

MACQUARIE SPECIALIST INVESTMENTS
PERSPECTIVE - ISSUE 2



MACQUARIE



Sovereign debt

Is it all about the Gold?

Gold has been with us since time began. For thousands of years it has motivated civilisations and their economies influencing the fate of kings, emperors and their empires. As a society, our fascination with gold can be epitomised in the 100 year old tale of a man who boarded a ship carrying his entire wealth with him in a large bag of gold coins. Only days into the voyage, a terrible storm prevailed and the alarm was sounded to abandon ship. Strapping the bag around his waist, the man went up onto the deck, jumped overboard into the ocean and promptly sank to the bottom of the sea. The question asked as he was sinking was: “did he have the gold? Or did the gold have him?”

A brief history of gold as an international currency

Gold is the world's oldest international currency having played a role in economies around the world for over 2,000 years. As civilisations advanced and international trade and exploration increased, the yellow metal soon became a barometer to measure a nation's wealth, with the country holding the most gold considered the wealthiest.

In 1870, Germany adopted a gold-based monetary system – otherwise known as the classical Gold Standard. Under this system, countries fixed the value of their currencies to a specified amount of gold or linked their currency to that of a country which did. By 1900, almost all major countries had adopted the classical Gold Standard.

Following World War II, the Bretton Woods international monetary system was established which defined international currencies in terms of the US dollar, with fixed but adjustable pegs, and at the time, the US dollar remained fixed to a gold price of \$US35 per troy ounce. In 1971, the United States (US) unilaterally terminated the fixed convertibility between gold and the US dollar, officially ending gold's role as a backing of currency. As a result, the US dollar soon became the reserve currency in international trade, a role it still holds today.

Sovereign debt

Few investors make an explicit connection between gold and sovereign debt. In fact, it's probably fair to say that for most investors, the consideration of sovereign debt and how it may influence equity markets and investment portfolios did not appear on the radar until recently.

With sovereign debt now appearing almost daily in the news, market commentators have increased their attention on those relevant metrics which measure the health and creditworthiness of an economy. Specific emphasis has been placed on debt to Gross Domestic Product GDP ratios (debt to GDP ratios) of various countries, however the question of reserves, and in particular a country's holdings of gold, has received little attention.

Debt to GDP ratios of the world's largest economies

Looking at the debt to GDP ratios of the world's 25 largest economies, and including the countries of Greece, Portugal and Ireland, a relatively unsurprising picture emerges.

Four of the PIIGS nations feature in the top five (Spain sits just outside the top ten in 12th place.) Australia is ranked toward the bottom of the list with a debt to GDP ratio below that of China and Japan is ranked first in the list, well above the PIIGS nations, with the US ranked in sixth place.

By considering the debt to GDP ratio alone, it could be argued that Japan represents a higher credit risk than Ireland or Greece, and the US is a higher credit risk than Spain.

Table 1: Debt to GDP ratios

Rank	Country	Debt to GDP ratio
1	Japan	233.1%
2	Greece	165.6%
3	Italy	121.1%
4	Ireland	109.3%
5	Portugal	106.0%
6	United States	100.0%
7	Belgium	94.6%
8	France	86.8%
9	Canada	84.1%
10	Germany	82.6%
11	United Kingdom	80.8%
12	Spain	67.4%
13	Netherlands	65.5%
14	Brazil	65.0%
15	India	62.4%
16	Poland	56.0%
17	Norway	55.4%
18	Switzerland	52.4%
19	Mexico	42.9%
20	Turkey	40.3%
21	Taiwan Province of China	38.5%
22	Sweden	36.0%
23	Korea	32.0%
24	China	26.9%
25	Indonesia	25.2%
26	Australia	22.8%
27	Russia	11.7%
28	Saudi Arabia	7.1%

