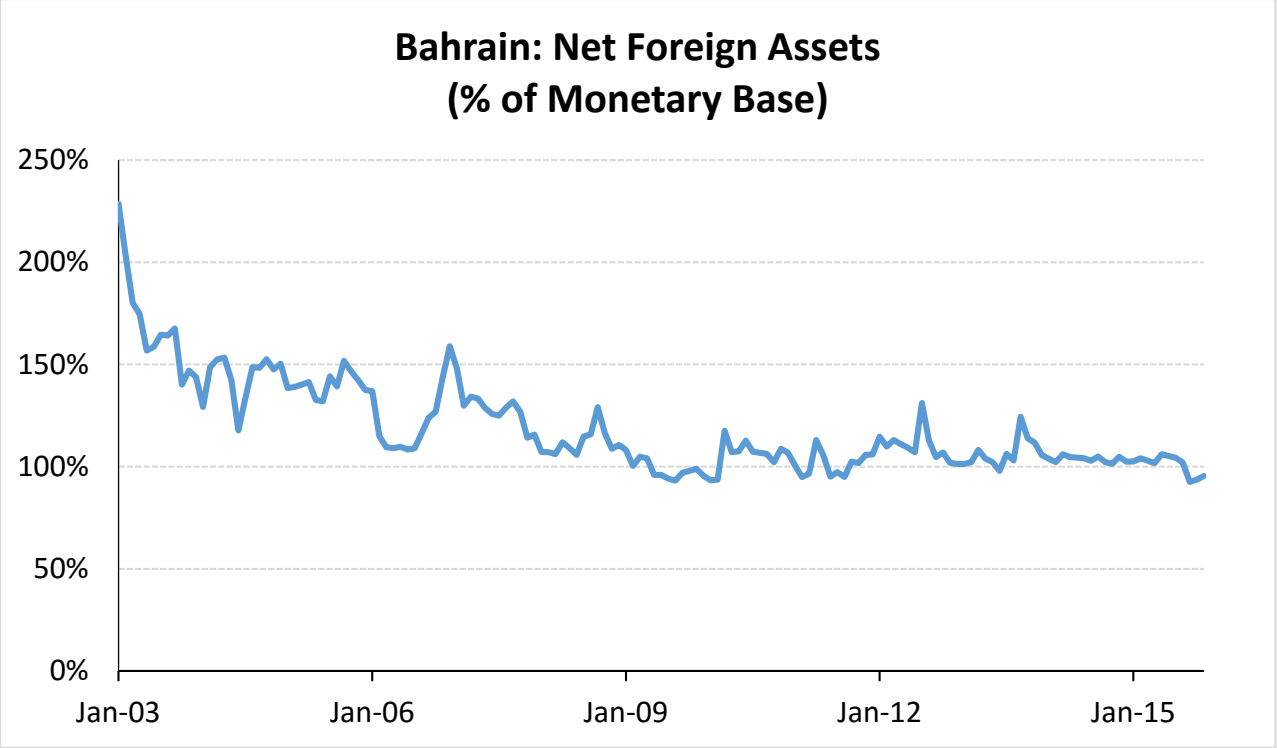
Criterion 2: Full convertibility with the anchor currency

The *Annual Report on Exchange Arrangements and Exchange Restrictions* issued by the International Monetary Fund records all the policy restrictions each country's exchange rate regime contains. From 2003 to 2015, the period this paper examines, all five countries had full convertibility with the anchor currency, as they had no capital account restrictions (International Monetary Fund 2003, 2015).

Criterion 3: Foreign reserves completely back monetary base (ratio ≥ 100 percent)

The calculations and graphs in this paper are based on the IMF's International Financial Statistics database, since it attempts to standardize definitions across countries for greater comparability. After comparing IMF data with nationally published statistics on the central bank websites of the five countries, one can easily conclude that there were no substantial discrepancies.

Bahrain

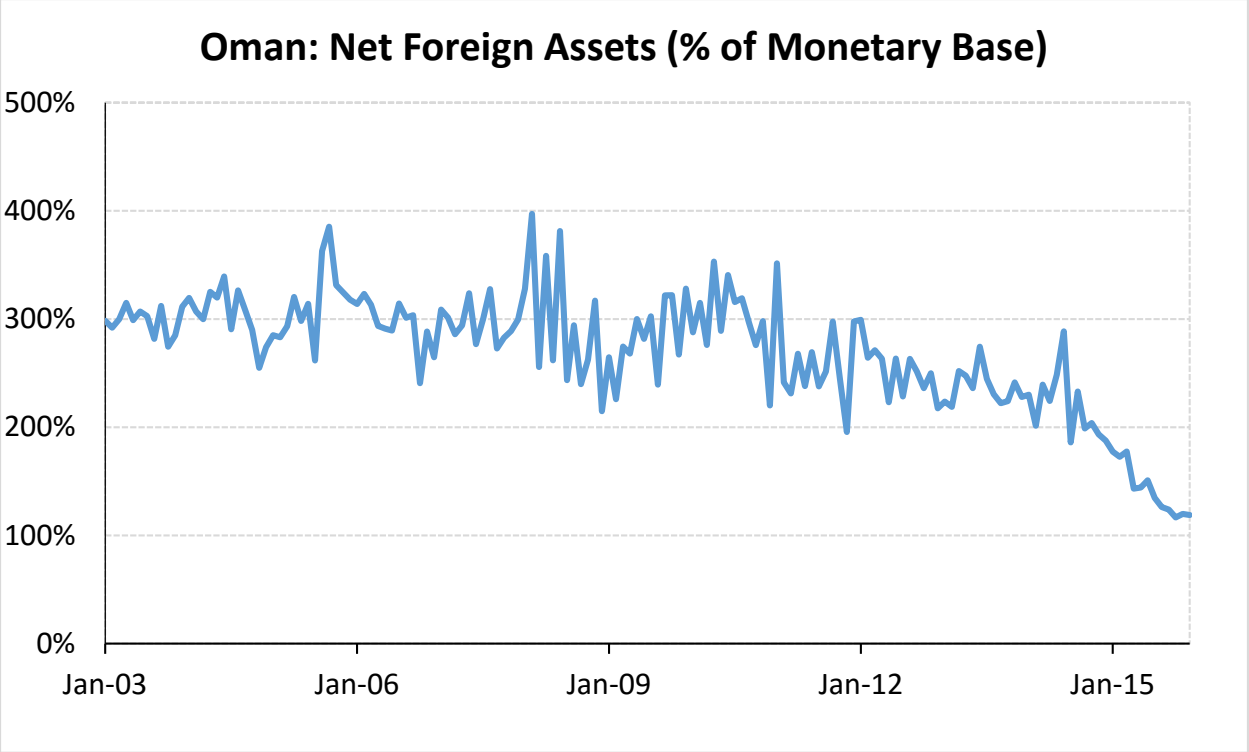


Sources: IMF International Financial Statistics and calculations

The central bank of Bahrain releases a monthly statistical report on its balance sheet, money supply and other major financial indicators, but the report does not give statistics on the monetary base of the country, or, as it is also called, "reserve money." We use the International Financial Statistics database of the IMF, whose monetary survey on Bahrain is based on Non-Standardized Report Forms (NonSRFs). Since the net foreign asset data in this survey are consistent with those released by the central bank of Bahrain, it is safe to analyze the reserve money (monetary base) statistics in this survey to calculate the net foreign assets / monetary base ratio.

