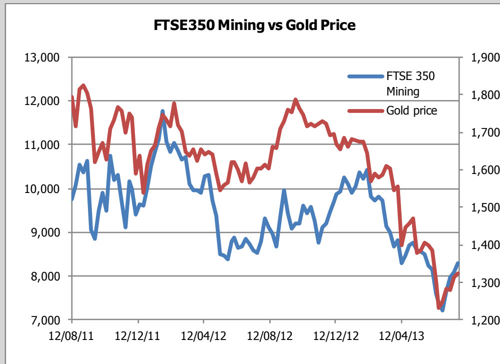
Gold Review

8th August 2013

HYBRIDAN

Antidote for financial insanity



Source: Fidessa

The only certainty today is that the financial markets are becoming increasingly unstable and volatile, a favourable environment for a sharp rebound in gold prices. The quick U-turn by the Fed on quantitative easing was a reminder that governments and central banks are losing their war on deflation. Since 2007, The Fed has monetised $2trn of debt; the US government has borrowed another $7trn. Europe, Japan and most of the world are following similar policies and the race to the bottom will only get worse.

Piling on more unpayable debt on already too much unpayable debt only intensifies the deflationary trend. However, the lessons from history will not be learnt. Debt will continue to be monetised until the war on deflation is eventually won. This victory will not be obvious for some time, which means it will be too late to stop hyper-inflation.

As trillions turn to quadrillions, investors have few choices to protect themselves but to buy gold and we expect funds to start flowing back into ETFs and other gold investment vehicles. However, the gold industry is in no position to meet this resurgence in demand. Declining grades, rising costs and falling prices have forced severe cutbacks in exploration and development of future production. Gold prices will have to rise sharply, at least above $2,000/oz and stay there for a long time before supply can catch up with demand.

- **Gold equities recover....**

  The FTSE350 Mining index has recovered in the past month mirroring the recovery in the gold price. Share prices, on average, of both producing and exploration gold companies have increased by 7% in the past month.

- **....but the gold price is still too low**

  However, at current spot prices we believe most gold producing companies are losing money and unless the price rises quickly, production will come under severe constraint. Major producers are cutting back on exploration while junior companies are too lowly valued to raise funds for development. Moreover, the average grade of undeveloped mines is well below that of producing mines, so long-term gold prices will need to be considerably high in the future if supply is to be maintained at current levels.

- **Conroy Gold and Bullabulling remain our top picks**

  We continue to believe that even if the gold price recovers strongly, investors need to be discrete when investing in gold equities. In some regions costs will continue to rise due to political uncertainties. Kenya is the latest in Africa to unexpectedly increase royalties and revoke certain mining licenses. Conroy Gold and Bullabulling continue to offer most upside potential based on valuation and location of their operations. While Ortac Resources, whose asset is in Slovakia, and Mariana Resources, which is now focused on Peru, continue to carry some political risks, at current valuations, we believe the risk/reward balance is weighted towards reward.

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Table of Contents

1. Gold Demand... 3

1.1 ETF outflows drive total demand lower... 3
1.2 ...but other investment demand remains robust...................................... 3
1.3 China and India drive jewellery demand.. 4
1.4 Technology demand remains subdued.. 5
1.5 Central bank buying is steady... 5
1.6 Investment demand set to rebound... 7

2. Gold Supply.. 9

2.1 Production under pressure as gold price falls.. 9
2.2 Scarcity of high-grade gold deposits... 9
2.3 Rising energy and labour costs... 11
2.4 ...and political costs.. 11
2.5 Pressure on funding undeveloped mines.. 13

3. Gold Equities... 15

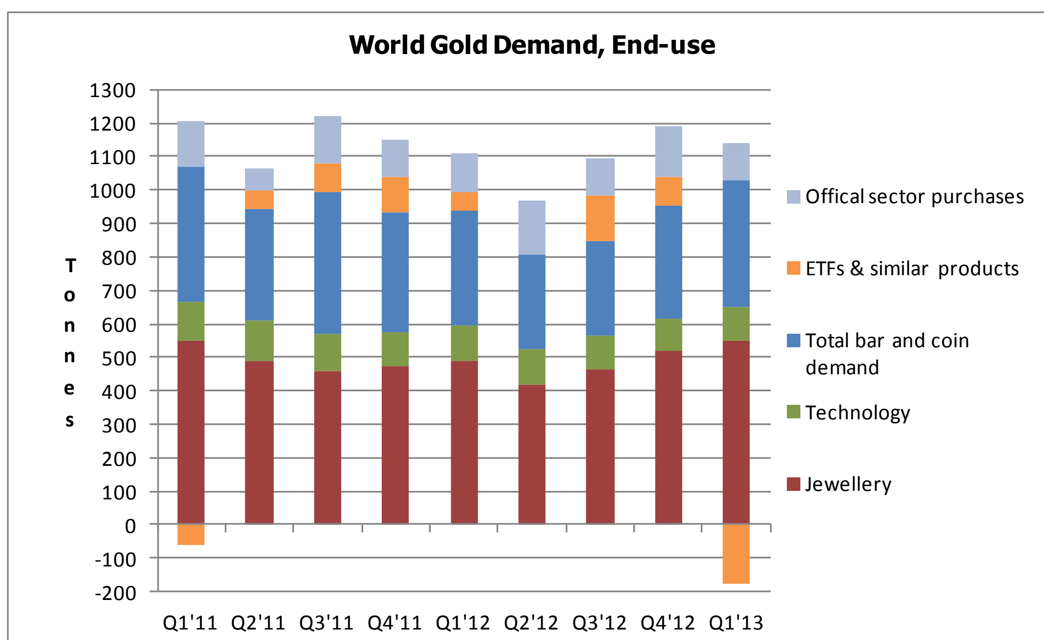
3.1 Performance.. 15
3.2 Conroy Gold & Natural Resources Gold... 18
3.3 Bullabulling.. 19
3.4 Mariana Resources... 19
3.5 Ortac Resources... 19

1. Gold Demand

1.1 ETF outflows drive total demand lower...

Gold demand in Q1/13 globally fell by 13.1% year-on-year in volume terms as strong growth in consumer demand – for gold jewellery, bars and coin – was exceeded by substantial net outflows from gold ETFs.

