The Silver Investment Market - An Update

Commissioned by The Silver Institute

Prepared by Thomson Reuters GFMS

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GFMS

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Table of Contents

Units used:

supply and demand data are given in units of metric tons.

1 Moz = 31.103 t (metric tons)

1 ton = 32,151 troy ounces

1 ton = 1,000,000 grammes (g)

Terminology:

"-" = not available or not applicable

0.0 = zero or less than 0.05

"dollar" refers to the US dollar unless otherwise stated.

Prices:

Unless otherwise stated, US dollar prices are for the London Silver Market fixing.

Table Rounding:

Throughout the tables and charts, totals may not add due to independent rounding.

1. Executive Summary

1.1 Introduction

During early 2009, GFMS published the first Silver Investment Report, which had been commissioned by The Silver Institute. At the time, precious metals were very much in the spotlight, in particular following the collapse of Lehman Brothers in September 2008. That said, the onset of the financial and economic crisis saw investment demand (and especially institutional-related activity) across the precious metals complex fall sharply, as positions were unwound, in part, to meet margin calls in more traditional financial assets. Even so, this trend proved to be relatively short-lived, and the recovery in investment demand that emerged during the second half of 2009 saw World Investment in silver surge to a then record high.

In essence, the original report was commissioned to assess what had become an increasingly important area of the global silver supply/demand balance. For example, it documented the robust growth in silver-backed exchange traded funds (ETFs), which had been first introduced in 2006, but in the space of less than five years (to end-2010) had absorbed 600.3 Moz (18,670 t).

Given the still high profile of silver investment since the original report, The Silver Institute has commissioned Thomson Reuters GFMS to update the original 2009 publication. We have therefore re-examined many of the themes covered in the original report, assessing each principal area in the light of current developments against the prevailing macroeconomic and financial backdrop. The key findings are outlined below.

1.2 Investment Profile

Value and Volume Developments

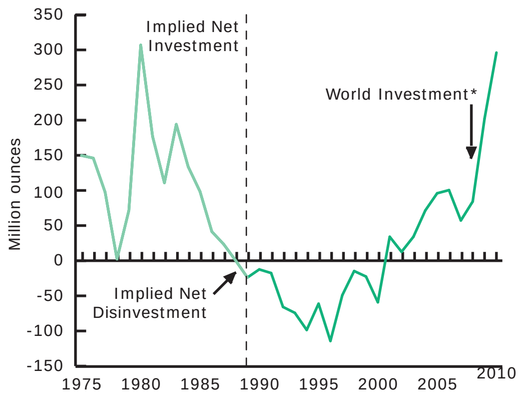
In the period since the 2009 report was published, silver investment demand has continued to strengthen, with World Investment (the sum of Thomson Reuters GFMS implied (dis)investment and coins & medals) in 2010 posting a fresh high of 296.2 Moz (9,212 t), or roughly $6bn of net demand. In spite of this performance World Investment accounted for "just" 29% of global silver demand last year. However, this still compares favorably with a 6% share in 2007 (before Lehman Brothers collapsed), when World Investment stood at 57.2 Moz (1,779 t), or $0.8bn in approximate value terms on a net basis.

In terms of the growth in silver investment demand this is highlighted by trends in a number of key areas. As already noted, ETF demand has risen appreciably in recent years almost doubling between end-2008 (from a level of 313.9 Moz or 9,763 t) and end-2010. This has also contributed to the material growth in European silver bullion stocks (in terms of the UK-based ETFs), the total for which has also benefited from the growth in allocated metal accounts; end-2010 stocks are estimated to have reached 932 Moz (29,000 t), compared with 571 Moz (18,000 t) just two years prior.

Investor Bullion Stocks

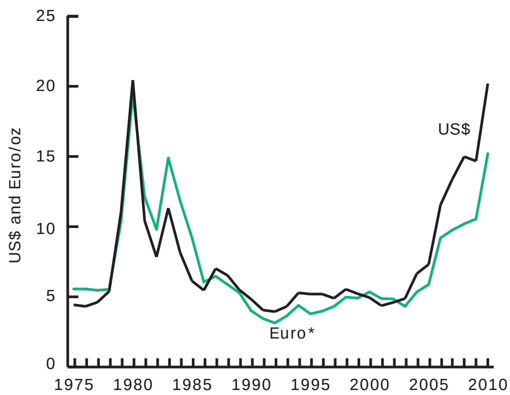
The increasing importance of investment demand is further highlighted by the growth in privately held bullion stocks (see Chapter 7), consisting of bars and coins. While it is impossible to produce an accurate total (available data on privately held bullion stocks

