THE PHILIPPINE REVIEW OF ECONOMICS
Vol. L No. 1, June 2013 pp. 1–22

Gross international reserves: accumulation, management, and relation to debt

Luis Dumlao
Ateneo de Manila University

This paper narrates pertinent lessons learned from financial crises and how countries have responded to them. With lessons learned comes the reaction to accumulate gross international reserves (GIR). A strength-weakness-opportunity-threat (SWOT) assessment of the present level of GIR of the Philippines is presented. The GIR is also juxtaposed with the debt of the Philippines. It provides insight into whether the debt of the Philippines is more external or internal, and whether it is a problem at all. With the continuing accumulation of debt, its level may have reached the point of excess. The consideration is whether to shift from passive liquidity management to active investment seeking, external debt management, or active inclusion.

JEL classification: F31, F34
Keywords: gross international reserves, diversification, management

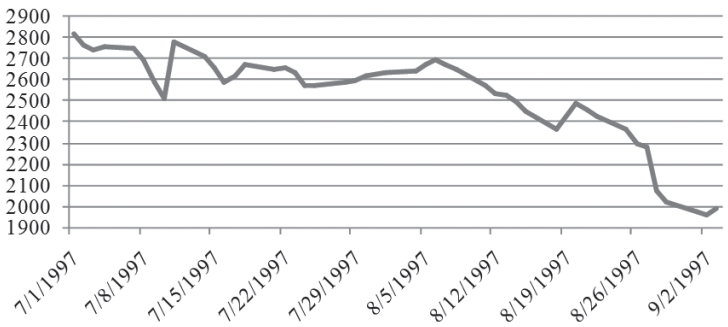
1. Lessons learned from financial crises

Much has been learned from financial crises in recent history. One lesson is about the general pattern of flow of finance in the beginning of crises. Financial crises begin with the fall in confidence and the rise of fear in the market, regardless if these are the results of economic fundamentals or speculation. As a result, investors rush to get rid of and sell assets in the domestic market, causing prices to plunge. The Philippines in the 1997 Asian financial crisis is typical. As shown in Figure 1, the Philippine Stock Exchange's (PSE) composite index (Phisix) suffered four consecutive days

of loss from 7 to 10 July, a decrease of 9.4 percent.[1] On the next day, the Phisix gained by 10.2 percent, which was the highest single-day gain in history. But this was followed by three consecutive days of loss, a decrease of 7.2 percent.

As investors sell their assets in Philippine peso (PHP), they rush to use their pesos to buy US dollars (USD), causing the PHP to depreciate. On 11 July, the Philippine Dealing System opened at 8 a.m. with a reference rate of PHP 26.4 per USD, but abruptly closed at 8:40 a.m. after the exchange rate went to PHP 29.45 per USD with a weighted average of PHP 28.08 per USD (*The Philippine Star*, 12 July 1997). Note that the official exchange rate as indicated in data was PHP 26.4 per USD. Figure 2 shows that on 15 July, the Bangko Sentral ng Pilipinas (BSP) succumbed to market forces and allowed the PHP to depreciate officially vis-à-vis the USD by 8.4 percent.The change represented the biggest depreciation since 19 February 1986 in the heat of the first EDSA People Power Revolution.

Figure 1. Philippine composite index (1 July 1997–2 September 1997)



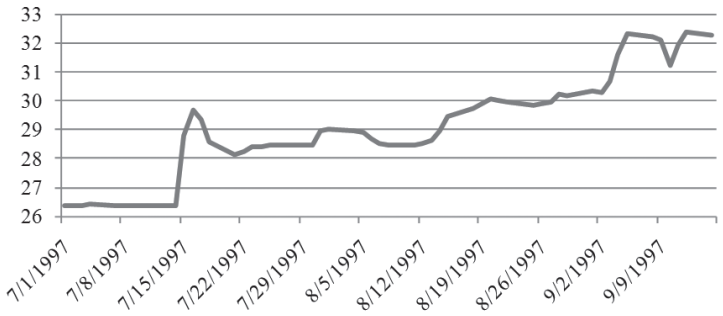
Source: Philippine Stock Exchange.

The rapid plunge in values of domestic assets reinforced another fall of confidence and fear, which ultimately created another round of plunge. In the case of the Philippines from 7 to 18 August 1997, the Phisix suffered eight consecutive trading days of loss, which meant a decrease of 12.9 percent as it reached its lowest point in 20 months. In that same period, the PHP depreciated by 4.3 percent. The next trading day that was 20 August, the foreign exchange rate exceeded PHP 30 per USD for the first time in history. From 22 August to 2 September, the Phisix suffered nine consecutive trading days of loss, a decrease of 24 percent, as it reached its

[1] Note that all percentages in this paper are the first difference of the natural log.

lowest point in 48 months. Three days after, or on 5 September, the foreign exchange rate exceeded PHP 32 per USD for the first time in history.

Figure 2. Foreign exchange rate, PHP per USD (1 July 1997–2 September 1997)

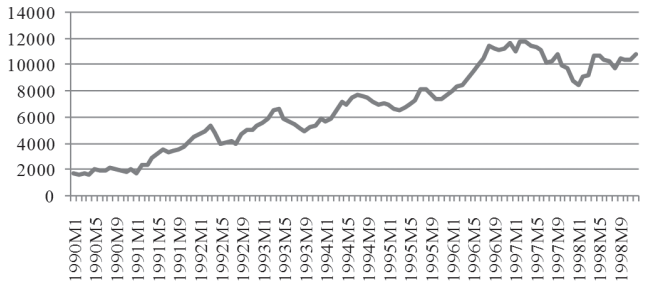


Source: Bangko Sentral ng Pilipinas.