A well documented decline in gold ETF holdings among a group of more speculative investors resulted in a sizeable quarterly net outflow of 177 tonnes from that sector. The ETF sales reversed around two-thirds of 2012 ETF demand, accounting for around 7% of the total AUM (Assets Under Management) of gold ETFs. This trend appears to have intensified in April, with 350 tonnes of gold flowing out of ETF funds. Although ETFs represent a very small proportion of gold demand, the ETF and in particular the futures market have a direct impact on price information and the gold spot price.



Source: World Gold Council

1.2 ...but other investment demand remains robust

While total investment demand fell by 49% year-on-year in Q1/13 thanks to ETF outflows, this obscures the strong rise in investment for gold bars and coins at a retail level. Demand for gold bars and coins surged during the first quarter with the strongest growth seen in the coin segment. India, China and the US together generated much of the increase; these three markets accounted for 60% of the total. China, in particular, posted a new record for quarterly investment in gold bars and coins as positive seasonal factors worked in tandem with gold's enduring investment appeal.

Total bar & coins demand by Country (tonnes)

	Q1'12	Q1'13	% change
Greater China	92.2	112.3	22%
India	63.8	97.0	52%
Europe	65.9	47.5	-28%
Thailand	31.3	35.9	15%
USA	14.1	20.1	43%
Vietnam	17.4	14.2	-18%
Turkey	15.3	11.1	-27%
Middle East	7.8	7.7	-1%
Indonesia	8.9	5.8	-35%
South Korea	0.9	0.7	-22%
Japan	-3.4	-4.3	26%
Other	28.3	29.7	5%
Total	**342.5**	**377.7**	**10%**

Source: World Gold Council

1.3 China and India drive jewellery demand

Gold jewellery demand experienced a widespread resurgence in Q1/13 with India and China leading the charge once more as the right conditions aligned themselves in both markets. Traditional first quarter seasonal strength in China exceeded all previous peaks marking a new record quarterly high. India's jewellery demand benefitted from a good spring harvest and associated impact on rural incomes. Although China and India were again stand-out performers, jewellery demand also improved appreciably in many other countries in Q1/13, most notably the US. Gold jewellery demand in the US recorded its first year-on-year increase since Q3/05, the rate of decline having slowed markedly in the second half of 2012. While the top-end of the US jewellery market has been unaffected by the financial crisis in recent years, the mass retail and lower-end of the market has suffered considerably. However, as economic sentiment improves, demand for gold appears to be following suit.

Total Jewellery demand by Country (tonnes)

	Q1'12	Q1'13	% change
Greater China	163.5	194.1	19%
India	138.3	159.5	15%
Middle East	42.1	48.4	15%
USA	17.7	18.8	6%
Russia	16.7	17.3	4%
Turkey	15.4	16.5	7%
Indonesia	10.6	11.2	6%
Europe	6.2	5.6	-10%
Vietnam	5.0	4.4	-12%
Japan	4.1	4.0	-2%
South Korea	3.8	3.4	-11%
Thailand	1.7	1.6	-6%
Other	65.8	66.3	1%
Total	**490.9**	**551.1**	**12%**

Source: World Gold Council

1.4 Technology demand remains subdued

In Q/13, demand for gold in the technology sector declined by 4% year-on-year due to weak European spending on new electrical and electronic products. While demand from semiconductor fabrication is expected to pick up in correlation with global GDP growth, demand for gold in bonding wire and dental appears to be in a long-term decline as consumers switch to cheaper base metal alternatives.

1.5 Central bank buying is steady

Central banks added 109.2t of gold to their reserves in Q1/13, the ninth consecutive quarter of net purchases. While the level of purchasing was 5% below year ago levels, it remained within the broad range of quarterly demand in the past two years.

The steady level of buying confirms that central banks and institutions continue to favour gold's diversification benefits, as they reduce their portfolio allocations to the US dollar and the euro. However, as the table below shows, gold is still a small proportion of many official reserves, particularly outside the US and Europe, and we expect continued buying from these regions. For instance, gold accounts for just 2% of China's official foreign reserves.

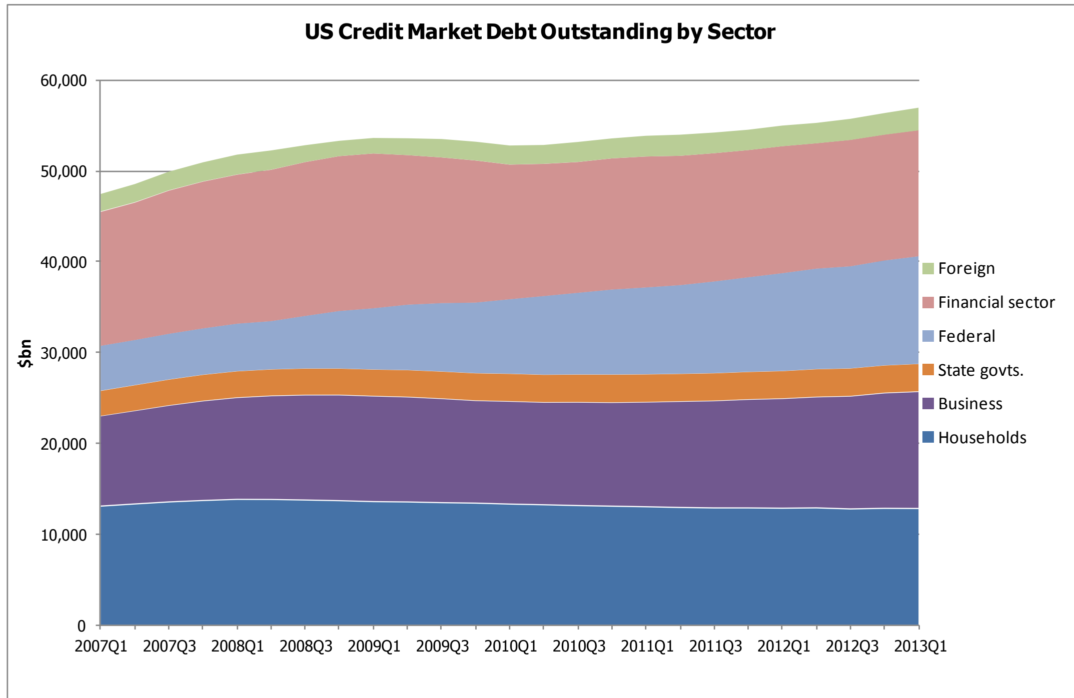
Top 40 reported official gold holdings (as at March 2013)