Silver Investment Demand



*Sum of implied net (dis)investment and coin fabrication
As coin fabrication data prior to 1990 is not available,
1975-1989 data only includes implied net (dis)investment
Source: Thomson Reuters GFMS

Average Annual Silver Prices



*Prior to 2000, synthetic euro shown
Source: Thomson Reuters

dates from 1975, while global coin minting is only available from 1990), what is clear is the extent of the recent surge in privately held stocks. Although the 2001-10 period saw stocks rise by 989 Moz (30,750 t), the past two years alone have accounted for half of this build up. Furthermore, the growth in privately held bullion stocks over the past ten years has comfortably offset the stock rundown that characterized the 1990s, which itself totaled 550 Moz (17,100 t). As a result, by end-2010, privately held bullion stocks are estimated to have grown to (a minimum of) 1,900 Moz (59,000 t).

In addition, these stocks account for the bulk of near market silver, which is in contrast to gold, where government and jewelry stocks are of far greater importance. (Although 1990-2010 has seen over 16 billion oz of silver fabricated, excluding coins, the only modest share accounted for by traditionally price sensitive markets in global jewelry and silverware demand means little of the total above-ground stock of fabricated products is in near market form.)

Indexed Gold & Silver Prices

Source: Thomson Reuters

Market Participants

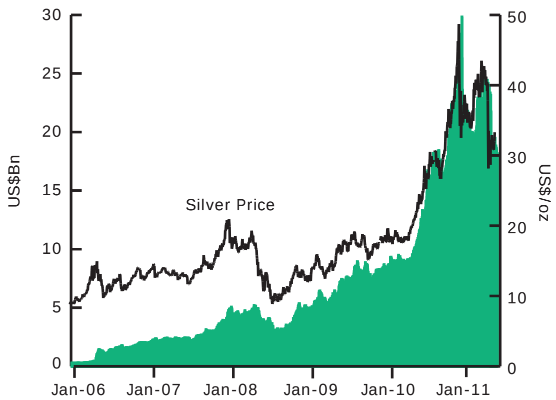
In terms of investor participation in the silver market, this is measured by focusing on its three constituent parts, namely: institutional, retail and high-net-worth (HNW) investors. Although overall investment demand has grown significantly since mid to late 2008, as Chapter 3 sets out the involvement of each of these three groups has varied considerably over this time.

In terms of **institutional demand**, which usually accounts for the largest share of investor inflows, this experienced a large pull-back during late 2008/ early 2009, as holdings were liquidated (principally in the over-the-counter market) to raise cash. (Much the same, has occurred recently, albeit on a smaller scale.) However, from late 2009 through to end-2010 institutional demand rose noticeably. This was reflected, for example, in the growth in investors' net long futures positions, although at their height in late 2009 and then subsequently in late 2010, they still fell short of the peaks achieved in 2008 (prior to the collapse of Lehman Brothers), at least when measured in volume terms. Furthermore, 2011 has been characterized by further declines in net long "investor" positions, reflecting wariness on the part of institutional investors in the wake of the sharp price falls during early May and late September.

Overall, and to a greater extent than in the gold market, institutional money in silver has been largely driven by the involvement of hedge and managed futures funds, attracted by silver's upside potential and the metal's high price volatility (relative to the yellow metal). Their participation therefore has typically been short term in nature, with relatively little involvement in the physical market, with the exception of ETFs.

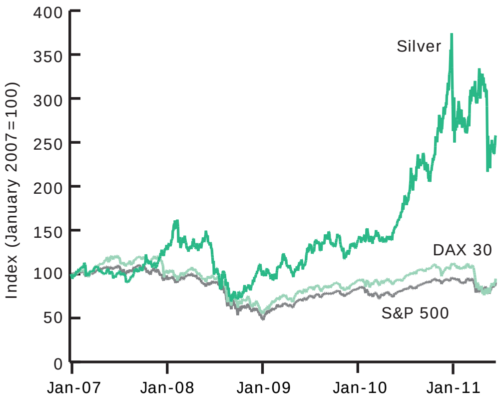
In contrast, **retail investors** have focussed their activities in the physical and ETF markets. In terms of western investors (which captures activity in North

Silver ETF Holdings



Source: various ETF issuers

Silver Against World Stock Indices



Source: Thomson Reuters

America and Europe), who tend to dominate the retail sector, their participation has taken place in the small coin, bar and ETF markets, although the extent to which each vehicle is used will be partly a function of the scale of investment in question.