The fall of confidence and anxiety leading to market plunge destabilize the domestic currency. As in the case of the PHP, from the year after the energy crisis of 1992 to 14 July 1997, the average exchange rate was PHP 26.21 per USD, with standard deviation of PHP 1.00 and correlation coefficient of 4 percent. From 15 July to 31 December 1997, the average exchange rate was PHP 33 per USD, with standard deviation of PHP 3.07 and correlation coefficient of 9 percent. On the heels of the financial crisis was the economic crisis. The effect of the financial crisis on the real economy is beyond the scope of this paper; the effect is documented in Milo [2002], among others.

Another lesson from financial crises is how a government could intervene to prevent the collapse of its national currency. The massive buyoff or massive increase in demand for the foreign currency is the mechanical cause of the national currency's sudden depreciation. So mechanically, massive demand can be offset by massive supply to prevent depreciation. This is where the GIR comes in. A central bank can sell its GIR to offset the massive buyoff. As in the case of the Philippines, official data from the BSP indicate that the GIR as of end of June 1997 was USD 11.190 billion. As of 11 July, the GIR was down to about USD 10 billion (*The Philippine Star,* 12 July). The decrease of over USD 1 billion amounted to a loss of about 10 percent—all in less than two weeks. In supplying and therefore depleting so much USD in the foreign exchange market, the BSP up to 11 July successfully defended the PHP, keeping the exchange rate fixed at PHP 26.4 per USD.

Figure 3. Gross international reserve (1990–1998)



Source: Bangko Sentral ng Pilipinas.

Note: Figures in million USD.

However, central banks will sell only up to how much they can afford or are willing to deplete the GIR. Figure 3 shows the case of the Philippines' GIR. For more than seven years, the BSP had accumulated GIR from USD 2 billion to USD 12 billion, with an average of 8 percent growth per year. In only 11 days of the Asian financial crisis (from 1 to 11 July), it contracted by 10 percent. From January 1992 to June 1997, the GIR grew by more than 10 percent in 49 out of 66 months, and declined in only 7 out of 66 months. From July 1997 to June 1998, the GIR declined for 12 consecutive months. From June 1997 to January 1998, the GIR fell by 27 percent from USD 11.2 billion to USD 8.5 billion—a decline of USD 2.7 billion.

These indicate how much additional supply of USD was there to mechanically offset the surge in demand. But the fact that the PHP continued to depreciate indicates that the additional supply of USD was not enough to offset demand. In hindsight, the BSP would have been able to sell more if the GIR was bigger. From a policy point of view, the BSP must accumulate more GIR so that it would be able to sell more and therefore defend the national currency. As per Calvo, Izquierdo, and Loo-King [2012], this lesson learned from financial crises "gave strong incentives to self-insure by accumulating International Reserves" for emerging markets like the Philippines.

The accumulation of GIR of several nations after the crises in recent history is understandable. Sourced from the BSP,[2] Table 1 shows the GIR of several Asian nations in 1999 and in 2012. The least accumulation in terms

[2] Taken from http://www.bsp.gov.ph/statistics/spei_new/tab61h.htm.

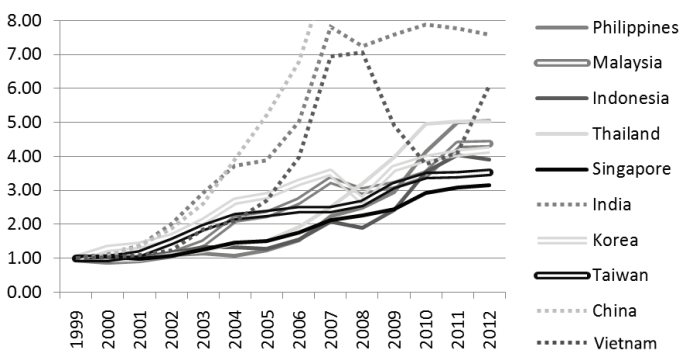
Table 1. Gross international reserves of Asian countries (in million USD)

	1999	2012:Q2	GIR2012/GIR1999
Philippines	15,064	76,130	5.1
Malaysia	30,645	134,200	4.4
Indonesia	27,257	106,502	3.9
Thailand	34,781	174,689	5.0
Singapore	77,047	243,383	3.2
India	35,069	266,280	7.6
Korea	74,054	310,332	4.2
Taiwan	111,061	391,235	3.5
China	158,336	3,262,480	20.6
Vietnam	3,423	20,831	6.1
Total	566,737	4,986,062	8.8

Source of country specific GIR: BSP. The rest are author's calculations.

of factor is that of Singapore, increasing by 3.2 times, although it had one of the higher levels from the start. The greatest is that of China, increasing by 20.6 times. That of the Philippines increased more than fivefold, or 5.1 times. Summed together, GIR increased by 8.8 times. Figure 4 illustrates how the countries accumulated their GIR through the years; note that the GIR are indexed to base year 1999. The accumulation is not unique to the Philippines. Similarly, the accumulation is not a strategy unique to the Philippines but one undertaken by many as a result of the common lesson learned from past financial crises. The accumulation of reserves represents "the region's self-insurance against currency crisis" [Park and Estrada 2010].

Figure 4. GIR accumulation (1999–2012)



Source of raw data: BSP. The rest are author's calculation. Base GIR_{1999} is indexed to 1.