	Gold holdings Tonnes	Share of Foreign Currency Reserves
USA	8,134	76%
Germany	3,391	72%
IMF	2,814	-
Italy	2,452	72%
France	2,435	70%
China	1,054	2%
Switzerland	1,040	10%
Russia	982	10%
Japan	765	3%
Netherlands	613	59%
India	558	10%
ECB	502	33%
Taiwan	424	5%
Portugal	383	90%
Venezuela	366	65%
Saudi Arabia	323	2%
UK	310	15%
Lebanon	287	28%
Spain	282	29%
Austria	280	55%
Belgium	227	40%
Phillipines	193	12%
Algeria	174	4%
Thailand	152	4%
Singapore	127	2%
Sweden	126	10%
South Africa	125	13%
Mexico	124	4%
Kazakhstan	123	22%
Libya	117	5%
BIS	116	-
Greece	112	82%
Korea	104	2%
Romania	104	11%
Poland	103	5%
Australia	80	9%
Kuwait	79	11%
Indonesia	76	4%
Egypt	76	28%
Total World	**31,869**	**-**

Source: IMF, World Gold Council

1.6 Investment demand set to rebound

In the *March Review*, we discussed how the central banks the world over have been printing money at exponentially growing rates in recent years. The graph below shows how the Federal government in the US has been trying to counterbalance the deleveraging in the households and financial sector and keep the credit bubble going.

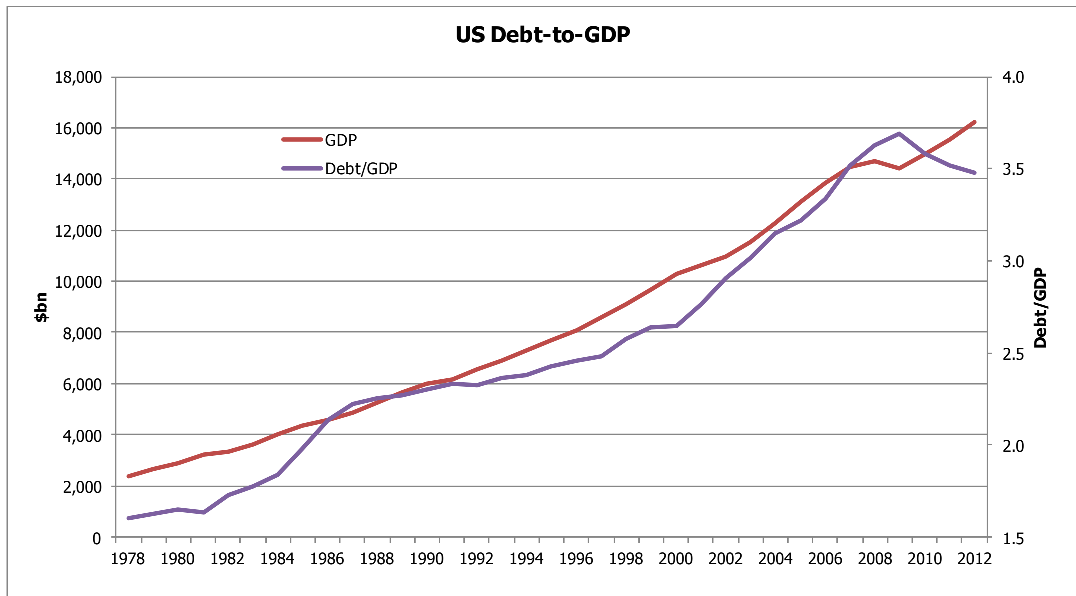


Source: The Federal Reserve

The increase in Federal debt is not productive; it is just piling on the already huge debt burden which is unlikely to be fully repaid without monetisation. As the graph below shows US debt-to-GDP ratio has been climbing since 1978 which means that the US economy has to take on an increasing amount of debt to produce the same amount of GDP.

While headlines suggest that the US economy is on the mend, the reality is that the financial crisis is getting worse. According to the inspector general of TARP, the re-default rate on modified loans is 46%, and data from RealtyTrac show that the national average delinquency-to-foreclosure time frame is at 16 months -- the highest level since Q1 2007.

Other indicators also paint a disturbing development in the US economy. Commercial bank deposit-to-loan ratio and velocity of M2 Money Supply are at historic lows and the Baltic Dry Index suggests that the global economy has stalled. The Fed tapering talk will likely fade; the opposite is more likely with the Fed moving to increase purchases. We must also consider that a Detroit bailout may happen, with other US states getting in line. On top of that, perhaps even some form of student loan debt forgiveness. There is about $1.2trn worth of student loans in the US outstanding with all but 15% of that owned or guaranteed by the government.



Source: The Federal Reserve, Bureau of Economic Analysis

Gold cannot possibly be expected to keep up with the fast growth in paper and electronic money floating around the world. You can't print gold, after all, you need to find it, dig it out of the ground, refine it, etc., a hugely expensive and time-consuming process which practically ensures a stable rather than exponentially growing supply. Once investors realise that the Fed and other central banks are in the game indefinitely, gold and silver will lurch higher and faster than anyone anticipates.

At current gold prices, gold output will almost certainly decline as most producing mines are struggling to make money. We estimate that average all-in-cost of gold production is now just under $1,600/oz but with average grades declining we estimate that the gold price will have to rise above $2,000/oz and stay there to revive production.