We find that for most of the time since 2003, the ratio was above 100 percent. It started from a high of 240 percent, then fell within three years to somewhere around 100 percent. The ratio fell slightly below 100 percent in 2009Q3, 2011Q1 and 2015Q3, which may be the results of normal monetary fluctuations. We will examine more data later to see if Bahrain meets other criteria for a currency board.

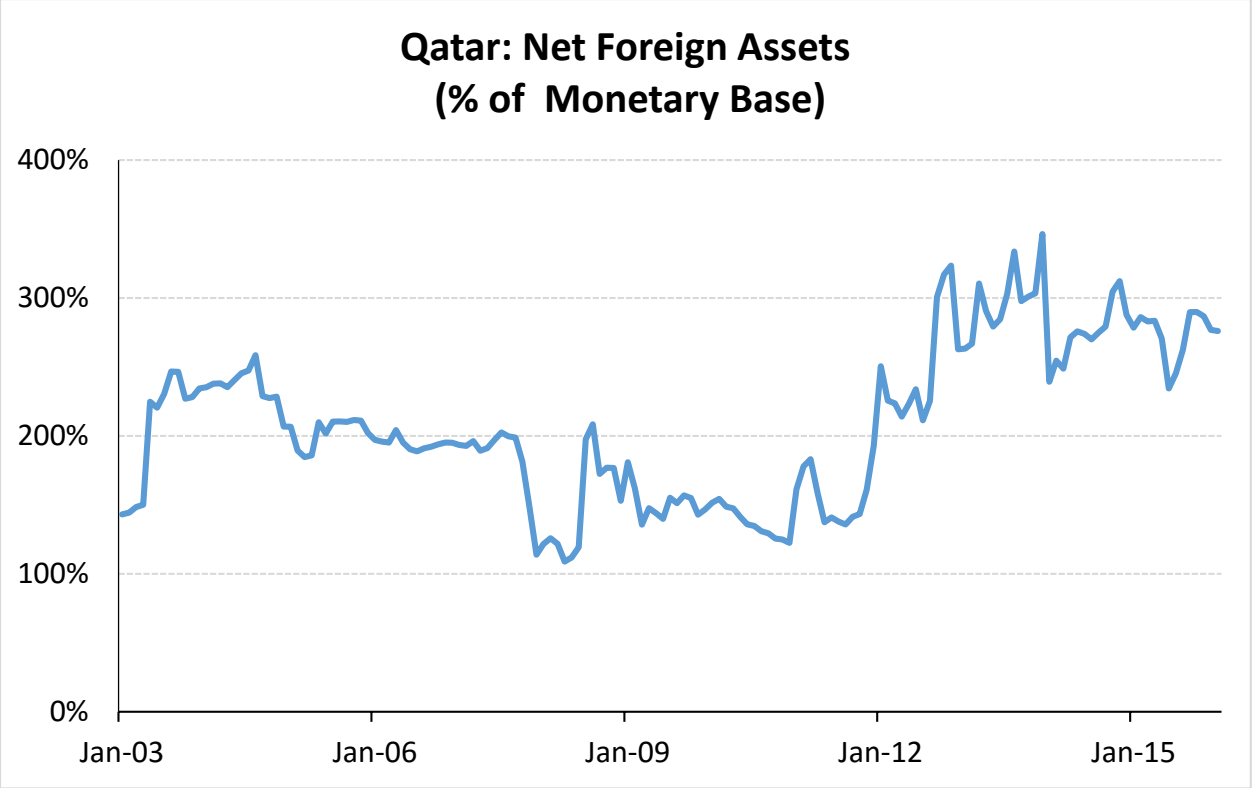
Oman



Sources: International Financial Statistics and calculations

Oman has had far larger reserves than an orthodox currency board needs to have until the last year or so. An orthodox currency board does not hold foreign reserves beyond 110 or 115 percent of the monetary base because doing so would enable it to conduct discretionary monetary policy with the excess reserves. However, for Oman and other countries where foreign reserves far exceed 100 percent, it is prudent to reserve judgment on the question of how close the monetary systems are to currency boards until other measure of performance are considered. This is because an upper limit of foreign reserves is sometimes not regarded as an essential condition for currency board orthodoxy.

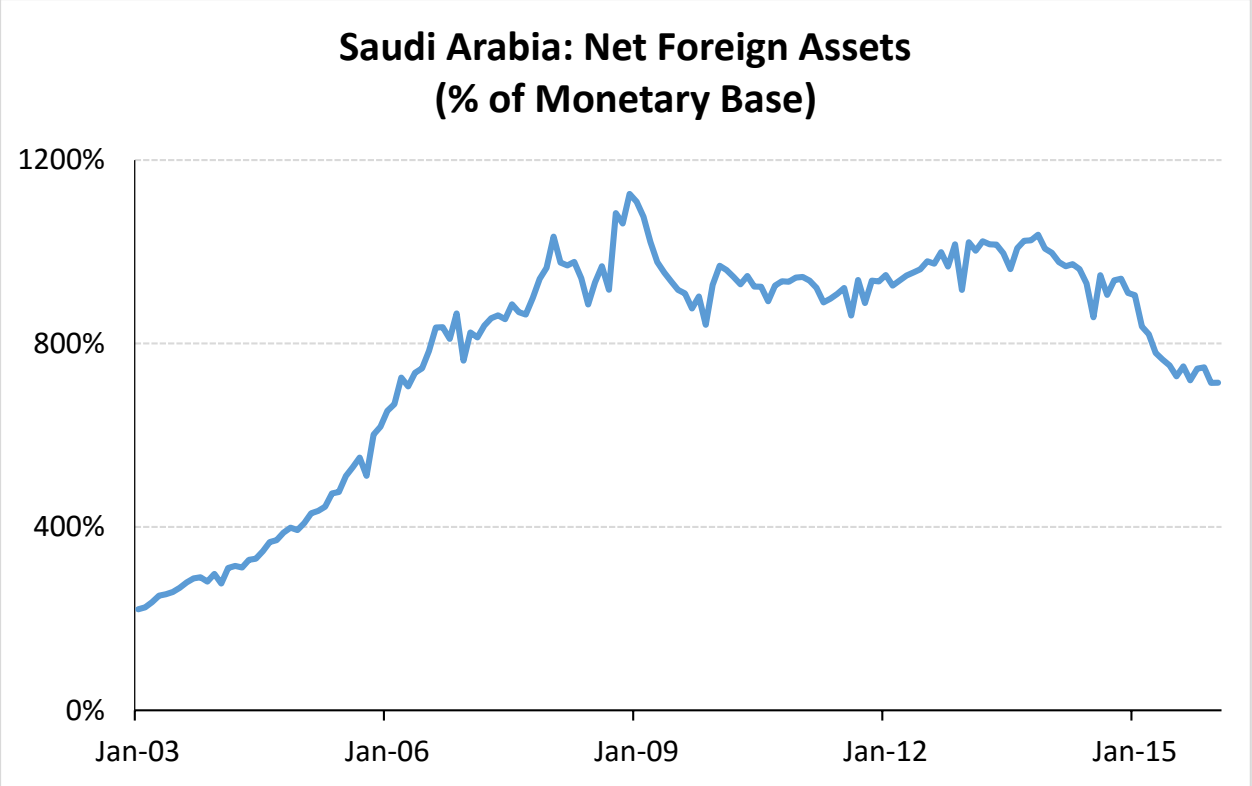
Qatar



Sources: International Financial Statistics and calculations

In the case of Qatar, the ratio of net foreign assets exhibits a more irregular pattern than in either Oman or Bahrain, yet foreign reserves always provide completely credible backing for the convertibility requirement since the ratio is always above 100 percent. The ratio is higher than 150 percent on most occasions since 2003.