2. SWOT assessment of the gross international reserve

SWOT, or "Strengths-Weaknesses-Opportunities-Threats", is a type of analysis that looks into the situation and from there create strategic possibilities. As a referee of this journal rightly points, SWOT analysis is not common in economic literature, and for good disciplinal reason. For example, SWOT analysis cannot explain the political, social, and much less economic rationale why central banks accumulated so much reserve. Hence, this paper does not use SWOT per se but a short narrative from the previous section to explain the accumulation of reserve. Moreover, SWOT cannot formulate some sort of optimal reserve or optimal proportions of domestic, dollar, and other currencies to diversify. This paper leaves the formulation of the optimal proportions to others (e.g., the paper of Calvo, Izquierdo, and Loo-Kung [2012] and the Greenspan-Guidotti rule). Still, SWOT is commonly used in assessing one's business position and envisioning possibilities. While GIR is not a business, it is a reserve that needs assessment.

Table 2 is the SWOT perspective of the GIR.

Table 2. SWOT perspective of the USD 81 billion GIR

	Strength	Weakness
Opportunity	USD 81 billion. Strength in volume Opportunity to insure stability	Diversification? Weakness in diversification? Opportunity to diversify
Threat	USD holdings Strength of USD Threat of US debt	Diversification? Weakness in diversification? Threat: nowhere to diversify

2.1. Strength and opportunity

With accumulation of the GIR as an asset comes the task of managing it. Consider the S-O quadrant. The August 2012 USD 81 billion is "strength" in its sheer level. The amount is 35 percent over the USD 60 billion external debt of the Philippines[3] and almost twice as much as the USD 43 billion external debt of the national government. The BSP records show that the short-term external debt cover on original maturity[4] was 1,050. If one adds all the debits (not including credits) of the 2011 balance of payments report

[3] That is all external debt including private and government.

[4] This refers to the "adequacy of reserve to cover outstanding short-term external debt based on the original maturity plus principal payment on medium- and long-term loans of the public and private sectors falling due in the next 12 months".

of the BSP, it comes to USD 38.803 billion; the GIR is just more than double (2.08) that amount. The BSP records that the import cover (defined as the "number of months of average imports of goods and payment of services and income that can be financed by reserve") was 11.61.

The USD 81 billion is also an "opportunity". A sudden negative sentiment is unwanted. But if it happens, the level of GIR would provide the BSP the opportunity to save the financial markets from getting into a crisis. In fact, the BSP might have already saved the financial markets as recent as September 2011. Consider Figure 5. Raw data of nominal foreign exchange rate and the Phisix are taken from the BSP and PSE, respectively. The raw data are then indexed to unity on 1 September where a downward trend means depreciation of the PHP and fall of the Phisix. Prior to 20 September, the financial markets were relatively stable. Without any unique event,[5] the Phisix suffered five consecutive trading days of loss, which meant a decrease of 15 percent.

Yet the PHP did not depreciate as dramatically. Figure 5 shows that the nominal exchange rate of the PHP per USD did not change by more than 5 percent from the beginning to the end of September 2011. There are several probable reasons for this. First, had there been a surge in demand for foreign currency, the BSP would have used the GIR to avoid a dramatic depreciation of the PHP. Second, given the level of GIR, there was no panic but, rather, confidence that the BSP was going to be able to defend the PHP. Beginning 28 September, the Phisix recovered for three consecutive trading days amounting to 7 percent, and lost for the next three consecutive days amounting to 4 percent. It appeared to go through a transitional oscillation before reverting back to levels before 20 September. What could have been the beginning of a financial crisis was averted by the USD 81 billion reserve in September 2011.

2.2. Weakness and opportunity

Consider the W-O quadrant of Table 2. The diversification of the GIR is a "weakness" (with a question mark) because of the lack of specific data. The BSP does not disclose its precise diversification. It is also "opportunity" because there is always room for examination and improvement. Table 3 shows the proportional breakdown of the GIR. The equivalent amount of

[5] For example, some said that the fall had to do with the debt crisis in Greece. But the crisis had been there and had not shown dramatic improvement or worsening months before and in September up to November.

Table 3. Allocation of gross international reserves (as of August)

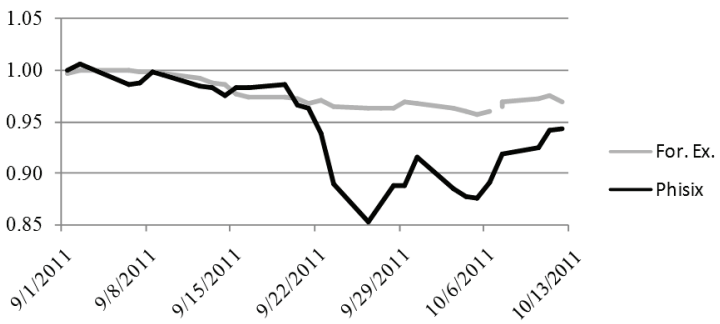
	(in million USD)			Share*		
	2010	2011	2012	2010	2011	2012
Reserve position in the fund	132	459	524	0.00	0.01	0.01
Gold	7,057	7,553	10,552	0.14	0.10	0.13
SDRs	1,098	1,171	1,264	0.02	0.02	0.02
Foreign investments	41,306	66,501	67,589	0.83	0.87	0.84
Foreign exchange	312	343	848	0.01	0.00	0.01
GIR	49,906	76,028	80,777			

Source: Bangko Sentral ng Pilipinas.

*Author's calculation.

USD 848 million or 1 percent is in foreign exchange. Taking the daily volume of trade according to the Philippine Dealing and Exchange Corporation (PDEX), the average is about USD 1 billion. The USD 848 million is 85 percent of that, which is enough to affect the foreign exchange market on a daily basis. A significant proportion of the other components of the GIR is liquid. Thus the USD 848 million is an underestimated indicator of how the BSP can instantaneously affect the market on a daily basis.