2 Gold Supply

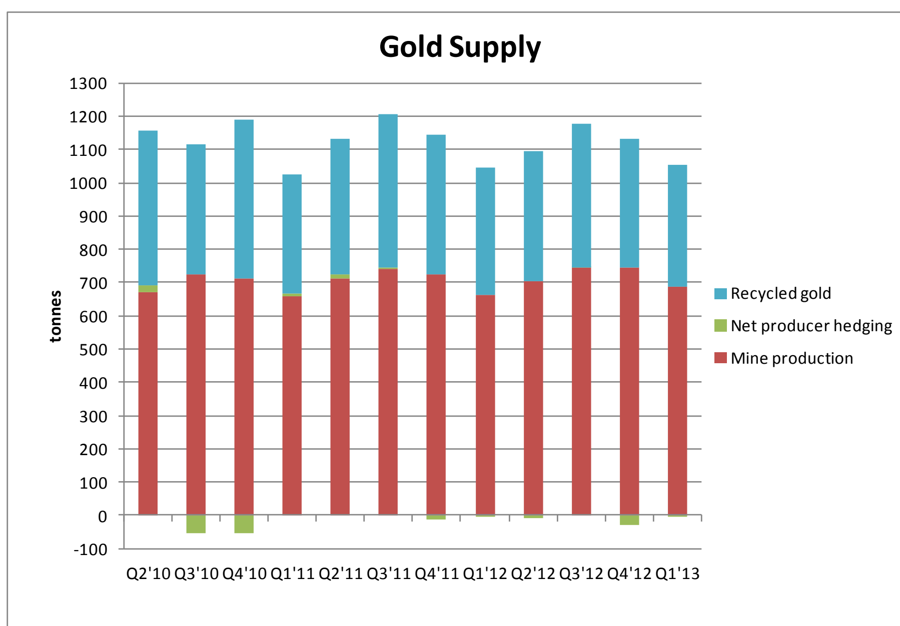
2.1 Production under pressure as gold price falls

Total gold supply was little changed in Q1/13. A modest year-on-year increase in Q1/13 mine production was countered by a decline of a similar magnitude in the supply of recycled gold with the net result that total supply grew by 1%.

The supply of gold has been relatively fixed for the last century, with annual mine production a small portion of the total stock of gold outstanding and with a limited ability for annual production to rise in response to a rise in the gold price. However, going forward, we expect mine production to decline in the medium term if the price of gold remains at current levels.

As we pointed out in our last review, lower grades and disruptions caused by labour strife and other factors means that many gold producing companies are struggling to reach their production targets and break even points. The number of new gold finds is also declining. The fall in the gold price has added to the pressure on gold supply as most gold producers are burning cash at current spot prices. If gold prices remain at current levels for long, more producing mines will be shut and more exploration/development projects abandoned.

Unless the gold price rises, production must ultimately decline significantly. As demand is not expected to decline significantly, gold prices have to rise at some stage in the near future.