Elsewhere, retail investment is dominated by India and China, with small bars accounting for the bulk of each country's demand. While western retail markets have enjoyed successive gains, Indian demand has been far more volatile, with record net demand during 2008 giving way to heavy disinvestment in 2009; key to these movements have been consumer price expectations. In contrast, the Chinese investment market has realized year-on-year growth since it was liberalized in 2009, with both physical demand and futures turnover on the Shanghai Gold Exchange having achieved robust growth.

The final category of investors, namely the **high-net-worth** (HNW) sector, typically classed as having at least $1m in liquid assets, has also experienced rising silver demand in recent years. This has manifest itself in the OTC market, principally through the acquisition of OTC-related metal accounts, as well as ETFs. The principal driver has been wealth preservation (through asset diversification), while some HNW participants have been attracted by silver's upside price potential.

1.3 Investment Outlook

In terms of the outlook for 2011, silver investment is forecast to achieve another historically high total. That said, the first half of 2011 witnessed a significant level of unwinding of positions by institutional investors, who reacted to the late April price spike and subsequent pull back, which has since seen silver underperform gold. This underperformance was exacerbated by the rapid sell-off that occurred towards end-September, which saw silver fall to $26 (on an intra-day basis), a level last seen in January this year. As fears of a double-dip recession grew, silver assumed its industrial mantle, and followed the PGMs lower (gold was partially insulated, retaining some of its safe haven credentials).

In spite of these developments, a number of factors remain supportive of silver investment demand, both for the remainder of 2011, as well as into 2012. First, the outlook for silver prices remains bullish, with the potential of prices nearing, if not exceeding, the $40 a realistic prospect as the fourth quarter develops. This is in part based on our forecast for gold to target the $1,900 level.

Second, the economic and financial backdrop remains supportive, with both gold and silver therefore continuing to benefit from their safe haven credentials. At present, there is little sign of Europe's sovereign debt issues easing, although related euro weakness/dollar strength (with the latter also potentially benefiting from a diversion of money away from the Swiss franc) may create some downward price pressure. Finally, as the likelihood of a double dip recession grows, with the prospect of further losses in mainstream financial assets, the emphasis on asset re-allocation is likely to remain (and therefore wealth preservation), especially among retail and HNW investors. However, should silver exceed $40, some unwinding may occur, principally of institutional positions, given their focus on upside price potential. This raises the possibility of some deleveraging in the futures market. However, as noted above, this should have little impact on silver's safe haven qualities, with the potential for retail and HNW investors to raise their asset allocation (in favor of both silver and gold).

This argues well for bullion coin and small bar demand, not only in western markets but also in India and China. Taking each in turn, European retail demand is currently forecast this year to grow by around 10% to over 55 Moz (1,700 t). In contrast, US demand may achieve a more modest growth rate (currently slated at 7%), although the forecast total of over 63 Moz (1,960 t) will still represent a record high.

In contrast, India and China, are predicted to see far more significant gains in 2011. Current estimates point to Indian physical investment comfortably exceeding 45 Moz (1,400 t) this year, compared with around 29 Moz (900 t) in 2010. Albeit not as prominent, Chinese small bar and coin demand is forecast to grow by 25% to over 8 Moz (250 t) in 2011. While the growth rate may look impressive, the country's physical silver investment market is still in its relative infancy, as market liberalization only occurred in July 2009.

Overall, therefore, World Investment demand in 2011 is expected to realize a near record high total, in volume terms. A strong first and final quarter performance should be only marginally offset by a subdued outcome during the middle six months. However, investors' commitment in value terms will post a fresh record total, with World Investment in value terms likely to reach $10bn on a net basis for the first time.