Figure 5. Financial markets (September 1–October 13, 2011)



The equivalent amount of USD 1.264 billion, or about 2 percent of the GIR, is in special drawing rights (SDR). The SDR, created by the International Monetary Fund (IMF), is an artificial asset whose value is composed of selected currencies and serves as a numeraire for the said currencies. With the SDR accounting for 5 percent of global reserves [Eichengreen 2011:138], 2 percent is relatively conservative. But conservatism has its reasons. Because nobody in the private sector uses SDRs, there is less reason for the BSP—in fact, for central banks in general—to diversify more into it. Finally, because nobody in the private sector uses it, there is no market for

it. So in actuality, the SDR can be used by governments particularly when crediting and debiting through the IMF, but it cannot be used by private agents.

The equivalent of USD 10.552 billion, or about 13 percent of the GIR, is gold reserves. In 1913, gold accounted for 70 percent of central banks' international reserve; but these days only 10 percent of the international reserve of all central banks in the world is in gold. Thirteen percent of the GIR of the Philippines is diversified in gold. Hence, the Philippine GIR's proportion of gold is just slightly higher than the rest of the world. Table 4 shows the gold reserve of selected major economies of the world. The Philippines turns out to be more aggressive on gold than the likes of Japan and Russia. But the Eurosystem is astonishingly aggressive, with USD 533 billion of its USD 853 GIR kept in gold. There are three possible reasons. First, there might be something unique to the Eurosystem that calls for aggressive measures. Second, the Europeans are seeing something that the likes of the Philippines do not see. Third, they are committing a mistake. This provides the Philippines the opportunity to reexamine the policy of diversifying into gold.

Table 4. Gross international reserves of selected economies

	GIR (trillion USD)	Foreign currency	Gold
Japan	1.134	1.061	0.037
Russia	0.525	0.472	0.041
Eurosystem	0.853	0.213	0.533

Source: International Monetary Fund.

Note: Figures are author's estimate and in USD only.

The largest portion of the GIR is in foreign investments. In the last three years, the proportion has been 83 percent, 87 percent, and 84 percent and now amounts to USD 67.589 billion. An issue of interest to this paper is the currency denomination of the foreign investment component of the GIR. According to the US Department of Treasury,[6] the Philippines as of July 2012 is the 23rd biggest sovereign holder of treasury securities amounting to USD 36.7 billion. By conjecture, most if not all of the USD 36.7 billion is owned by the BSP. The implication is that roughly

[6] See: http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfh.txt

and at least 54 percent of the foreign investment component of the GIR—and that at least 45 percent of the GIR—is USD denominated. Not much more is known of the currency denomination of foreign investment; the BSP does not disclose this type of data, although it is suspected that the USD has the biggest proportion. Hence, it is "weakness" with a question mark.

2.3. Strength and threat

Consider the S-T quadrant of Table 2. Having so much foreign investment in USD denomination is "strength". It gives the Philippines the power to purchase the most essential of commodities. For example, the Organization of the Petroleum Exporting Countries (OPEC) continues to price its petroleum in USD. Seventy-five percent of all imports from countries other than the United States is still invoiced and settled in USD [Goldberg and Tille 2009]. Having so much USD gives the Philippines the ability to purchase other currencies. Case in point: The USD is the main currency that can buy other currencies. In the Bank of International Settlements triennial survey for 2010, the USD was used in 85 percent of foreign exchange transactions worldwide, down only marginally from 90 percent in 2001.[7] Having so much USD enables the Philippines to stabilize the PHP against other currencies, as many central banks stabilize their exchange rates against the USD. Finally, diversifying into USD is investment safe, the first reason for which is its liquidity. "Because the US market is so liquid, foreign investors undertake transactions and concentrate their holding there. The fact that they undertake their transactions and concentrate their holding there in turn lends its additional liquidity" [Eichengreen 2011:126].

The second reason is military power, which gives the United States the leverage to make others comply with policies that support the USD. The third has to do with its strength as a consequence of other countries' export-led policies. For example, "some central banks accumulated reserves not as insurance against a sudden reversal in the direction of capital flows but as an inadvertent by-product of policies of export-led growth. Emerging-market central banks, most notoriously the People's Bank of China, bought foreign currencies to prevent their exchange rates from rising" [Eichengreen 2011:116–117]. In the US financial crisis of 2008–2009, "each time the crisis

[7] Note, 85 percent of 200 percent, since two currencies are involved in each transaction

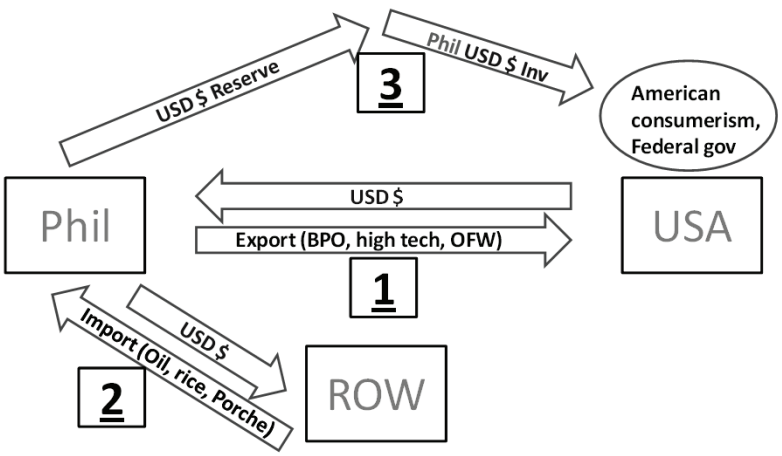
reached new heights—first in July 2007 with Bear Stearns's liquidation of two in-house hedge funds, then with the collapse of Bear in March 2008, and finally with the bankruptcy of the investment firm Lehman Brothers the following September—the dollar strengthened against the euro and other currencies" [ibid.:98]. Just as the USD was supposed to depreciate, export-oriented countries ended up buying the USD to support it. In the case of China, 40 percent of its gross national product (GNP) is exports, with a quarter of 40 percent going to the United States. "Chinese exports fell by 17 percent in 2009 as a result of the crisis in the United States" [ibid.:161]. Given its export-led strategy, it is bad policy for China to allow the USD to depreciate sharply.