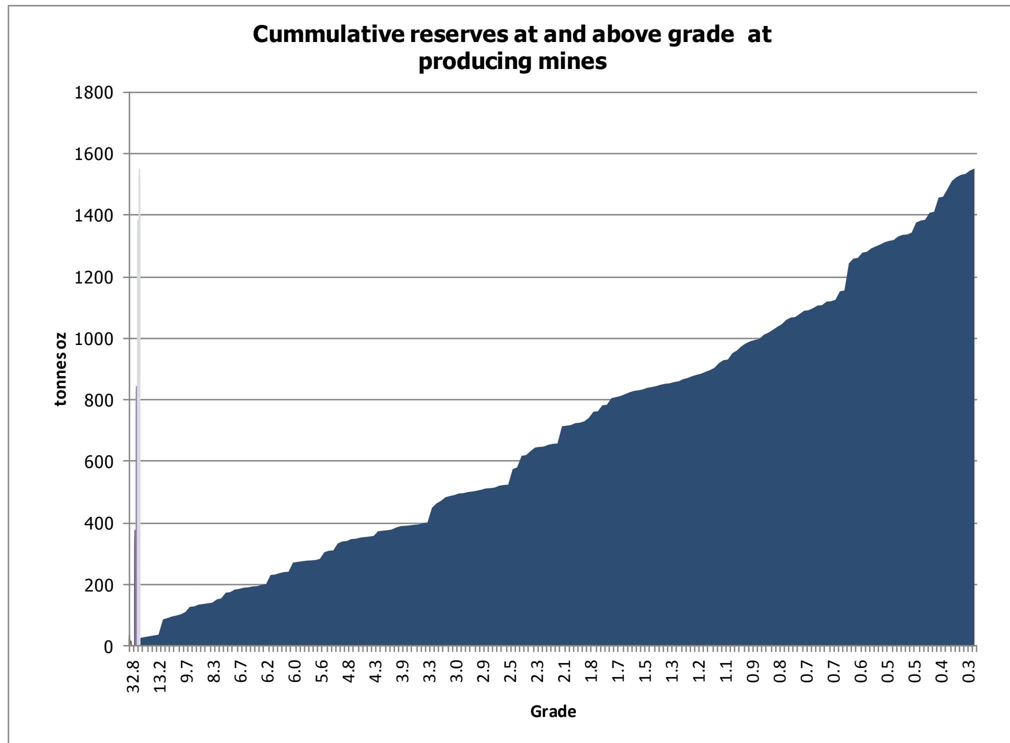


Source: World Gold Council

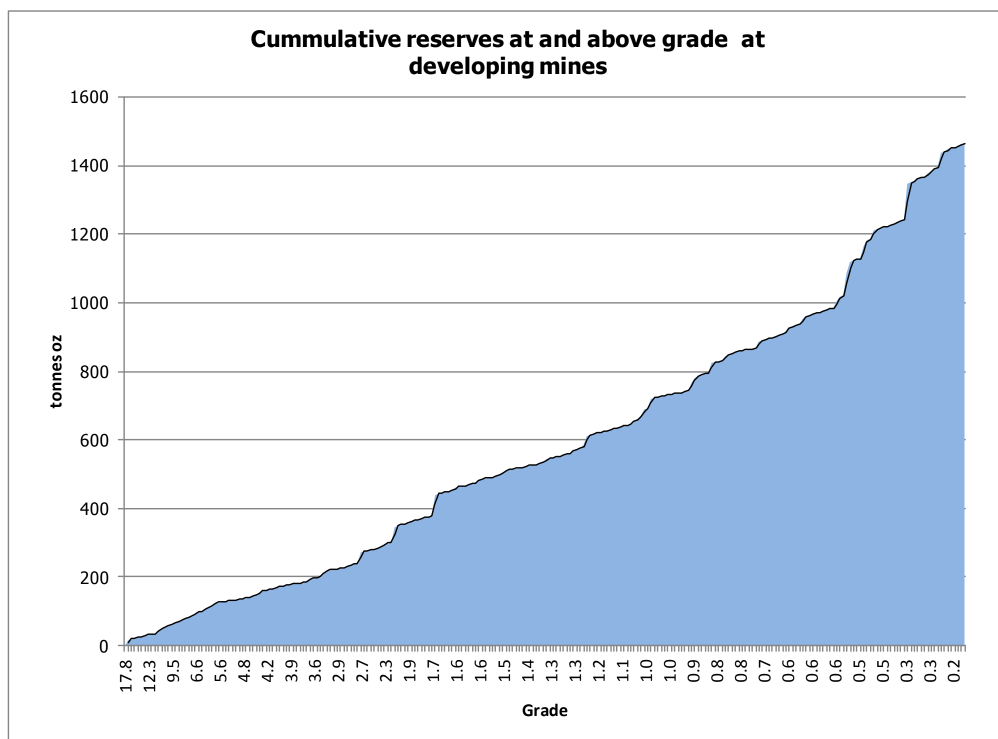
2.2 Scarcity of high-grade gold deposits

A key factor that is likely to push gold prices up in the medium-term is that the average grade of the deposits that will generate the world's future large scale gold mines is less than two-thirds the grade of current producing mines. In a study conducted by Natural Resource Holdings, it identified 439 deposits that contain over 1m oz of gold, a threshold that it generally perceived to be economic. This includes 189 producing mines and 250 undeveloped deposits. The average grade of the 189 producing mines is 0.82g/tonne while the average of undeveloped is

0.66g/tonne. This is highlighted in the two graphs below which clearly show that most undeveloped gold deposits are to be found in low-grade deposits. While there is no limit to the creation of financial securities and plenty of land and building materials to construct more property, the availability of gold is fixed and discovery grades continue to decline.



Source: Natural Resource Holdings



Source: Natural Resource Holdings

It would be unrealistic to assume that all the 250 undeveloped deposits will be permitted and financed in the future. At current gold prices, most wouldn't see the light of the day. However, if they were it would create gold production of only

1,300 tonnes per annum, compared with current gold production of 2,800 tonnes annually. Consequently, the guaranteed depletion in the existing production mix coupled with a more realistic introduction of new mines makes it clear that barring multiple high-grade, multi-million ounce discoveries each year, an increase in gold production is unlikely.

2.3 Rising energy and labour costs...

Besides lower average grades, production costs are also being impacted by other factors such as higher energy and labour costs. Fresnillo recently announced that its production costs in the first half of 2013 increased by 29% due to various factors including a 9.9% and 24.4% rise in unit electricity and diesel prices, respectively. The cost of personnel excluding profit sharing also rose due to a 6% increase in wages.

2.4 ...and political costs

Besides general wage inflation, bumper profits have fuelled labour unrest, driving unions to demand higher wages. An explosion of new taxes and royalties is pushing up regulatory compliance costs.

In the rush to produce, mining companies have been expanding in more challenging provinces. This not only triggers expenditure on new equipment, but significant long-term infrastructure investments including railways, ports, housing and schools. To exacerbate the situation, political uncertainties and currency volatility are making it exceptionally difficult to contain costs in dollar terms.

One of the main battles to maintain profitability is with government taxes; resource sector profits have long been tempting to governments. In recent years, mining royalties have increased in Australia, Chile, Peru, South Africa, Ghana, Tanzania and Burkina Faso, while new export duties have been introduced in India, Kazakhstan and Russia. In Indonesia, mines are now obliged to help the country meet its energy commitment before they can access export markets.

Earlier this week, Kenya unexpectedly increased royalties on minerals produced in the east African country and revoked certain mining licenses to get a bigger share of earnings from its mining sector. In addition, the government has revoked all mining licenses issued in the months before and after March's elections. Kenya has proven deposits of titanium, gold and coal and while the country's mining sector is a relatively small contributor to national output, its revenues are expected to grow as new mines come on stream.

Kenya's action follows measures in Tanzania, Africa's fourth-largest gold producer, which passed new mining legislation in 2010 to raise royalty payments on gold exports to 4% of gross value from 3% of netback value. The Tanzanian government has also said it would consider windfall taxes on mining companies if they reap huge profits from the commodities.

In June, Argentina's Santa Cruz province passed a bill slapping a 1% annual tax on mine resources in the province as the local government struggles with a wide spending deficit. While the percentage seems small, it will cost mining companies in the province $100m in new taxes next year In effect, the tax amounts to about 8% of the total resources of a mine with a 15-year life, considering that it must be paid annually. Companies must pay the percentage on proven reserves regardless of sales or output, posing another challenge to start-ups that may be sitting on a mountain of gold, but have yet to start production. Exploration companies like Marian Resources have already shifted their exploration focus away from Santa Cruz to the Condor del Oro property in northern Peru, with the management

blaming, among other factors, the negative investor sentiment surrounding both the exploration for, and the development of, mineral deposits in Argentina.

In addition to royalties, which tend to be charged against revenues, many governments now impose super-profit taxes, discovery bonuses, resource rents, license fees, environmental levies and reconstruction tolls. Amid these rising levels of resource nationalism, some countries are even threatening to renegotiate existing tax stability agreements, throwing mining company financial projections into disarray and heightening political risk.