Table 2: Foreign exchange reserve holdings

Rank	Country	Foreign exchange reserves (US dollars)
1	China	3,228.2
2	Japan	1,258.7
3	Saudi Arabia	531.1
4	Russia	461.8
5	Korea	433.2
6	Brazil	375.3
7	Switzerland	289.2
8	India	281.8
9	Mexico	143.1
10	United States	137.2
11	Indonesia	109.9
12	Poland	93.8
13	Turkey	84.8
14	United Kingdom	79.4
15	Germany	66.3
16	Canada	63.4
17	France	48.8
18	Italy	48.6
19	Sweden	43.7
20	Australia	40.4
21	Spain	28.7
22	Netherlands	20.2
23	Belgium	17.8
24	Portugal	2.4
25	Ireland	1.4
26	Greece	1.3
	Norway	n/a
	Taiwan	n/a

Sovereign foreign exchange reserves

The debt to GDP ratio in isolation paints an incomplete picture because it fails to take into account a country's foreign exchange reserves. Total reserves represent gold and IMF reserve positions as well as foreign currency deposits and bonds held by central banks and monetary authorities.

The significance of this is that a nation can theoretically sell its foreign exchange reserves to reduce debt, thereby reducing its debt to GDP ratio. It therefore becomes clear why debt to GDP should not be the sole metric used when examining the creditworthiness of a nation, and why investors should consider other factors.

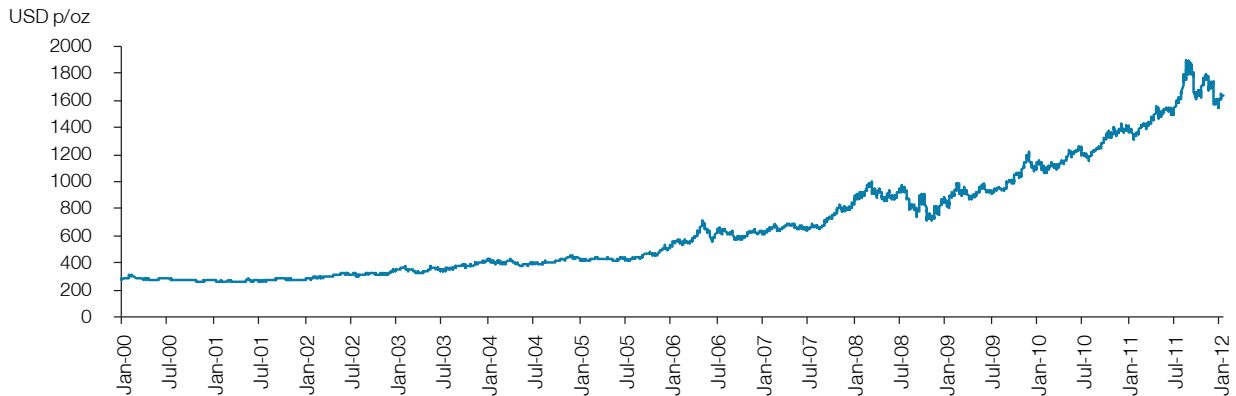
The following table ranks the nations listed in the table above according to their foreign exchange reserves, as denominated in US dollars. Please note, that the value of foreign exchange reserves excludes the value of any central bank gold holdings and due to a lack of available data, Norway and Taiwan have been excluded.

The table shows that Portugal, Ireland and Greece hold the least amount of foreign exchange reserves of the 26 nations analysed.

Taking gold into account

However, an analysis focussing on foreign exchange reserve holdings alone also paints an incomplete picture. For many of the reasons mentioned at the beginning of this article, the central banks of nations throughout the course of history have accumulated significant amounts of gold reserves which can be made available for sale and theoretically used to extinguish sovereign debt. Further, given that gold bullion prices have increased by over 600 per cent over the last 11 years (refer to chat one below), the value of those central bank gold reserves has also significantly risen in value.

Chart one: Price of gold bullion January 2000 to January 2012



So who holds the gold?

The table below ranks the nations listed in the tables above according to the amount of gold held as a percentage of their total reserves.