The strength of the USD may also be a consequence of other countries' policy to prevent the Dutch disease. Articulated by Corden [1984], Dutch disease generally refers to the loss of competitiveness of the traditional export industry as a result of another exporting industry. The case of the Philippines with its overseas Filipino workers (OFWs) is an example. The country exports labor, the OFWs earn foreign currency, and in turn remit them back. With foreign currency coming in, the PHP appreciates, making Philippine exports, including business process outsourcing (BPO), more expensive in terms of the USD. To avoid the Dutch disease requires a policy to prevent appreciation. This is usually done through the central bank buying the massive USD remittances.

But holding so much USD is also a "threat" due to the lingering debt problem of the United States. The deterioration of fiscal policy began with the 2001 and 2003 tax cuts pushing revenues as a share of gross domestic product (GDP) to their lowest since 1950. Fighting two expensive wars (Afghanistan and Iraq) changed the budget surplus of 2000 into a budget deficit. Prior to the US financial crisis of 2007–2008, the deficit of the United States was 4 percent of its GDP [Eichengreen 2011:163]. With the US financial crisis of 2007–2008 came the great recession and the election of Barack Obama (Democrat). President Obama prescribed Keynesian expansionary fiscal policy and the budget deficit reached 11 percent of GDP in 2009. As if things were not bad enough, baby boomers retiring in large numbers from 2012 to 2015 add to the pressure of even larger deficits. Accounting for the demographic shift, the federal government debt will rise from 40 percent of GDP prior to crisis to 75 percent by 2015 [Eichengreen 2011:164].

The rising budget deficit and debt of the US federal government is concomitant with the recurring current account deficit of the United States (the two otherwise known as the twin deficit). The basic economics is that a country can expend more than what it produces only by expending everything it produces plus some produced by other countries. This turns out to be beneficial for the likes of the Philippines. How this happens can be illustrated through the bigger picture of the international financial architecture as shown in Figure 6. Here, the countries represented are the Unites States; the Philippines, which represents other individual countries; and the rest of the world (ROW).[8] Consider the box with boldfaced and underlined number 1. The federal government's deficit comes with its twin current account deficit. The United States importing results in the Philippines exporting business process outsourcing (BPO), semiconductor and other high-technology commodities, and Filipino workers. The Philippines benefits from jobs created and USD earnings.

Figure 6. International financial architecture



Consider the box with boldfaced and underlined number 2. With USD earnings, the Philippines can use some of it to import goods and services from the ROW. These include the most needed of all goods like oil and rice and less needed luxury goods like sports cars. The ROW, like the Philippines, accumulates USD. Consider the box with boldfaced and underlined number 3. With lessons from recent financial crises, the Philippines, like other

[8] For example, one can just replace the box of the Philippines with the box of China without changing the fundamental flow of the story.

countries, accumulates USD as reserve. In what denomination is the reserve kept? Of course, in USD because of its sheer "strength". Where should this be deposited? Of course, in the US financial markets. With so much reserve of sovereign economies going into the financial markets comes liquidity that finances the next round of federal government deficit. Of course, not all of this liquidity accrues to the federal government. Some had gone to subprime mortgage investments and others to finance American consumerism.[9]

2.4. Weakness and threat

Consider the W-T quadrant of Table 2. Acknowledge that holding too much USD in GIR is a "threat". The natural reaction then is to hold less USD. But that would be "weakness", in the sense that the USD might still be the single safest haven, although not the only one. Consider an alternative—the euro. The euro area's export is nearly twice that of the United States, even excluding intra-euro trade [Eichengreen 2011:127]. Hence, there is an advantage in holding on to euros in terms of being able to buy imported goods and services. The euro area also possesses an ample stock of government debt securities. Its bond markets are accessible to foreign investors with lenient capital controls. Although Greek bonds are in danger of defaulting, there are alternative and much safer sovereign bonds in the euro. Its central bank, the European Central Bank (ECB), is committed to price stability, which spells euro stability.

At times, the ECB has acted as if its currency were global. For example, "in 2008, at the height of the global financial crisis, the ECB extended emergency loans to countries whose banks and firms had borrowed in euros. It provided other central banks with euros in exchange for their currencies" [Eichengreen 2011:128]. However, the world sees the euro only as a distant second to the US dollar. In 2010, the euro accounted for only 40 percent of global foreign exchange turnover compared to the USD's 85 percent [BIS 2010]. Also, the euro is a currency without a country. According to Eichengreen [2011:130] "when Europe develops economic and financial problems, managing them requires cooperation among its national governments, which is far from assured". In terms of the future economic strength of the euro area, demography—with its aging population and aversion to immigration—will only make it become economically smaller.

---

[9] For example, "household savings rates in the United States fell from 7 percent in the early 1990s to near zero in 2005–2007" [Eichengreen 2011:115].

Consider another alternative—the Japanese yen (JPY). In the past, the Japanese government discouraged the use of the JPY as an international currency to maintain a competitive exchange rate in harmony with its industrial policy. However, the Japanese government may be more willing to do otherwise these days. In terms of importance, in 2010, the JPY accounts for 19 percent of global foreign exchange turnover compared to the USD's 85 percent [BIS 2010]. The JPY accounts for barely 3 percent of total identified official holdings of foreign exchange [Eichengreen 2011:127]. But the JPY might be more important to the Philippines than to the ROW.