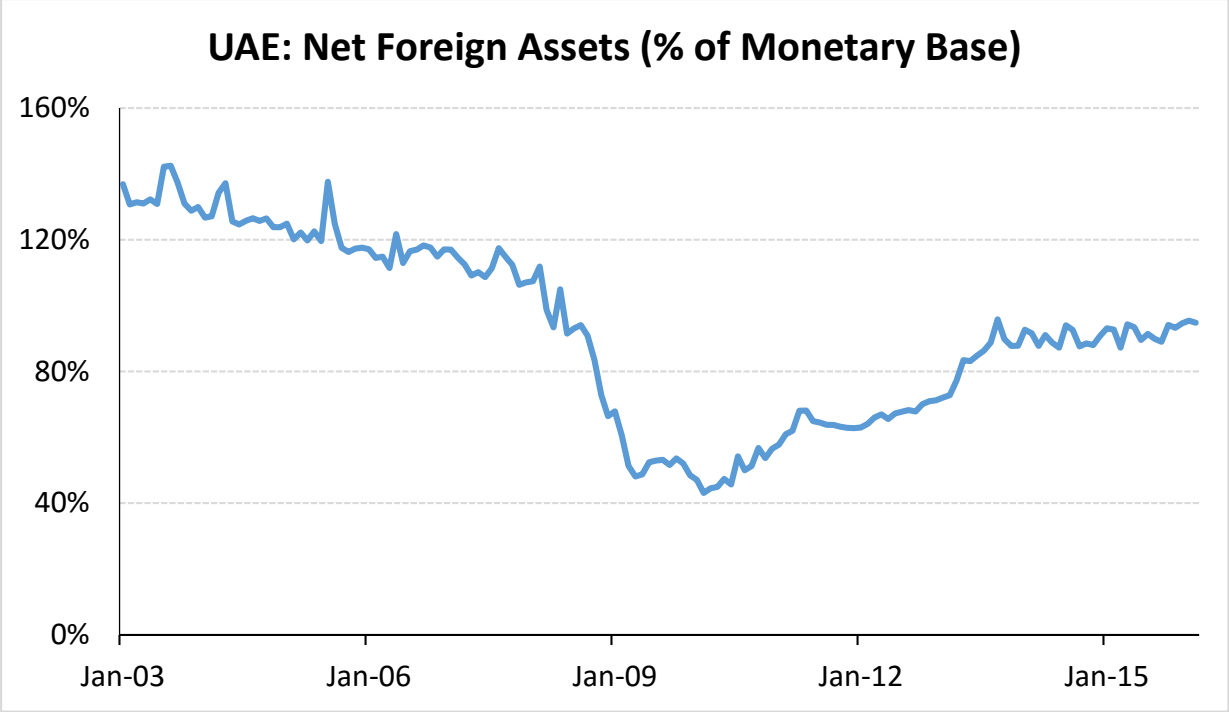
Saudi Arabia



Sources: International Financial Statistics and calculations

The net foreign assets of Saudi Arabia have long been more than its monetary base, and experienced significant growth from 2003 to 2008, reaching a peak figure of roughly 1100 percent. In other words, net foreign assets were 11 times Saudi Arabia's monetary base at that moment. Since 2009, the ratio has moderately declined to around 700 percent, still markedly higher than the requirement for an orthodox currency board.

United Arab Emirates



Sources: International Financial Statistics and calculations

Net foreign assets as a percentage of UAE's monetary base decreased from roughly 140 percent, meaning that the net foreign assets were 1.4 times the monetary base, to less than 50 percent from 2003 to 2009. This ratio rose back to around 90 percent in 2013, hovering around that level for three years. Although the UAE has a pegged exchange rate, its monetary system does not meet the 100 percent external reserve criterion of an orthodox currency board except for two periods: 2003 to 2008 and 2013 until the writing of this report in late June 2016. Again, it is prudent to reserve judgment on how close the monetary system of UAE is to a currency board until other criteria have been considered.

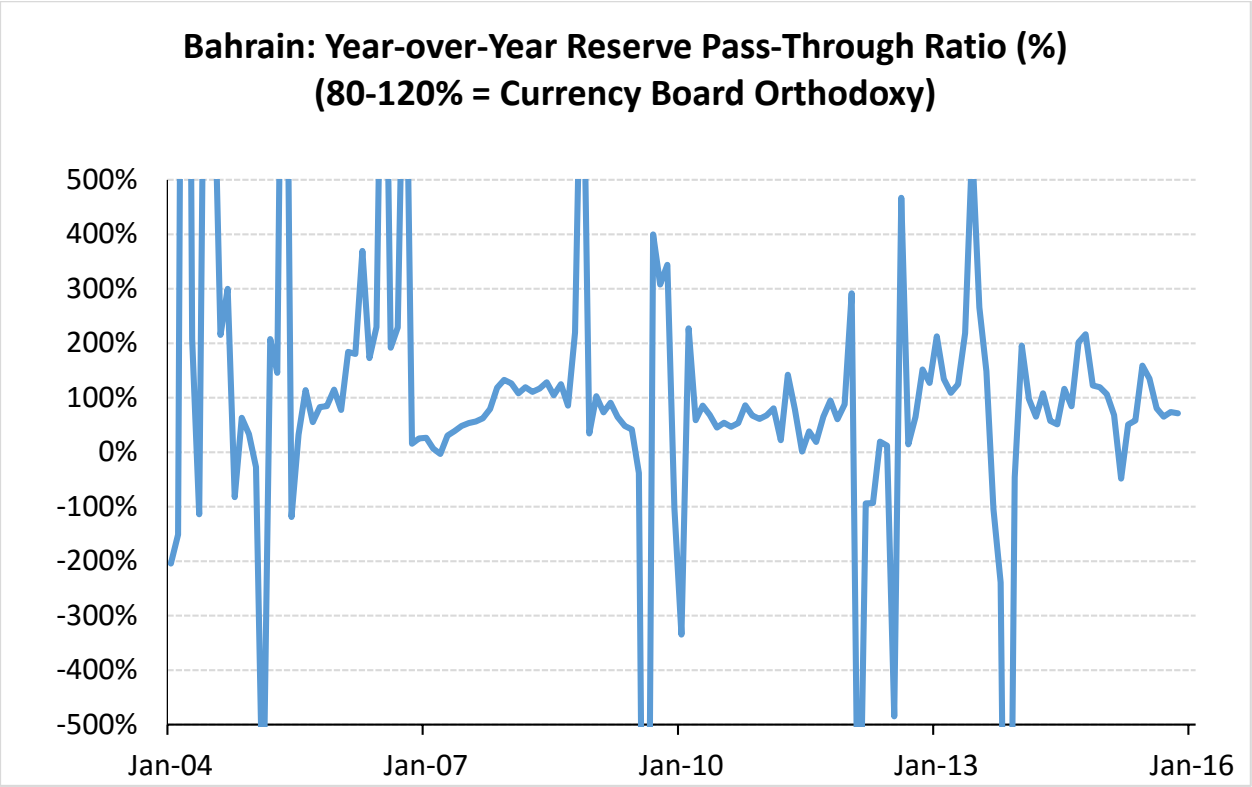
In summary, four out of the five countries we survey meet the net foreign asset ratio criterion of a currency board, while UAE meets this criterion from 2003 to 2008 and from 2013 until June 2016. Further tests are needed to determine if the other four countries meet other criteria for a currency board during the period 2003 to 2015.