Whatever the location, all producing mines have seen their costs rise considerably in recent years. The table below highlights the cash cost of the major gold producers listed on the FTSE:

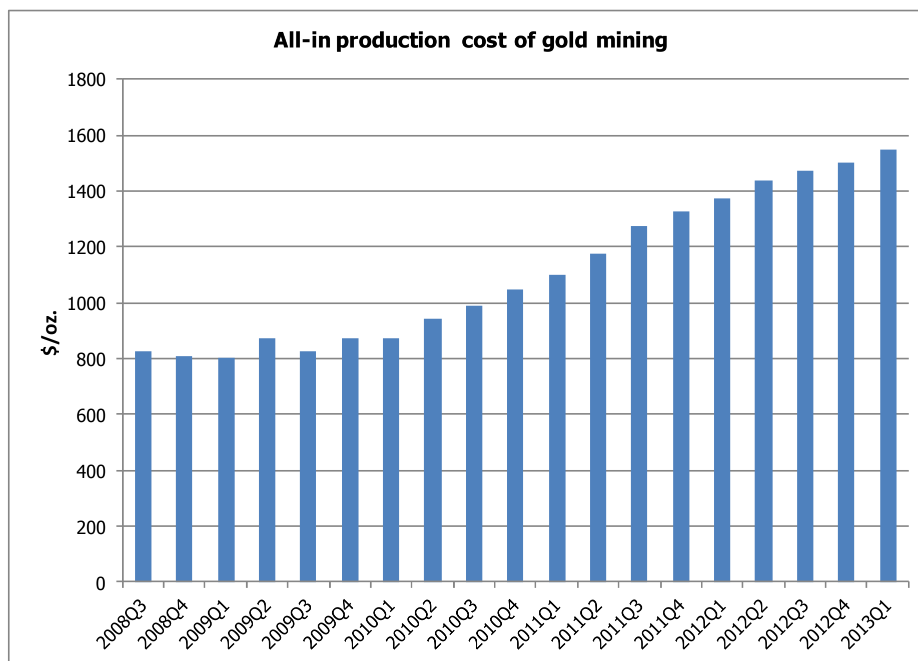
Cash Cost of Gold Mining Companies

$/oz	2007	2008	2009	2010	2011	2012	2013
African Barrick Gold	450	600	575	625	775	950	1025
Fresnillio	275	300	300	350	350	450	450
Hochschild	200	450	475	475	600	781	850
Petropavlovsk	275	300	300	600	600	800	900
Polymetal	n/a	475	475	575	700	750	800
Polyus	n/a	n/a	325	525	625	700	700
Randgold Resources	350	450	475	625	625	735	735

Source: Company Annual Reports, Hybridan LLP estimates

African Barrack remains the most expensive gold producers listed in the UK due to the high cost Buzwagi operation which drags on group operating costs in addition to high annual development cost requirements at both Buzwagi (waste stripping) and Bulyanhulu (underground development).

Cash costs, however, only show part of the problem. All-in-costs are also rising rapidly. We calculate an average all-in cost of production at US$1,550/oz in Q1 2012 which implies that many gold producers are losing money at the current spot price. The all-in cost reflects the total cost of producing an ounce of gold including operating costs, royalties, D&A, net interest, sustaining capex (incl. maintenance, underground development & stripping) and construction capital.



Source: Company Annual Reports, Hybridan LLP estimates

In the table below, we have shown the difference between cash costs and replacement cost of gold.

Average replacement cost of gold, $/o	
Cash operating costs	790
Sustaining capital	270
Construction capital	140
Discovery costs	120
Overhead	50
Tax	180
Total	1550

Source: Company Annual Reports, Hybridan LLP estimates

2.5 Pressure on funding undeveloped mines

The pain of falling gold prices is being felt across the industry. Fresnillo, which is one of the lowest cost gold producers, this week announced that it is cutting its exploration budget by 13% to $243m this year and plans to reduce production costs by 4% to 5%. It has also deferred some spending on its San Julian project.

Polymetal, which is focused on maintaining free cash flow generation and capacity to pay dividends in the current market environment, has suspended open-pit mining at Birkachan, within its Omolon hub.

To eliminate losses, Goldplat has put its Kilimapesa Gold Mine in Kenya on a care and maintenance programme until the project economics can justify the reopening of the mine.

The junior exploration companies are being hit hardest by the slump in gold prices as low valuations has made it very difficult to raise appropriate levels of equity funding. Some have been forced to look at alternative funding increasing the risk

for equity shareholders. For instance, Premier Gold, the Central Asia-focused gold exploration and development company, has entered into a convertible loan agreement with Tridevi Capital Partners (I) L.P. for the provision of £1m to advance the Company’s exploration programme at the Cholokkaindy gold licence in the Kyrgyz Republic. While the convertible loan should allow Premier Gold to carry out the necessary work to establish a maiden gold resource by the end of this year, it carries an annual interest of 10% which can be paid by the company in shares or in cash upon redemption or maturity.

3. Gold Equities

3.1 Performance

Mining equities have bounced off the bottom and it appears that investors have discounted most of the bad news. As the table below shows, the FTSE350 Mining index has recovered in line with the recovery in the gold price.

Source: Fidessa

The major gold producers such as Randgold Resources, Polymetal and African Barrack have also bounced by 10% or more in the past month. Overall, shares prices, on average, of gold producing companies are up 7% in the past month compared with a 22% fall in the past three months.