Table 5. External debt of the Philippines by country profile (in million USD)

	2008	2009	2010	2011	2012
Total	54,328	54,856	60,048	61,711	62,496
Country	27,635	24,148	27,279	27,562	26,727
USA	2,975	1,380	1,713	2,053	1,547
Japan	13,602	12,768	13,782	13,319	12,597
UK	648	484	667	877	1,321
France	602	645	977	1,083	1,048
Germany	2,761	1,999	1,646	1,285	1,173
Multilateral Agencies	9,082	10,939	10,908	11,581	11,591
Bondholders/Noteholders	17,611	19,769	21,861	22,568	24,178

Source: Bangko Sentral ng Pilipinas as of June 2012.

Table 5 shows the external debt of the Philippines by country profile. Among sovereign lenders, the Philippines owes Japan an equivalent of USD 12.597 billion, which is more than two times the amount owed to the United States, the United Kingdom, France, and Germany put together. Using the BSP's current account report of 2010 as reported by the BSP, tally the credit and the debit of each country and that of the whole report, Japan has the biggest share with 14 percent, followed by the United States and the entire Europe with 13 percent each. However, a decade of no growth and zero interest rates in JPY-denominated instruments makes holding JPY less attractive. Going forward, Japan's aging economy and aversion to immigration will only shrink its economy.

The Chinese yuan (CNY) is interesting. It is attractive to the extent that it is the currency of the second-biggest economy in the world. According to Eichengreen [2011:146], "it is worth recalling how the United States

moved in less than [ten] years from a position where the dollar played no international role to one where it was the leading international currency". It is therefore not farfetched for the CNY to become the global currency in less than ten years.

But there is a stark difference between conditions in the United States that led to the USD becoming the global currency and those in China today. The United States' fiscal policy had been more disciplined and its monetary policy adhered to the gold standard, as the rest of the world, especially Britain, buried itself in debt. These days, the United States' fiscal policy is profligate spending while its monetary policy is print and spend. China's fiscal policy, on the other hand, relies more on direct control in channeling funds to target industries while its monetary policy is to keep the CNY devalued. Even if China's fiscal policy proves effective, it would be unwise to reserve on a currency whose owner intends to keep it undervalued.

Some additional facts to consider include the following. First, there are still no bond markets denominated in CNY. The Chinese government does not encourage it, as it will interfere with its ability to channel savings to target industries. Therefore, the prospect of diversifying the GIR into CNY bonds is not yet promising. Second, the noneconomic factor has to be taken into consideration. One has to think twice about investing in an account in China while it is asserting its military authority in the West Philippine Sea and given its human rights record. Third, even if China grows by 7 percent per year the next decade up to 2020, its GDP would still be only half of that of the United States [Eichengreen 2011]. Still, China will remain a major global economic force.

A history lesson has to be brought up before considering diversifying more into the SDR. Before 1981, the SDR was composed of many currencies (16), some of which were not freely traded in derivative markets. In 1981, the IMF narrowed the component to the USD, German marks (DEM), JPY, French francs (FRF), and British pound sterling (GBY). But in the first quarter, the SDR depreciated by 7 percent against the USD, causing loss of interest in holding on to SDR [Eichengreen 2011:139]. The point is that the SDR is no different from other assets in terms of risk. In addition, there is no SDR market. If an SDR market is to be created, governments have to issue bonds in SDR. But the first ones to do so will pay a risk premium, with the SDR being "new" and illiquid. And even if there were an SDR market, diversifying into SDR would be redundant when one could diversify into the components of SDR.

The likes of the GBY and the Swiss franc (CHF) are just too small to become the global currency. Hence one should limit diversification into them. As size of the economy matters, the Indian rupee (INR), Russian rouble (RUR), and the Brazilian real (BRL) are currencies subject to further study. A final asset for possible diversification is real assets (other than gold) such as oil and other commodities, and real estate. However, diversifying into commodities is generally good as they are liquid. For example, buying an island might be good for diversification's sake but not so sound in terms of staying liquid.

3. GIR asset and debt liability of the Philippines

It is common in the economics profession and in the business sector in the Philippines to look at the debt problem in isolation. Examples include the much publicized de Dios et al. [2005] mimeograph and the more recent Beja [2009] article. The case of de Dios et al. was timely, as the world was fresh from seeing the Argentine financial crisis of 2001 and with the Philippine fiscal numbers behaving in a familiar fashion. Beja raised the Philippine debt problem in reference to how it constrains public expenditure, suggesting the need for debt relief. As of the writing of this paper the debt is still a problem, but this section looks into the debt, which is a liability in relation to the GIR, which is an asset.

Table 6 is an abridged asset-liability presentation of the GIR in relation to the national debt. The Philippine domestic debt converted to USD is USD 68.405 billion. The external debt sums to USD 53.455 billion. The two total to a frightening USD 121.86 billion. But suppose that one is to include the GIR. First, compare the US treasury holding of the Philippines in relation to the Philippine debt from the United States. Bluntly put, the United States owes the Philippine government USD 36.7 billion[10] while the Philippines owes the US USD 1.547 billion.[11] It is less a case of the Philippine government borrowing too much from the United States than the Philippine government being exposed to the possibility of a US default.

[10] Latest data shows USD 40.3 billion already; see http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfh.txt.

[11] Latest data shows USD 2.338; see http://www.bsp.gov.ph/statistics/spei_new/tab27.htm.