2. Market Overview

2.1 Introduction - World Investment

Definition

Before discussing investment demand and its impact on silver prices, it is worth understanding Thomson Reuters GFMS definition of investment and its statistical treatment. Our data on silver investment, defined as World Investment, consists of two components, new bullion coin sales and the implied net (dis) investment series. The latter is a balancing item and also a proxy for the net impact of investor demand on the underlying physical market, excluding coins and medals. It captures, for instance, ETF demand, the net effect of investors' futures and options transactions on the physical market and direct purchases of bars.

Volumes and Value

Investment demand has been the primary, albeit by no means the unique, driver of the rally in the silver price since the early 2000s. An analysis of our data on World Investment in the decades before and after 2001 broadly supports this view. From 1990-2000, for instance, the silver market saw an average of 53 Moz (1,650 t) per annum of net disinvestment, whereas over the 2001-08 period investors were net buyers of silver, with World Investment averaging over 61 Moz (1,900 t). In addition, since 2009, the market has witnessed a tremendous rise in investor interest in the white metal, with World Investment for the first time approaching 300 Moz (9,300 t) in 2010.

In value terms, this represents an even more pronounced change, with the approximate value of net investment amounting to $6 billion last year, compared with an average of $0.6 billion from 2001-08 and an average outflow of $0.3 billion over the 1990s.

Comparison with Gold

It is also worth examining how these figures compare to those for gold (defined as the sum of implied net investment, bar investment and all coins). The graph below features investment figures for both metals since 1980. Interestingly, although the net impact of investors' activities in silver was negative for a prolonged period of time, the gold market has consistently been in net investment mode.

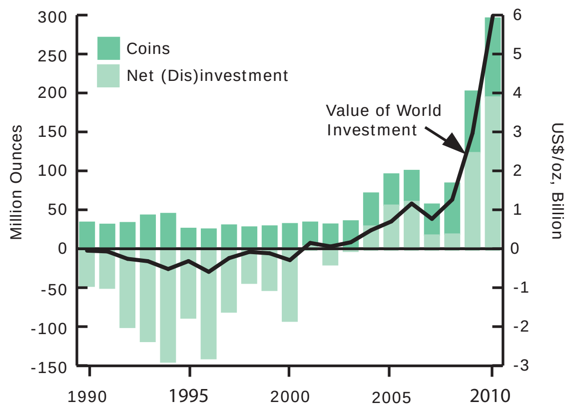
Moreover, while both metals have enjoyed massive buy-side interest over the last few years, the overall size of investment inflows in the gold market has been far greater than that of silver. For example, World Investment for gold totalled $66 billion last year, more than ten times that of the silver market. An alternative approach to compare silver investment with the relevant figures for gold is to consider the portion of overall demand or supply it has accounted for annually. From the chart on the next page, one can immediately notice the dramatic contrast between the two, as investment has in general accounted for a larger portion of the gold market than it has of the silver market over the last three decades.

2.2 Development of World Investment

1980-2006

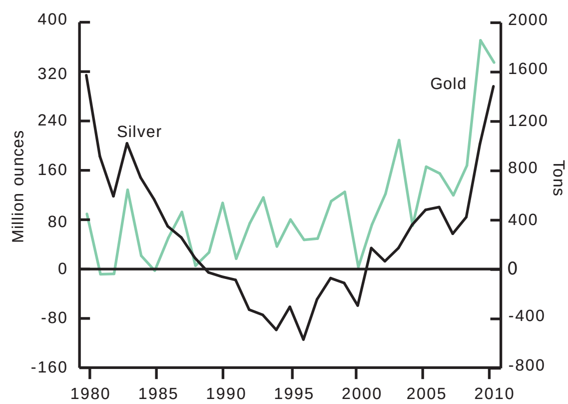
While this report looks predominantly at the last three to four years, we cannot of course ignore the spike in investment demand, which materialized during 1979-80, itself due to the much publicized Hunt brothers' attempt, and subsequent failure, to corner the silver market. In this period, the price of silver jumped to a record high of almost $50/oz (basis the London fix), before falling acutely by the end of 1980. Thereafter, investor interest continued to decline before the silver

Implied Net Investment & Coin Fabrication



Source: Thomson Reuters GFMS

Annual Gold and Silver Investment



Source: Thomson Reuters GFMS

market saw large-scale disinvestment from the late 1980s through to 2000. That episode gave way to a more neutral period from 2001-03 before investment demand took off, taking the silver price with it, from 2006 onwards well into double-digit territory.