Table 3: National gold holdings*

Rank	Country	Gold reserves (tonnes)	Gold as a % of total reserves
1	United States	8,133.5	76.9%
2	Germany	3,396.3	74.2%
3	Italy	2,451.8	73.9%
4	France	2,435.4	73.7%
5	China	1,054.1	1.8%
6	Switzerland	1,040.1	16.8%
7	Russia	873.6	9.6%
8	Japan	765.2	3.3%
9	Netherlands	612.5	63.0%
10	India	557.7	10.0%
11	Portugal	382.5	89.8%
12	Saudi Arabia	322.9	3.3%
13	United Kingdom	310.3	18.0%
14	Spain	281.6	35.5%
15	Belgium	227.5	41.8%
16	Turkey	179.1	10.6%
17	Sweden	125.7	13.9%
18	Greece	111.6	83.0%
19	Mexico	106.2	4.0%
20	Poland	102.9	5.8%
21	Australia	79.9	10.0%
22	Indonesia	73.1	3.6%
23	Korea	54.4	0.7%
24	Brazil	33.6	0.5%
25	Ireland	6.0	19.3%
26	Canada	3.4	0.3%

*Excludes IMF holdings and gold held by various Exchange Traded Funds (ETFs).

The US holds top position with the largest gold reserves, holding over 8,000 tonnes of the yellow metal (representing 76.9 per cent of the value of their total reserves). This is not surprising, given that the majority of foreign exchange reserves held by nations are US dollar denominated assets, meaning there is little requirement for the US to acquire US denominated reserve holdings.

Europe's three largest economies command the next three places on the list, with Germany, Italy and France all holding over 70 per cent of their total reserves in gold. China has recently emerged as the fifth largest holder of gold reserves in the world, marginally out placing Switzerland.

It is worthwhile to highlight that China's reported gold holdings represent less than two per cent of the total value of their national reserves, and that this is considerably lower than many of its peers.

Other notable mentions in Table three are the percentage of gold reserves held by both Portugal and Canada. In the case of Portugal, close to 90 per cent of its reserves are denominated in gold, making it the country with the highest proportion of gold as a percentage of total reserves. Conversely, Canada, a nation endowed with abundant natural resources (including gold), holds the least amount of gold as a percentage of total reserves out of the 26 nations analysed, and is amongst the lowest owners of government gold reserves worldwide.

Re-calculating net debt to include gold

As mentioned above, the relevance of a nation's gold reserves becomes clear when the value of gold reserves are included to calculate a country's net debt position relative to GDP.

Table four expands on the data presented in Table one, and calculates a net debt to GDP ratio based on the net debt position of the relevant country. Net debt is typically measured by calculating outstanding sovereign debt less total reserves held (which includes both foreign reserves and gold holdings). The net debt positions have been calculated using two gold price assumptions.

- \$US1,746 per ounce – the prevailing gold price when the gold reserve calculations were taken for the purposes of Table three, and
- \$US3,000 per ounce – arbitrarily chosen to show relative sensitivity should gold prices increase.

A comparison is also provided to the gross debt to GDP ratios (refer to Table one) to clearly identify the impact of gold price movements on a nation's sovereign debt position.

Please note the analysis below is not designed to provide guidance in what the price of gold may or may not be in the future, but rather to identify the sensitivity of a nation's sovereign debt position relative to movements in the gold price.