Table 6. Asset (GIR) – liability (debt)

	Asset (GIR only)		Liability (debt)	
Internal				68.405
External	Foreign inv. excluding USA	30.889	Bondholders	24.178
	Gold	10.552	Multilateral institutions	11.591
	SDR	1.264	Japan	12.597
	Reserve position in fund	0.524	Other sovereign	3.542
	Foreign exchange	0.848		
	USA	36.700	USA	1.547

Total: GIR – external debt = 80.777 – 53.455 = 27.322

Total: GIR – all debt = 80.777 – 53.455 – 68.405 = (41.083) & Internal debt is PHP 2.873 trillion according to Bureau of Treasury. Assumed exchange rate is PHP42/USD. All figures in USD billions.

Second, compare the GIR with the total external debt of the Philippines. The former totals USD 80.777 billion, and the latter totals USD 53.455 billion. If all assets and liabilities were liquidated and transferred to the respective owners of capital, the Philippines would still have an excess reserve of USD 27.322 billion. However, in reality, maturities of debt and liquidity of assets have to be managed enough so that the credit from the asset side is matched with the debit from the liability side. All else being equal, the Philippine debt is not so much an external debt problem. Third, compare the GIR with the total external debt and the domestic debt of the Philippines. If all assets and liabilities were liquidated and transferred to the respective owners of capital, the Philippine government would have negative USD 41.083 billion. The sheer size still renders the debt a "debt problem". More so, much of it is owed to Filipinos, which then makes it a domestic debt problem. The international financial repercussion is likely to be less than the domestic financial and political repercussion.

4. GIR through time

The discussion so far narrated the accumulation of GIR from the Asian financial crisis to 2012 and the given level of GIR in 2012. This section discusses the evolving policy considerations given the still increasing GIR. In 2008, when the GIR reached about USD 44 billion, it followed that the consensus strategic management to use was what Park and Estrada [2010] referred to as "passive liquidity management". This way, the GIR could serve as a self-insurance to defend the peso against currency attacks.

According to the well-known Greenspan-Guidotti rule, the ratio of reserves to short-term external debt liability that makes an economy vulnerable to financial crisis is 1. According to the BSP, the short-term external debt cover is over 300. This raises the question, for example, by Calvo, Izquierdo, and Loo-Kung [2012] "whether this self-insurance strategy has already reached the point" of becoming excessive. Estimating the optimal stock of international reserves, given that reserves affect the probability of currency attacks and the opportunity cost associated with holding the reserve, they estimate that the optimal level of reserves is approximately 26 percent of GDP, and that the Philippines as of 2007 had been close to that. In 2010, the GIR surged by more than 40 percent to over USD 62 billion. With PHP 9 trillion GDP (current price) and with average exchange in 2010 of about PHP 45 per USD, the USD 62 billion GIR is over 30 percent of the GDP. Following the criteria of Calvo, Izquierdo, and Loo-Kung [2012], the level exceeded that of the optimal stock.

The question now is whether to a have a "strategic shift in the management of foreign exchange reserves, from passive liquidity management to active profit-seeking investment" [Park and Estrada 2010]. If one considers this, then in theory, the excess part of the reserve technically becomes a sovereign wealth fund (SWF). Some strategies of governments are worth mentioning. First, SWFs do not have to be invested solely in sovereign bonds. SWFs invest in private equities. For example, many SWFs prefer firms that are large, profitable, with low leverage ratios and high visibility, and located in countries with strong disclosure standards [Fernandes 2009]. Second, some have diversified their portfolios into emerging economies [Avendano 2010]. Examples, taken from Avendano [2010], include Singapore's Temasek and United Arab Emirates' (UAE) Abu Dhabi Investment Authority (ADIA) shifting their investment from OECD equities to those in emerging economies, and China Investment Corporation (CIC) investing in Central and Southeast Asia. Japan has foreseen diversifying up to one-third of its SWF into "emerging economies with a mandate to target natural resource, energy and food production sectors" [ibid.:6].

Third, SWFs have invested in commodities strategically for hedging's sake. SWFs accumulate either from fiscal surplus, commodity funds, or foreign reserves. The excess GIR of the Philippines is a foreign-reserve SWF, but one can learn from a strategy used in commodity SWF. Commodity funds are perceived as hedging instruments against commodity price fluctuations (Scherer [2009]; Frankel [2010]). For example, if the source of an SWF is

oil, then it would be wise to diversify the fund into commodities other than oil. In the case of the GIR of the Philippines, even if it is a foreign-reserve SWF, there is an element of it that is commodity based. Case in point: A major source of foreign reserve comes from remittance of overseas Filipino workers (OFW) from oil-producing economies of the Middle East. Hence, diversifying into oil is something to be careful with.

Table 3 indicates the accumulation of reserve going into 2011. The GIR kept reaching historical record highs. If one looks at the more detailed data, one will see that the record was upbeat almost every month—and not marginally but by significant amounts. For example, from 2010 to 2011, the growth was a phenomenal 42 percent (first difference of natural log; 52 percent using the standard calculation). From 2011 to 2012, the growth was 6.2 percent. In 2012, another strategic management emerged. The strategy was proposed by the BSP to the Department of Finance (DOF) [Navarro and Yap 2013]. It called for the DOF to issue peso-denominated bonds, use the proceeds to buy some of the reserves, and then use the bought reserve to meet the government's external debt requirements. The strategy calls for some external debt management.