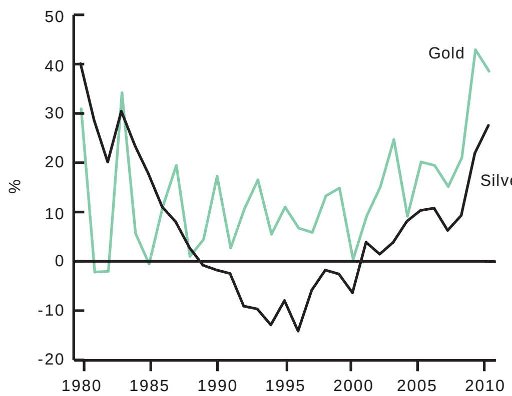
2007-2011

As mentioned above, there has been a considerable rise in buy-side interest from the middle of part of the 2000s. At nearly 300 Moz (9,300 t), World Investment reached its highest figure in our 21-year data series in 2010, equivalent to 28% of total silver demand.

Looking at the reasons behind this surge in investment, much of the rise before 2008 was due to the strong gold rally, with silver belatedly following the upward course of its more expensive cousin. Second, with the general growth in interest in commodities as an asset class, silver here benefited not only from the direct acquisitions that this generated but also from indirect purchases via commodity basket instruments and the like. Moreover, investors were presented with an increasing number of vehicles with which to gain exposure to the white metal, most importantly through the launch of easy-to-access ETF products.

While the near meltdown of the global financial system in the second half of 2008 triggered a considerable sell-off of silver in the futures and OTC markets, investment demand as a whole remained firmly in positive territory. Central to this was the white metal's appeal as a safe haven. It is no coincidence that demand for physical silver bullion products such as ETFs, bars and coins soared immediately after the collapse of Lehman Brothers, as fears over the stability of the banking sector drove a massive flight to defensive assets. Thereafter, with the deleveraging process for financial institutions coming to an end in early 2009, investment inflows into silver soon started to accelerate again.

Contribution of Investment to Demand / Supply



Source: Thomson Reuters GFMS

Undoubtedly a good part of the reason for the growth in investor interest in silver has been the continued rally in gold, the white metal arguably providing a less costly and more leveraged alternative to the yellow one. Underlying this noteworthy growth in demand for silver, and for that matter gold, has been investors' desire not only to make money but also to preserve their capital. Despite the easing global financial crisis, investors' appetite for safe haven assets has remained heightened over the last two years, due to the worsening sovereign debt crisis, ultra-low interest rates and growing worries about the potential inflationary outlook as a result of massive monetary easing applied by government and central banks in western countries.

However, the above is arguably insufficient as an explanation of silver's gains, especially since the Fall of 2010 through to April this year when the gold:silver ratio nearly halved within less than 12 months. A key element to this was that investor sentiment was boosted by growing confidence in silver's industrial demand, on the back of a much improved world economy over the course of 2009. Indeed, investors' greater optimism was shown to be based on more than sentiment, as 2010 saw much improved demand for silver from many industrial users. In addition, silver's historically greater volatility than gold, but still close correlation, recommended it in 2010 to those who regarded silver as a more leveraged alternative to gold. The fact that, unlike gold, the all-time nominal high for silver (1980's $50/oz) remained a good way off last year motivated certain buyers. Finally, it is of note that the vast majority of silver's core supply/demand fundamentals consists of largely price insensitive components, which helped to provide robust price support in a rising market.

The strength in investor demand carried over into early 2011, sending prices, by late April, to near record highs. At the time, robust price expectations encouraged greater investor participation, pushing prices yet higher. However, as profits were booked the rally lost momentum and the exit that followed led to a sharp price decline. The speed with which prices fell and silver's underperformance relative to gold has since deterred investors, a view which has been re-affirmed by the late-September decline, itself the product of growing recessionary fears (industrial commodities were hardest hit). While institutional demand has been largely subdued, retail demand has so far remained upbeat, reflected in strong coin demand and a partial recovery in ETFs from its mid-year decline.

3. Who is Investing in Silver and Why?

3.1 Introduction

From 1990 through to 2000, the silver market was characterized by net disinvestment. However, in 2001 the market saw the first signs of net silver investment which, since 2009, has accelerated, in the process becoming an increasingly important component of the global silver supply/demand balance. A detailed rationale follows below, outlining the key investment drivers. In broad measure these fall into: the supply/demand outlook based on an assessment of market fundamentals; safe haven status, reflecting the economic and financial backdrop and silver's relative performance to the gold price. In addition, each class of investor will tend to focus more on either wealth preservation or making profits (or a combination thereof), which in turn will be partly contingent on their time horizon.