A further criterion: Year-over-year reserve pass-through ratio (percent)

A fixed exchange rate and a 100 percent foreign reserve ratio imply a further criterion of currency board orthodoxy. Year-over-year reserve pass-through, which measures the annual change in the monetary base as a percentage of the annual change in net foreign assets, should typically stay between 80 percent and 120 percent for an orthodox currency board (Hanke 2008: 57), because any change in the monetary base must be accompanied by a change in the foreign reserves in order to maintain the aforementioned full backing. In practice, the accurate measurement of

reserve pass-through may be clouded by capital gains or losses on the monetary authority's assets and by irregular variations in income and expenses. With these cautions in mind, let us examine the figures.

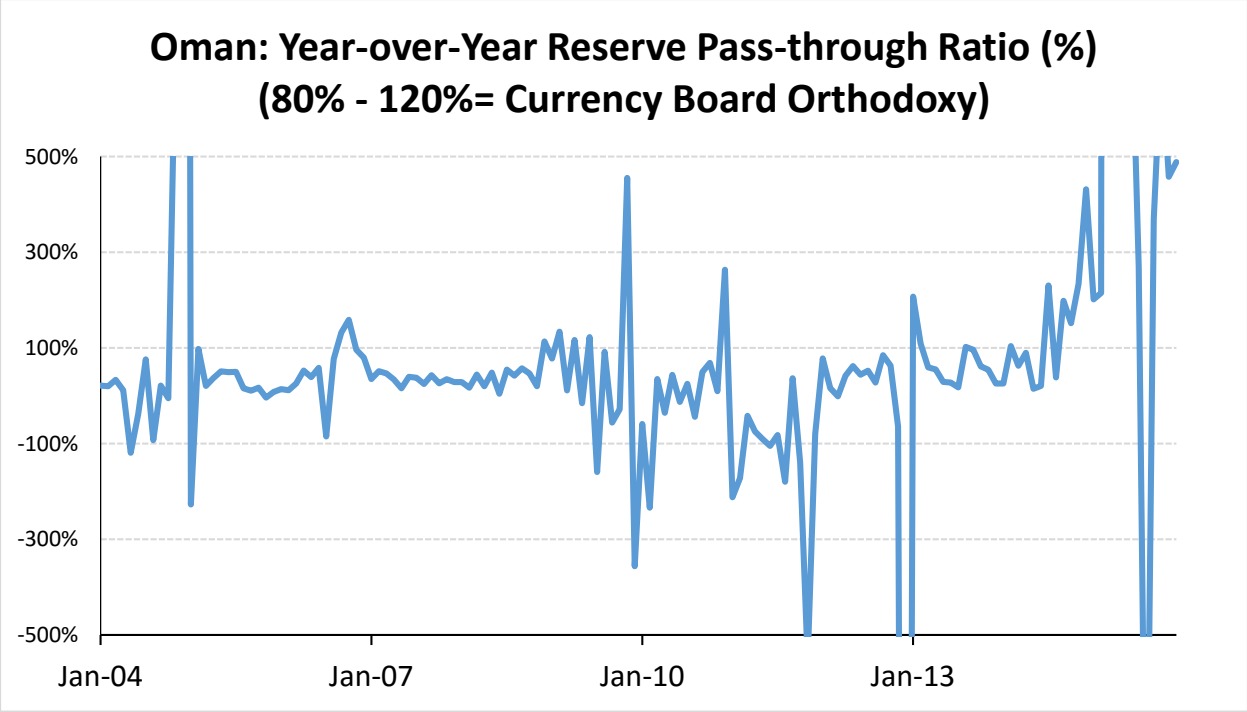
Bahrain



Sources: International Financial Statistics and calculations

Bahrain's reserve pass-through ratio has varied substantially since January 2004. It has rarely been close to 100 percent. The pattern of the pass-through ratio suggests the absence of currency board orthodoxy.

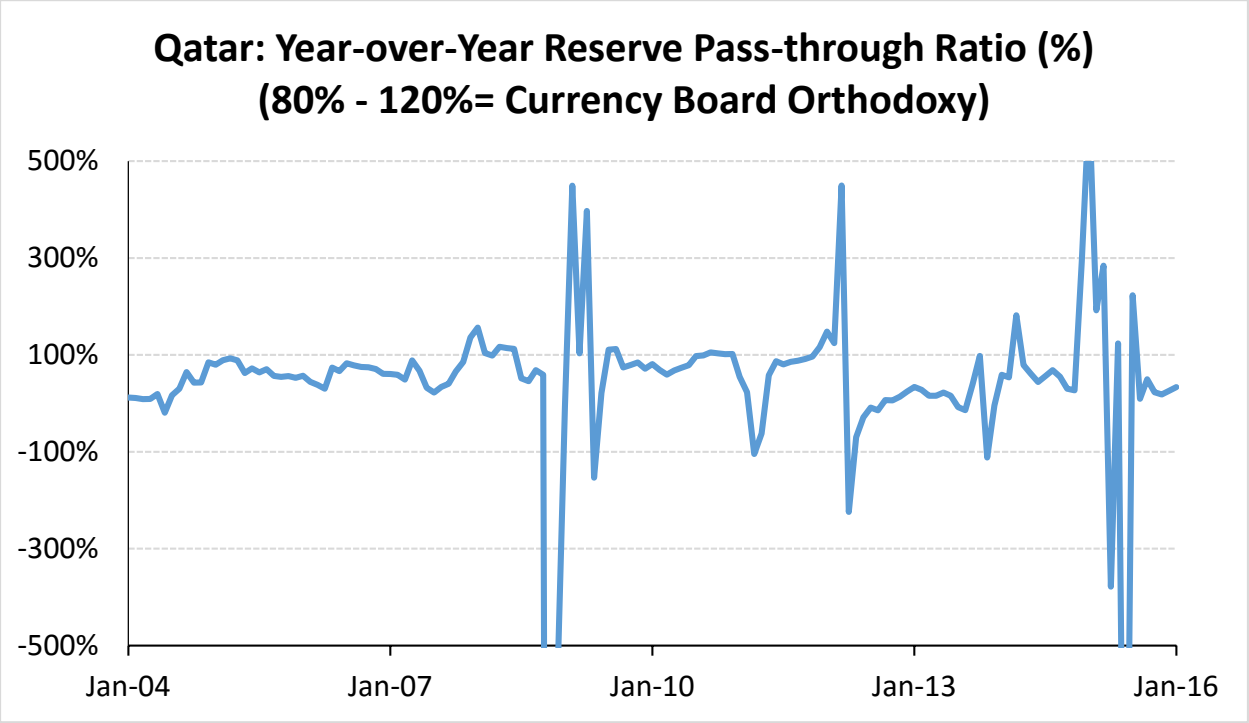
Oman



Sources: International Financial Statistics and calculations

The reserve pass-through ratio of Oman was relatively stable from 2005 to early 2008. Since then, it experienced several dramatic upturns and downturns. It does not fulfill the reserve pass-through ratio requirement of currency board orthodoxy.