Yet another strategic management, "active inclusion" [Dumlao 2013], has not been done in the Philippines but has been used elsewhere. For example, in the 1970s, with so much reserve and with poor infrastructure in telecommunication, the UAE's ADIA guaranteed loans to Emirates Telecommunications to expand capacity to the likes of Chase Manhattan Bank, Deutche Bank, etc. [Balding 2012]. This is like using a small amount (not all) of the USD 85 billion as financial guarantee to finance Philippine infrastructure. Singapore, with its wealth of foreign currency, allocates some management activities to international investment banks that agree to locate significant operations in Singapore [ibid.]. This is like contracting some of the reserve's management (not all) to a foreign bank, provided that that foreign bank produces at least thousands of jobs in business process outsourcing (BPO) and call center operations in the Philippines.

In 2008, China's CIC sold bonds worth CNY 1.6 trillion, used the CNY 1.6 trillion to purchase USD 200 billion from China's foreign reserves, and then used the USD 200 billion to finance China's industrialization and infrastructure [Balding 2012]. In selling CNY 1.6 trillion, it kept that CNY 1.6 trillion from contributing to inflation. It basically rechanneled spending from credit card consumption to infrastructure, from real estate to railway and highway systems, and from leisure to productivity-enhancing and labor-intensive projects.

5. Summary

Lessons have been learned from financial crises leading to record accumulation of the GIR. The record USD 81 billion of the GIR is "strength" in sheer volume. It may have already given the "opportunity" to save the Philippines from a financial crisis as recent as September 2011. It is "weakness" in question mark owing to the uncertainty of its diversification, for which there is never enough "opportunity" to reexamine and improve its course—much of the proportion being in USD, and the USD being the global currency is "strength". But there is a "threat" of the US federal government defaulting, and with this comes the need to diversify away from the USD. However, the other forms of reserve also have their own "weakness".

The total debt of over USD 100 billion looks overwhelming. Isolate the debt from the United States and compare with the Philippine holdings of US treasury notes, and it shows that it is less a case of the Philippines owing the United States too much than the Philippines being exposed to the US debt. Isolate the external debt and compare with the GIR, and one sees that the Philippines does not have much of an external debt problem. Finally, comparing the total debt with the GIR, the Philippines can instead be described as having a domestic debt problem. The implication: the debt has more domestic financial and political repercussions than it does international financial repercussions.

In the wake of the Asian financial crisis, the GIR had been accumulated as self-insurance against currency attacks. Hence, it followed that the consensus strategic management to use was "passive liquidity management". As the GIR continued to rise, the question emerged of whether its level has exceeded the optimum threshold. The strategic management options discussed in terms of the reserve net of the optimal level or excess reserve are active profit-seeking investment, external debt management, and active inclusion.

References

Avendano, R. [2010] "Sovereign wealth fund investments: from firm-level preferences to natural endowments", Paris School of Economics Working Paper.

Balding, C. [2012] *Sovereign wealth fund: the new intersection of money and politics.* Oxford: Oxford University Press.

Bangko Sentral ng Pilipinas (BSP) [2011] "Economic and financial statistics", http://www.bsp.gov.ph/statistics/statistics_key.asp. Retrieved 15 October.

Bank of International Settlements (BIS) [2010] "Triennial central bank survey of foreign exchange and derivatives market activity in April 2010: preliminary global results; turnover", http://www.bis.org/publ/rpfx10.pdf. Retrieved 15 October.

Beja, E. [2009] "The Philipppines on debt row", *Loyola Schools Review* **8**: 43–67.

Calvo, G., A. Izquierdo, and R. Loo-Kung [2012] "Optimal holdings of international reserves: self-insurance against sudden stop", National Bureau of Economic Research Working Paper 18219.

Corden, W. M. [1984] "Boom sector and Dutch disease economics: survey and consolidation", *Oxford Economic Papers* **36**: 359–380.

de Dios, E., B. Diokno, E. Esguerra, R. Fabella, M. S. Bautista, F. Medalla, S. Monsod, E. Pernia, R. Reside, G. Sicat, and E. Tan [2004] "The deepening crisis: the real score on deficits and the public debt", UPSE Discussion Paper No. 0409 (August). School of Economics, University of the Philippines.

Dumlao, L. F. [2013] "Strategic management for foreign reserves", Yellow Pad column, *Business World*, 1 April.

Eichengreen, B. [2011] *Exorbitant privilege: the rise and fall of the dollar and the future of the international monetary system.* Oxford University Press.

Fernandes, N. [2009] "Sovereign wealth funds: investment choices and implications around the world", IMD International Working Paper.

Frankel, J. [2010] "The natural resource curse: a survey", Faculty Research Working Paper Series, Harvard Kennedy School, Harvard University.

Goldberg, L. and C. Tille [2009] "Micro, macro, and strategic choice in international trade invoicing", CEPR Discussion Paper 7534 (November). London: Centre for Economic Policy Research.

Milo, Melanie S. 2002. "The social impact of the Asian financial crisis: the Philippine case", EADN Regional Project on the Social Impact of the Asian Financial Crisis.

Navarro, A. M. and J. T. Yap [2013] "Philippine economy in 2012 and prospects for 2013", *Development Research News* **31**(1).

Park, D. and G. E. Estrada [2010] "Foreign exchange reserve accumulation in the ASEAN-4: challenges, opportunities, and policy options", *The Philippine Review of Economics* **47**(1): 89–108.

Philippine Dealing and Exchange Corporation (PDEx) [2011]. PDEx website, http://203.177.79.3/_customer/pdex/. Retrieved 15 October.

The Philippine Star [1997] "BSP lets peso float", 12 July, p. 1.

Scherer, B. [2009] "Sovereign wealth funds and financial stability: an event study analysis", IMF Working Paper.

United States Department of Treasury [2012] "Major foreign holders of treasury securities", http://www.treasury.gov/resource-center/data-chart-center/tic/Documents/mfh.txt. Retrieved 18 September.