As important as the above motives are, how these "play out" in the silver market, in terms of their impact on the World Investment series, will depend on the participation of different groups of investors. For example, institutional investors, the most active category of investor in the silver markets, are dominated by hedge funds and mutual funds. With a typically short-term horizon and attracted by silver's greater volatility and therefore its leveraged potential, inflows into the silver market will be targeted at derivative trading on futures exchanges and in the over-the-counter (OTC) market, as well as tradable indices (such as the S&P GSCI and TR/J CRB). In sharp contrast, private investors tend to more motivated by wealth preservation, with a preference for allocated metal accounts and/or physical bullion products (ETFs, bars and coins).

The final category of investor, termed high-net-worth (HNW), also includes family and private wealth offices. Although "on paper" this represents a separate category, the boundaries with institutional and private investors are not always clear-cut. In other words, the motives and investment drivers, as well as the preferred investment vehicle, will overlap. Thus, larger HNW participants will focus on the OTC market, while smaller scale players are likely to prefer ETFs and physical purchases, although the latter will also be concentrated in building allocated metal accounts in the OTC market.

3.2 Institutional Investors

The growth in institutional participation in the silver market has been one of the key drivers behind the rise in silver prices in recent years (in particular until early 2011). As touched on above, hedge funds and asset managers have accounted for much of this growth, which stands in marked contrast to gold where pension funds, in particular, have begun to play a more prominent role. This distinction is important as the latter will have a longer-term outlook, with a "buy and hold" mentality. In addition, their gold purchases, will form part of a strategic re-allocation (itself the product of a medium to long-term decision making process). This will manifest itself in a range of investment vehicles, principally the OTC and ETF markets. In contrast, hedge fund activity will typically be far shorter term, with a quite different philosophy to that of longer term players.

In terms of understanding their involvement in the market, rising precious metal prices over the past decade have been instrumental in engaging the institutional community in precious metals, although the collapse of Lehman Brothers saw many of these positions unwound, principally in the OTC and futures markets, in order to raise funds. This trend continued into early 2009 before a resumption of net investment

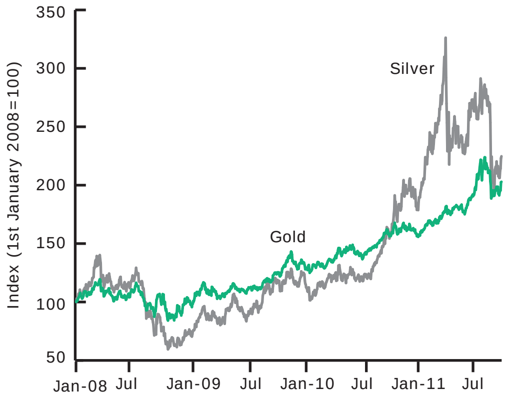
Silver's Correlations with Gold & Other Commodities

(using log-returns in spot prices)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gold	0.42	0.53	0.50	0.57	0.62	0.60	0.54	0.60	0.63	0.58
Oil (WTI)	0.02	0.04	0.06	0.08	0.18	0.16	0.09	0.08	0.16	0.30
GSCI	-0.03	0.02	0.04	0.04	0.17	0.17	0.13	0.11	0.17	0.35
CRB Index	-0.02	0.00	0.11	0.03	0.21	0.32	0.27	0.12	0.30	0.31
Copper	0.26	0.08	0.16	0.38	0.32	0.46	0.49	0.46	0.49	0.64

Source: Thomson Reuters, Thomson Reuters GFMS

Indexed Gold & Silver Prices



Source: Thomson Reuters

demand emerged during the second half of 2009, for a number of reasons. First, silver's improving supply/demand fundamentals encouraged fundamentally-based hedge funds to enter the silver market, encouraged augmented by record levels of industrial offtake. Last year, the emergence of the sovereign debt crisis saw hedge fund participation in the silver market grow. In 2011, the continuation of Europe's debt problems, augmented by a downgrade of the United States' credit rating has in broad measure maintained investor participation at elevated levels. However, institutional players did significantly reduce their exposure to silver, during (as well as in the aftermath of) the April/May price surge then sharp decline. The surge in volatility this price action generated, especially relative to gold, has significantly deterred institutional participants from returning to the market *en masse*, although the political and financial backdrop is likely to encourage a rebuilding of these positions, albeit partially and somewhat tentatively.