Performance of Gold producing companies

		Market	Share price performance			
		Cap (£m)	1m	3m	6m	1yr
Polyus	Prod	6064	-0.7	0.5	-11.0	6.8
Yamana Gold Company	Prod	5254	13.3	-9.4	-33.3	-26.3
Randgold Resources	Prod	4082	15.8	-8.2	-24.2	-21.3
AngloGold	Prod	3647	-1.3	-24.0	-47.3	
Polymetal	Prod	2481	41.3	-9.0	-38.1	-25.0
Hochschild	Prod	608	13.2	-29.2	-58.1	-57.2
African Barrick Gold	Prod	458	10.7	-24.0	-67.6	-71.2
Centamin	Prod	387	1.8	-15.9	-39.1	-45.1
Archipelago	Prod	244	-10.3	-18.1	-24.2	-16.9
Medusa Mining	Prod	227	21.5	-27.0	-57.6	-62.5
Highland Gold	Prod	207	24.8	-17.9	-43.3	-43.5
Petropavlovsk	Prod	141	9.8	-41.9	-75.5	-80.5
Kirkland Lake	Prod	128	-27.1	-5.8	-53.6	-74.8
Pan African	Prod	115	2.0	-13.3	-33.3	-16.0
Shanta Gold	Prod	54	30.6	-21.0	-49.2	-52.5
Norseman	Prod	29				-6.4
Caledonian Mining	Prod	28	-13.0	-27.2	-38.0	1.9
Trans-Siberian Gold	Prod	27	18.1	-9.3	-49.0	-48.4
Charaat Gold	Prod	26	11.3	-47.6	-60.2	-59.6
Minera	Prod	22	5.3	-49.5	-74.0	-71.9
Amara Mining	Prod	21	20.0	-55.6	-76.9	-76.1
Hambledon	Prod	19	25.4	45.1	-3.9	10.4
Avocet	Prod	18	43.3	-32.1	-81.1	-89.2
Goldplat	Prod	14	11.7	-17.3	-27.2	-35.0
Mwana	Prod	12	-24.2	-70.1	-83.1	-69.5
Peninsular Gold	Prod	12	-6.6	-13.6	-31.3	-25.0
Vatukoula	Prod	10	8.0	-11.5	-70.1	-73.0
Oxus Gold	Prod	7	-12.5	-34.4	-42.2	-31.5
Orosur Mining	Prod	6	5.0	-53.0	-76.5	-82.6
Angel Mining	Prod	6				-57.2
Kolar	Prod	5	0.0	6.3	-47.7	-44.3
Galantas	Prod	4	-9.8	0.0	-47.6	-59.3
Central Rand Gold	Prod	2	-13.3	-51.4	-72.7	-74.6
Average			**6.9**	**-22.1**	**-49.6**	**-46.2**

Source: Fidessa

Encouragingly, the junior end of the gold sector has performed in line with the majors, rising 7.4% in the past month having declined 5% in the past three months.

Performance of Gold exploration companies

		Market	Share price performance			
		Cap (£m)	1m	3m	6m	1yr
Kryso	Exp	98	0.0	-15.2	-25.9	-21.7
Patagonia Gold	Exp	87	19.4	-17.3	-37.7	-51.1
Aureus Mining	Exp	71	32.3	-24.5	-32.0	-37.2
Metals Exploration	Exp	67	2.2	-6.1	-19.3	-37.8
Condor Gold	Exp	35	10.1	-2.6	-45.3	-22.2
Serabi Gold	Exp	25	-2.2	-21.4	-47.6	-17.0
Solgold	Exp	23	0.6	175.0	37.5	22.2
Papua Mining	Exp	18	-26.2	-31.1	-39.9	14.3
Kefi Minerals	Exp	15	35.2	14.4	-21.7	1.7
Ovoca Gold	Exp	9	2.5	-8.9	-30.5	-2.4
Sovereign Mines	Exp	8	28.6	35.0	-3.6	-27.0
Bullabulling	Exp	8	13.3	-9.6	-61.6	-78.2
Kalimantan	Exp	7	14.3	0.0	18.5	-38.5
Orogen Gold	Exp	6	9.6	-3.4	-40.0	-47.2
Conroy Gold & Nat. Rsrcs.	Exp	6	56.6	-4.6	38.3	15.3
Nyota Minerals	Exp	5	-18.0	-38.0	-79.7	-85.2
Noricum	Exp	5	18.2	52.9	-25.7	-38.1
Ortac resources	Exp	5	4.7	4.7	-55.4	-56.3
Ariana	Exp	5	0.0	-11.1	-20.0	-38.5
Goldstone	Exp	5	-1.9	-22.7	-51.9	-63.6
Wishbone Gold	Exp	5	50.0	10.5	5.0	-4.5
Touchstone	Exp	4	-46.7	-68.0	-80.6	-85.8
Mariana Resources	Exp	3	1.9	-27.6	-62.1	-68.6
Aurum Mining	Exp	3	-6.3	-37.5	-44.4	-21.1
Scotgold	Exp	3	4.7	-30.8	-71.9	-72.7
ECR Minerals	Exp	2	22.3	-13.5	-53.1	-82.0
Connemara	Exp	2	2.4	-8.5	-30.6	-50.6
Greatland	Exp	1	-19.4	-32.5	-53.0	-58.5
Average			**7.4**	**-5.1**	**-33.4**	**-37.6**

Source: Fidessa

Given the poor infrastructure and political issues in some African, Latin American and Eastern European countries, we do not see clear opportunities to invest in many gold exploration companies. However, among the junior explorers, a few companies including Conroy Gold, Bullabulling, Mariana Resources and Ortac Resources stand out in terms of valuation and risk/reward profile of their locations. Bullabulling and Conroy Gold in particular look significantly undervalued given that they are located in Australia and Ireland, respectively, which are investor friendly. While Mariana Resources and Ortac Resources still carry some political risks, at current valuations they offer attractive entry points, particularly as the management of both companies are taking action to reduce political risks.