Qatar

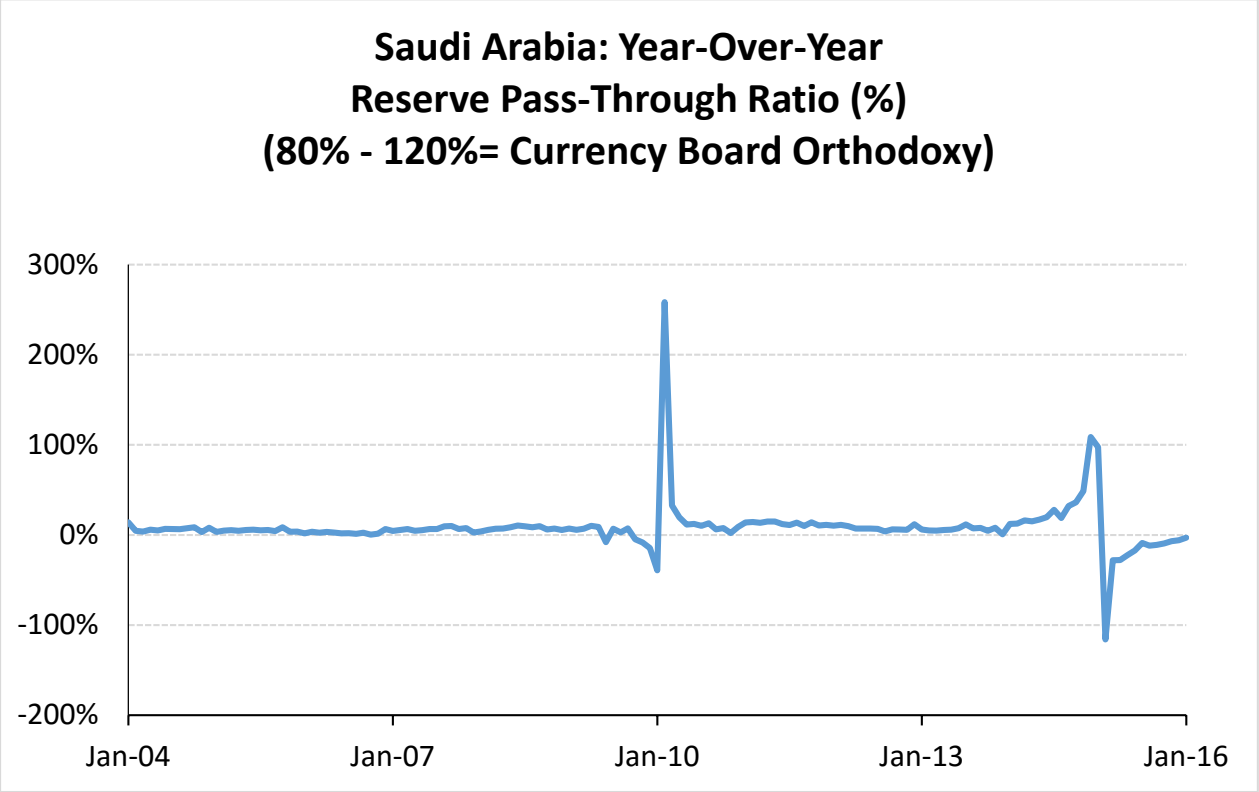


Sources: International Financial Statistics and calculations

From January 2004, the ratio only hovered around 100 percent from 2005 to early 2008 and from later 2009 to later 2010. The ratio went up and down substantially in all other quarters. Therefore, Qatar's monetary system does not satisfy the reserve pass-through ratio requirement for currency board orthodoxy as well, except for the aforementioned short periods of time.

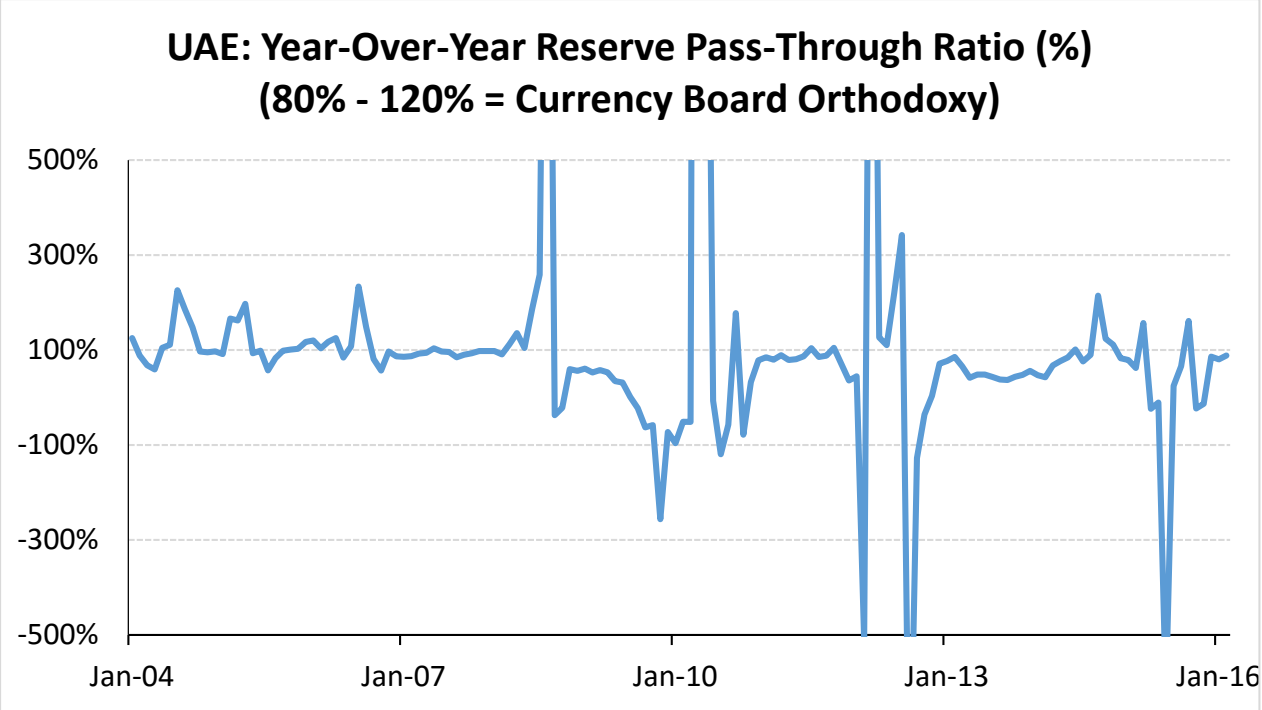
Saudi Arabia

The reserve pass-through ratio was rather stable from 2004 to 2010 compared to the ratio for the other countries examined above. In early 2010 there was a large surge in the graph as the ratio's value exceeded 250 percent. A smaller surge occurred in early 2015, when the ratio value passed 100 percent and then dropped to -100 percent. Except for this, the ratio has been stable around 10 to 20 percent. Consequently, the reserve pass-through ratio is not between 80 and 120 percent, preventing Saudi Arabia from meeting the criteria of a currency board.