Table 4: Net debt to GDP at various gold prices

Rank	Country	Debt to GDP ratio (as per Table 1) – zero gold	1. Net debt to GDP (gold at \$US1,746/oz)	2. Net debt to GDP (gold at \$US3,000/oz)
1	Japan	233.1%	210.9%	210.3%
2	Greece	165.6%	163.1%	161.7%
3	Ireland	109.3%	108.5%	108.4%
4	Italy	121.1%	112.8%	108.4%
5	United States	100.0%	96.1%	93.9%
6	Portugal	106.0%	96.1%	89.8%
7	Belgium	94.6%	88.8%	87.1%
8	Canada	84.1%	80.5%	80.5%
9	France	86.8%	80.2%	76.7%
10	United Kingdom	80.8%	76.9%	76.4%
11	Germany	82.6%	75.6%	71.8%
12	Spain	67.4%	64.5%	63.8%
13	Netherlands	65.5%	59.2%	56.3%
14	Norway	55.4%	n/a	n/a
15	Brazil	65.0%	50.0%	49.9%
16	India	62.4%	45.4%	44.2%
17	Taiwan	38.5%	n/a	n/a
18	Poland	56.0%	37.2%	36.4%
19	Mexico	42.9%	30.3%	30.0%
20	Turkey	40.3%	27.9%	27.0%
21	Sweden	36.0%	27.2%	26.3%
22	Australia	22.8%	19.8%	19.6%
23	Indonesia	25.2%	11.6%	11.2%
24	Korea	32.0%	nil	nil
25	Switzerland	52.4%	0.2%	nil
26	Russia	11.7%	nil	nil
27	China	26.9%	nil	nil
28	Saudi Arabia	7.1%	nil	nil

The table above shows that a number of countries currently hold more in total reserves than they currently owe in outstanding sovereign debt. In particular, Korea, China, Russia and Saudi Arabia all theoretically hold sufficient foreign exchange and gold reserves to extinguish outstanding sovereign debt.

Another interesting takeaway is the relative movements in the debt to GDP ratios of each country after gold reserves and their values are taken into account. In the case of Greece for example, there is only marginal movement in the debt to GDP ratio, moving from 165.6 per cent to 161.7 per cent (using a gold price of \$US 3,000 per ounce). In the case of Portugal and Italy however, there are significant movements in the debt to GDP ratio. Portugal experiences a reduction in the GDP ratio falling considerably from 106.0 per cent to 89.8 per cent. In the case of Italy, it sees a net to GDP ratio reduction from 121.1 per cent to 108.4 per cent. Theoretically, by this measure, upward movements in the price of gold would improve the sovereign debt positions of Portugal and Italy in a more significant way than many other countries.

Assuming all other variables remain constant, Table four provides a guide as to which countries will benefit more (in terms of an improved sovereign debt position) should gold prices increase from current levels.

Taking advantage of the sovereign debt situation

For those investors who believe that continued sovereign debt issues will be positive for gold, they may seek to consider taking some investment exposure to the yellow metal. Traditionally, the vehicle for investors to achieve portfolio exposure to gold has been through listed mining companies. In more recent times however, the emergence of Exchange Traded Funds (ETFs) has provided an alternative for investors to gain exposure to gold.

Unlike listed mining companies, which provide indirect exposure to factors such as the operational risks associated with mining (including higher or lower mining costs, production volumes etc), gold ETFs provide direct exposure to gold price movements and are available in a number of different forms and currency denominations. The Australian Securities Exchange (ASX) provides access to a gold ETF denominated in Australian dollars (ASX ticker: GOLD).

The popularity of gold ETFs has been evidenced by the fact that worldwide, gold ETFs are purported to be owners of close to 2,360 tonnes of gold, which would make it the fourth largest owner of gold in the world behind the United States, Germany and the IMF. One potential drawback from owning a gold ETF however is that gold does not generate any investment income, therefore to get a positive return you need capital growth (net of ongoing ETF fees). ETFs of course are also exposed to any fall in the gold price as well. A capital protected investment exposure may therefore be something to consider for those investors seeking exposure to gold values but who are also looking to minimise the downside if gold prices fall.

Conversely, investment into gold mining or gold royalty companies, whilst exposing investors to a different set of risks (as mentioned above) has the ability to provide investors with dividend returns through any cash flows earned from gold production. There are a number of gold mining companies listed on the ASX some of which have historically paid dividends to shareholders.

So next time you look at your investments and ponder how the next sovereign debt crisis will affect your clients' portfolios, you might like to consider if exposure to gold is appropriate, and whether the risks are acceptable. If you think that exposure to gold is appropriate, consider the possibilities available beyond strapping a bunch of gold coins around your waist.

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IMPORTANT INFORMATION

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