Company	Type	EV (£'m)	Operating Region	Gold Resource m oz	Cut off grade g/t Au	EV/oz. of gold
Bullabulling	Exp	8	Western Australia	3.5	0.5	2.3
Nyota Minerals	Exp	5	Ethiopia	1.9	2.3	2.8
Ortac resources	Exp	5	Slovakia	1.3	0.4	3.8
Mariana Resources	Exp	3	Argentina, Chile & Peru	0.5	1.0	6.1
Conroy Gold & Nat. Rsrcs.	Exp	7	Ireland & Finland	1.0	0.6	6.7
Goldstone	Exp	5	Africa	0.6	0.5	8.0
Serabi Gold	Exp	25	Brazil	2.5	0.5	10.0
Condor Gold	Exp	45	Nicaragua, El Salvador	3.5	1.7	12.9
Ariana	Exp	5	Turkey	0.5	0.5	10.8
Scotgold	Exp	3	Scotland	0.2	3.5	15.6
Kryso	Exp	98	Tajikstan	5.0	0.5	19.4
Aureus Mining	Exp	71	Cameroon	1.7	0.5	40.8
Patagonia Gold	Exp	87	Argentina	1.9	0.3	46.3
Metals Exploration	Exp	67	The Philippines	1.4	1.7	47.9
Aurum Mining	Exp	-7	Spain	0	-	-
Connemara	Exp	2	Ireland	0	-	-
ECR Minerals	Exp	2	Argentina	0	-	-
Greatland	Exp	1	Australia	0	-	-
Kalimantan	Exp	7	Indonesia	0	-	-
Kefi Minerals	Exp	15	Saudi Arabia	0	-	-
Noricum	Exp	5	Austria	0	-	-
Orogen Gold	Exp	6	Serbia	0	-	-
Ovoca Gold	Exp	9	Russia	0	-	-
Papua Mining	Exp	18	Papua New Guinea	0	-	-
Solgold	Exp	23	Australia, Ecuador	0	-	-
Sovereign Mines	Exp	8	West Africa	0	-	-
Touchstone	Exp	4	Columbia	0	-	-
Wishbone Gold	Exp	5	N/A	0	-	-

Source: Company reports, Fidessa

3.2 Conroy Gold & Natural Resources

Since our last update in March, Conroy has made considerable progress on its plans to develop a mine at Clontibret. In June, it announced a positive mineralogical report on the flotation Bulk Concentrate and Rougher Tailing samples. The gold grade in the Bulk Concentrate was very high at 32.8 g/t with 3 g/t silver. The Rougher Tailing had a much lower gold grade of 0.25 g/t and 1 g/t of silver showing that most of the gold is being captured in the Bulk Concentrate. The test results indicated that most of the gold in the Bulk Concentrate is associated with sulphides. This association suggests that these samples will be amenable to the BIOX® process proposed in the Scoping Study, as the sulphides would be broken down during the process. Exposure and association of the particulate gold in the Bulk Concentrate was very high (90%) indicating that most of this gold should be recovered during leaching. Indeed, the preliminary results of the BIOX® tests which are being carried out in South Africa have also been positive. Sulphide sulphur oxidation of up to 98.6% has been achieved and gold dissolution up to 90.4% were recorded on the lode material.

Separately, the company has identified a series of further gold targets have been identified along its gold trend, following an independent review of the airborne geophysics data in the area by BRG (Geotechnics) Ltd. The new targets identified

by the independent review have similar airborne geophysical characteristics to the known gold occurrences at Clay Lake, Clontibret and Glenish within the company's licence area.

In July, the company also announced that an ongoing evaluation of old lead workings within the company's licence area has yielded highly positive zinc results of up to 30%. Grab samples were taken from twelve of the old lead workings spoil heaps. Most of these samples gave high lead values, a lead value of 7.31% at the Tassan workings in County Monaghan was particularly high. However, two samples from the Cornaurney workings in County Cavan gave exceptionally high zinc levels of 30% and 18.4%, respectively. These samples also had elevated copper of 0.125% and 0.216%, silver of 9.2 and 3.8 ppm (parts per million), antimony of 101 and 49 ppm as well as mercury at 27ppm and 14ppm, gallium of 200ppm and 100ppm and cadmium of 2000 ppm and 688ppm.

3.3 Bullabulling

Based on our calculations, on an EV/resource basis, shares in Bullabulling at the current level provide the most value among the junior gold exploration companies. The Bullabulling Gold Project is located near the town of Coolgardie, approximately 60 km east of Kalgoorlie in Western Australia, and has a JORC compliant resource of 3.7m ounces of gold at 0.5g cut-off grade. Results of a recently concluded prefeasibility study have determined that the project is technically and financially viable with an open pit mine forecast to produce 2.1m ounces of gold over a mine life of 12 years, at an average cash cost of $843 per ounce in the first three years of operation. Based on the above parameters, the project would generate net cash flow of $564.5 million over the scheduled mine life. Net present value at an 8% discount rate is A$166.0 million and internal rate of return is 15.2% before tax.

3.4 Mariana Resources

Mariana Resources has taken decisive action to restore confidence. In February 2013, the exploration strategy was revised with the focus shifting away from the Santa Cruz province in southern Argentina to the Condor del Oro property in northern Peru. There were three key factors behind this move: 1. the increased potential for a significant gold/copper discovery at Condor del Oro; 2. the negative investor sentiment surrounding both the exploration for, and the development of, mineral deposits in Argentina and; 3. the difficult market conditions overall for junior exploration companies.

At Condor del Oro, the Company has the right to an earn-in to a 51% undivided interest. The property is drill ready subject to issuance of the permit to begin exploration activities; however, the drill permitting process is taking longer than was anticipated at the beginning of the year. The company has met with regulatory officials and is optimistic that it will be able to commence drilling during the third quarter of 2013.

In Argentina, Mariana continues to maintain its properties and assets in good standing, as well as advancing key exploration prospects on a low cost basis.

3.5 Ortac Resources

Ortac continues to face opposition from some locals on developing its flagship Šturec Project near the town of Kremnica in Slovakia. The concerns expressed relate to potential damage to historic buildings through blasting at the mine; memories of unpleasant experiences with mining during the Soviet era still linger. The company has been engaged with the local community, but there is a risk of prolonged delays before the company can release a preliminary environmental

report. However, the management is taking action to add value to shareholders by implementing a number of measures to reduce costs, including a 25% cut in the directors' remuneration and actively searching for other opportunities to diversify the project portfolio beyond Slovakia.

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