Sources: International Financial Statistics and calculations

UAE



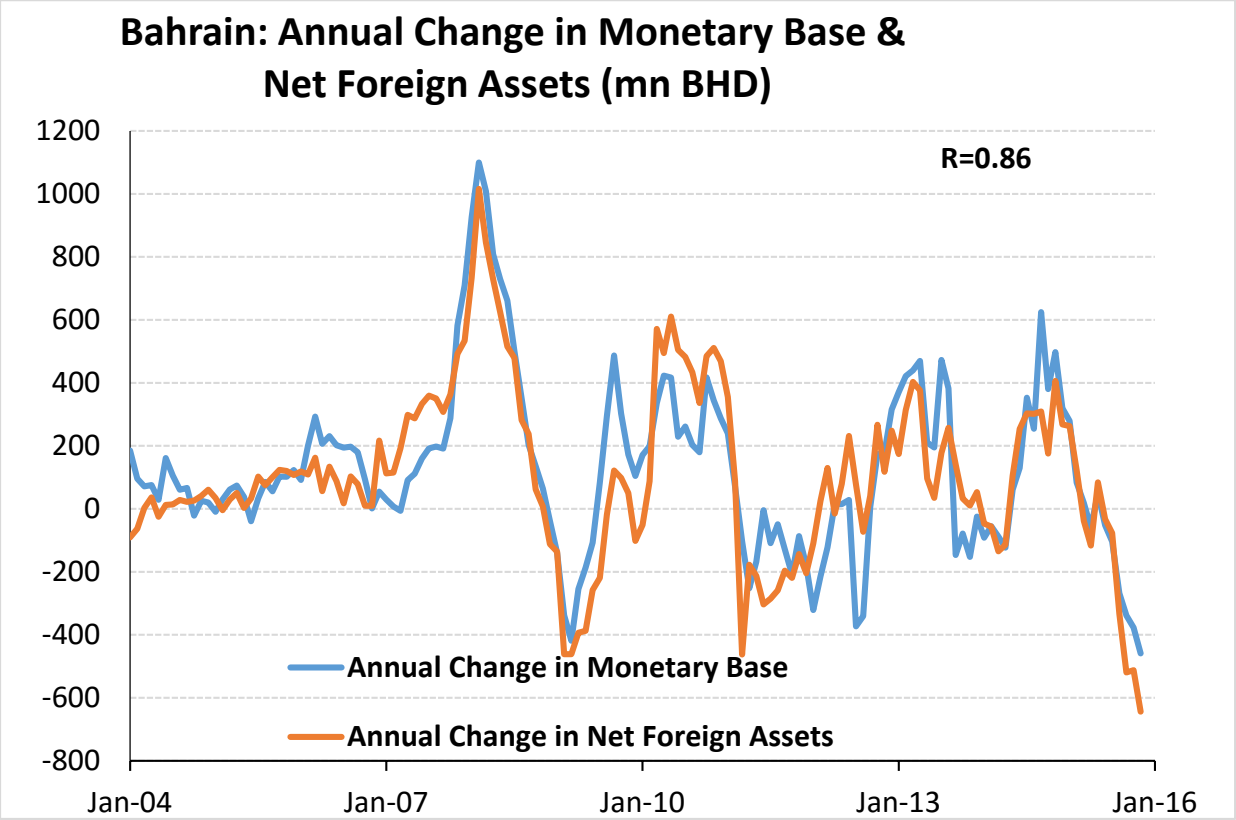
Sources: International Financial Statistics and calculations

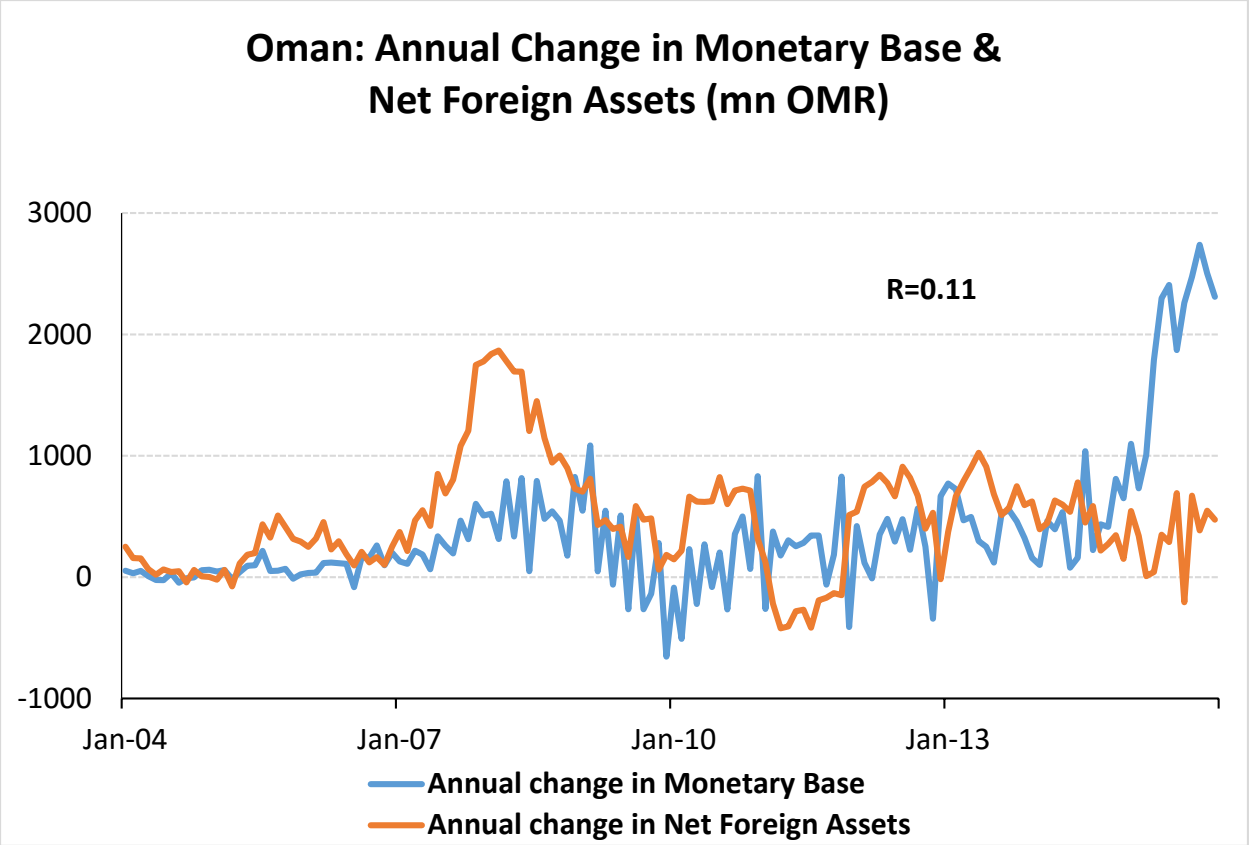
Recall that only from 2003 to 2008 and 2013 onward was the UAE's system close to a currency board based on the reserve ratio criterion. In examining the pass-through ratio in these two periods, it is evident that the ratio hasn't hovered between the 80 and 120 percent benchmarks. Therefore, the UAE does not meet the reserve pass-through criterion for a currency board.

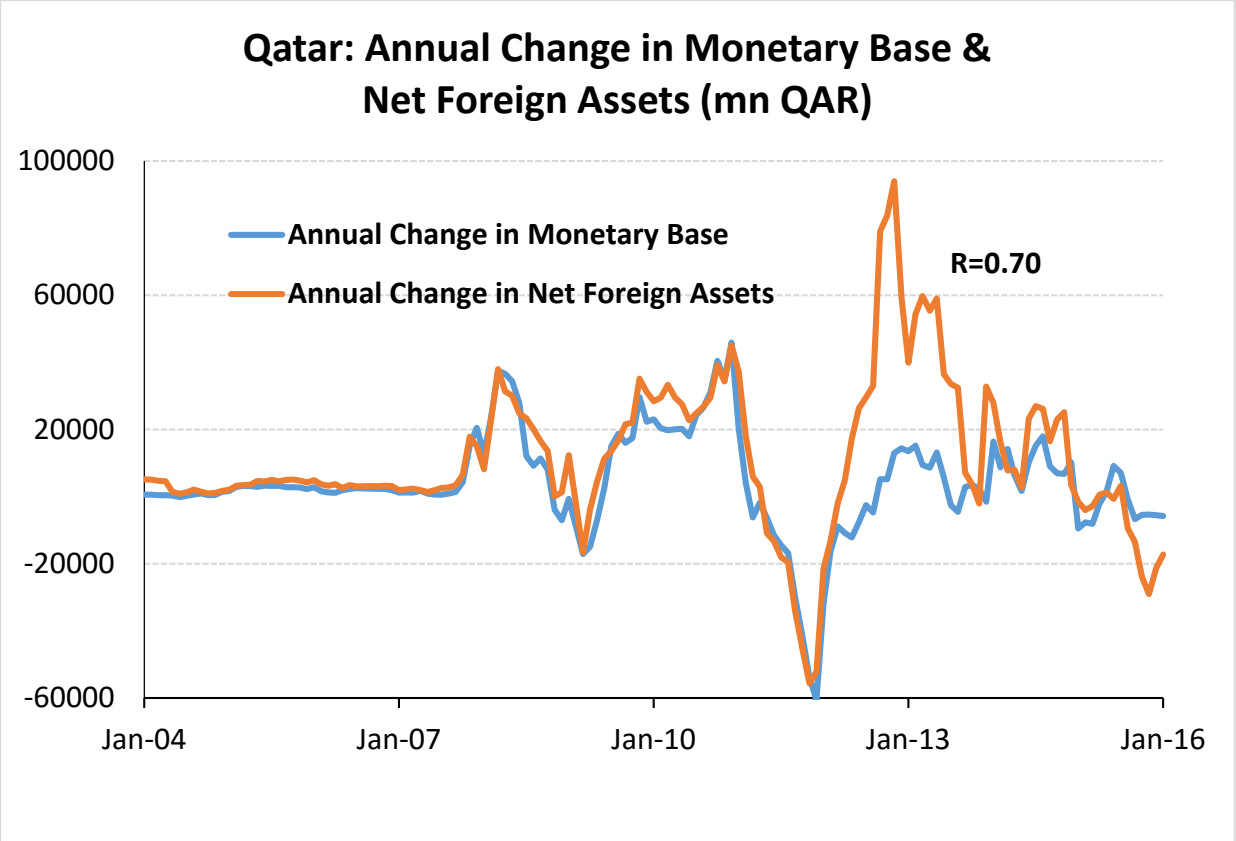
The reserve pass-through ratio analysis further suggests that none of the five countries has an orthodox currency board system. Still, they may possess some characteristics of a currency board and their systems may be considered as quasi currency boards, so a further measure of orthodoxy must be considered.

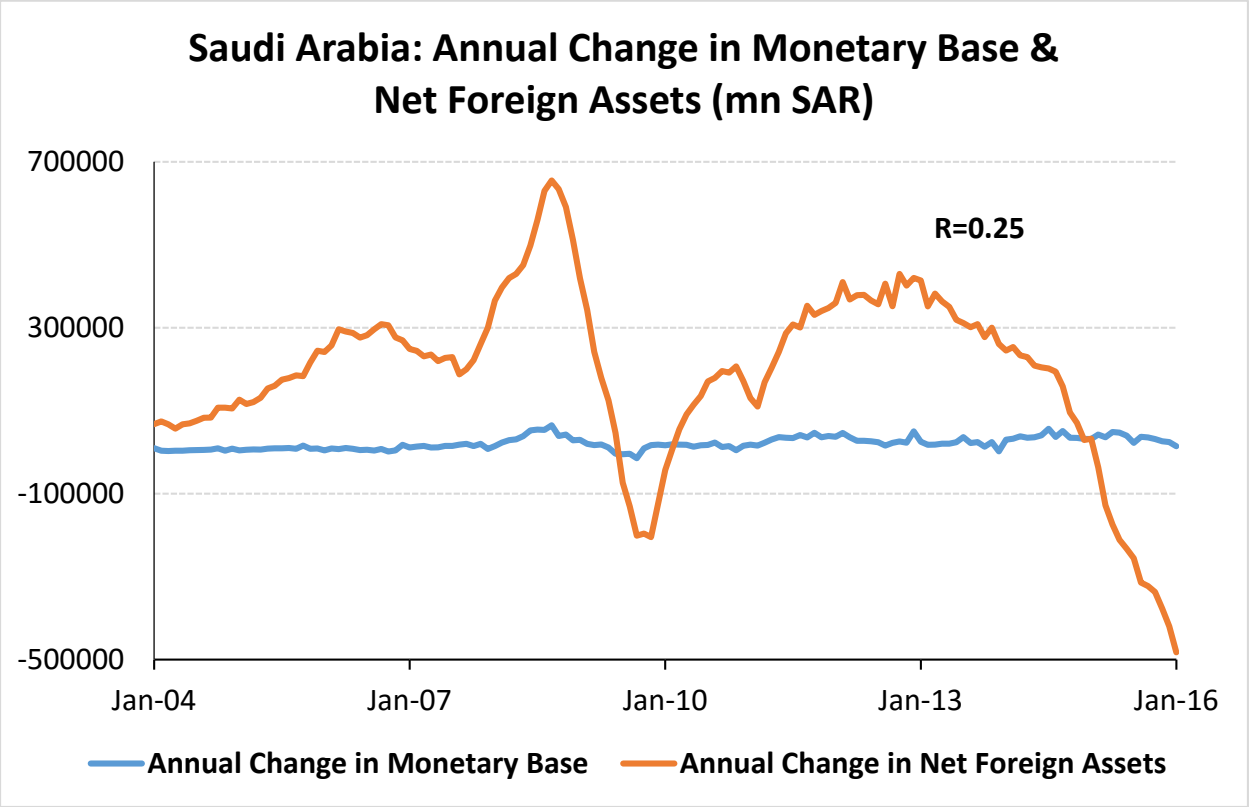
Digging deeper: Changes in the monetary base and net foreign assets

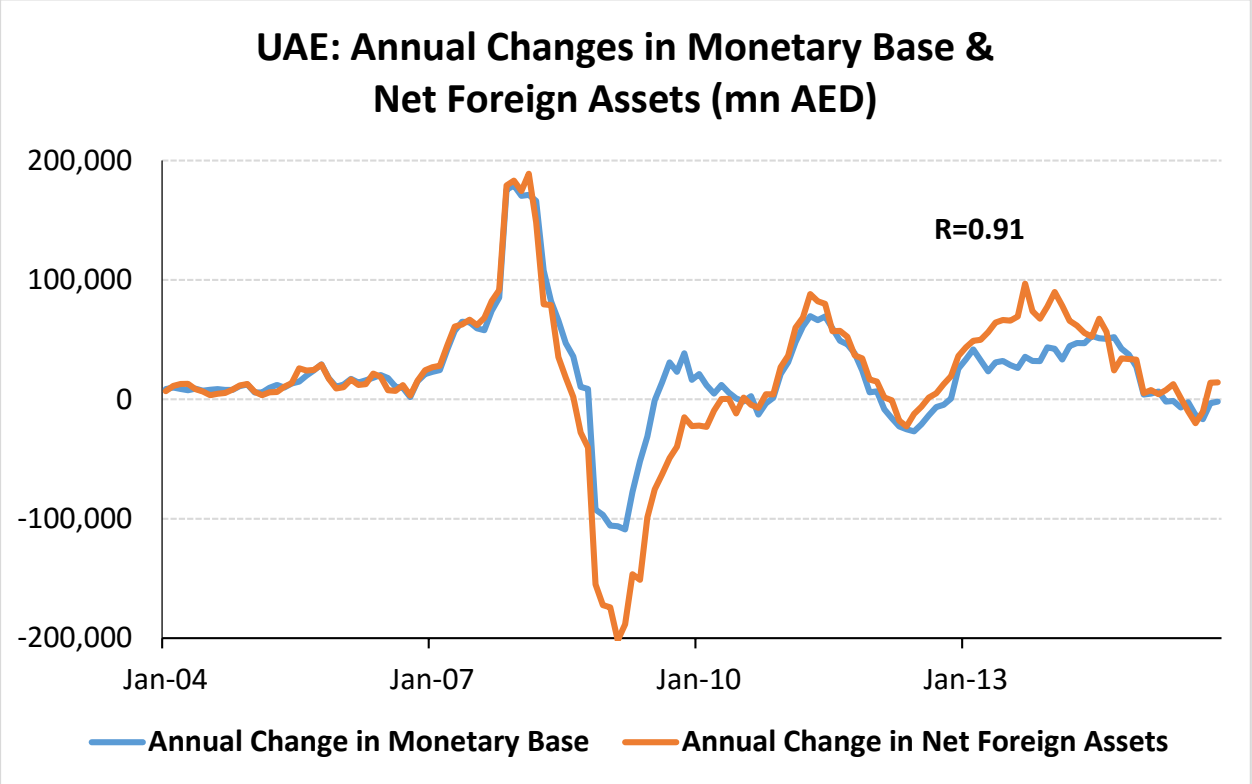
The graphs below show the underlying changes in the monetary base and net foreign assets, as opposed to the ratio of change in one to change in the other.




Oman: Annual Change in Monetary Base &
Net Foreign Assets (mn OMR)
3000
2000
1000
0
-1000
Jan-04
Jan-07
Jan-10
Jan-13
R=0.11
Annual change in Monetary Base
Annual change in Net Foreign Assets


Qatar: Annual Change in Monetary Base &
Net Foreign Assets (mn QAR)
100000
60000
20000
-20000
-60000
Jan-04
Jan-07
Jan-10
Jan-13
Jan-16
Annual Change in Monetary Base
Annual Change in Net Foreign Assets
R=0.70





Sources: International Financial Statistics and calculations

These graphs may clarify the reason why the reserve pass-through ratio behaved in such a volatile way for all the five countries. One cannot ignore that, excluding some significant divergences, it is evident that net foreign assets and the monetary base are moderately correlated, especially in the case of Bahrain, Qatar and UAE. In Qatar, foreign reserves have been tracking the monetary base tightly for more than a decade except for the period from 2012 to 2014, when annual change in foreign reserves surpassed annual change in monetary base by far. More interestingly, during the same period of time UAE also experienced a surge in foreign assets, as could be evidenced by its graph. The correlation coefficient of these two variables, denoted "R" in the graphs, has been calculated for each country. UAE, Bahrain and Qatar have much higher coefficient figures, 0.91, 0.86 and 0.70 respectively, demonstrating a higher level of correlation between their monetary base and net foreign assets.

It should be noted that Saudi Arabia's graph is completely different from all the others in the sense that it has a much higher level of foreign reserves compared to the monetary base. This is the result of the government accumulating savings over the years. The foreign reserves have been decreasing since 2015, as oil prices have dived, and it is likely that the country used its foreign reserves to support its currency in 2015. One-year dollar/Saudi riyal forwards jumped as high as 305 points, its highest level since March 2003, because of the oil price slump and the forecast that the U.S. interest rate would rise in the near future (Reuters 2015).

Conclusion

Country	Rigid exchange rate by law	Rigid exchange rate de facto	Full converti-bility	Minimum foreign reserve ratio by law	Foreign reserves / monetary base > 100%	Foreign reserves / monetary base not greatly > 100%	Reserve pass-through ratio ≈ 100%	Monetary authority not allowed by law to lend
Bahrain	Y	Y	Y	Y	Y	Y	N	N
Oman	Y	Y	Y	N	Y	N	N	N
Qatar	N	Y	Y	Y	Y	N	N	N
Saudi Arabia	N	Y	Y	N	Y	N	N	Y
UAE	N	Y	Y	Y	N	N	N	N

This paper examined five countries in the Gulf Cooperation Council—Bahrain, Oman, Qatar, Saudi Arabia and the United Arab Emirates—and evaluated the similarities between their monetary systems and an orthodox currency board. Several tests that measure currency board orthodoxy were applied to the five countries - the table summarizes the results. Though only Bahrain and Oman have central bank laws that specify rigid exchange rates, UAE and Qatar have Union or Royal Decrees that specify the exchange rates and more importantly, all five countries have rigid exchanges rate de facto against the U.S. dollar. Except for UAE, the remaining countries have foreign reserves consistently equal to or exceeding the monetary base. However, none of the five countries fulfilled the pass-through ratio criterion and, with exception of the UAE, all are allowed to lend. Consequently, none of the monetary authorities demonstrate all the characteristics of an orthodox currency board, though they have some characteristics of quasi currency boards. The country that most closely resembles an orthodox currency board system is Bahrain, which fulfills six out of the eight requirements for currency board orthodoxy listed in the table above. The United Arab Emirates, satisfying only three out of eight requirements, has the least currency board-like system among the five countries.

Appendix: spreadsheet workbook

The accompanying spreadsheet workbook contains all the data, calculations, and graphs that were used in this paper.

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