3.3 Retail Investors

Similarly to institutional investment, retail investor purchases have grown appreciably in recent years. As a result, the growth in retail activity, not only in terms of the number of participants, but also the total level of demand, has made this category an increasingly important segment of World Investment.

The principal investment vehicles for retail investors are ETFs and physical bars and coins. Taking each in turn, the introduction of silver ETFs in 2006 played a pivotal role in broadening the small investor base. Although retail investors have had access to a range of small bars and coins for several decades, access to low cost, (effectively) allocated silver led to a step change in retail investor participation in the metal. Furthermore, and in contrast to gold, retail investors appear to account for a greater share of ETF holdings compared with the institutional client base, for a number of reasons. First, those investors that have essentially been priced out of the gold market (a phenomenon which has become increasingly relevant during 2011), but have remained in precious metals, have switched to silver. This approach has had the twin benefit of enabling retail investors to gain exposure to silver as well as leveraging off of the gold price. Second, retail investors have been attracted by the ability to easily trade silver as a security. Finally, ETFs have provided low cost access to physical silver bullion, in a manner that hitherto would only have been available to larger players.

In terms of the development of the retail investor base, the collapse of Lehman Brothers in 2008 brought gold and silver's safe haven credentials to the fore. While some investors entered the silver market to benefit from the metal's upside potential, for others wealth preservation was the chief concern. Although global ETF demand has fallen back so far this year (in part due to profit taking as well as the need to meet margin calls on traditional investments), it is feasible that liquidations have been concentrated among HNW, rather than retail, participants.

Retail investors' rationale for involvement in physical silver varies considerably by market (for more on this see Chapter 5). In the United States, silver bars and coins have grown in popularity for many of the reasons outlined above, including for their safe haven appeal, as well as a means to gain proxy exposure to gold. In addition, small investors have specifically chosen small bars and coins because of their mistrust of the financial and banking system, choosing instead to take physical delivery. This mistrust has deepened in recent years and appeared well placed when a "triple A" rated institution failed in 2008, sparking fears about the viability of the financial system. More recently, confidence has been shaken in the ability of the United States to function following the downgrade of the country's credit rating. Whereas in 1999, when US gold Eagles were purchased in the run-up to "Y2K" (as fears grew that financial systems would fail as 2000 dawned), over the past three years silver coin demand has experienced a far greater rise compared with that seen in the gold market. While some small investors have purchased both metals, others have effectively been priced out of the gold market. For some, the philosophy was that, should the financial system crash and we enter a doomsday scenario, these products are small enough to buy essentials such as gasoline.

In Germany, the largest physical investment market in Europe, silver investment demand has surged in spite of the high sales tax levied on bars and coins (although the tax treatment varies greatly between bar and coins). Here, the European sovereign debt crisis has driven physical demand higher, largely because of the risk it has posed, at times, to the country's banking system (principally because of loan exposure in several crisis-stricken countries) and the perceived threat to the euro. In essence, memories of the country's 1920s hyperinflation remain intact, fuelling mistrust in both the domestic and wider European financial system, as well as a recognition of holding physical metal.

Away from the United States and Europe, the two largest retail physical markets are India and China. Indian demand, traditionally dominated by jewelry and silverware, has shifted in favor of bars and coins as a result of underkarating of the former. Aside from substitution effects, coin and bar demand has benefited from well established distribution channels, the widespread availability of bullion products and, at times, robust price expectations. This accounts for the surge in bar demand during late 2008, against a backdrop of rising rupee silver prices. Although by no means as acute, bar demand has also responded positively this year to the price trend, with the full year total expected to comfortably exceed 2010's 29 Moz (900 t).

A more complete analysis of Chinese investment is set out in Chapter 5, but as alluded to above, the local market has recently enjoyed tremendous growth, both in physical retail investment and also silver futures trading on the Shanghai Gold Exchange (SGE). Although included here, the latter benefits from retail and HNW trading (apart from providing brokerage services to the general public, institutional participation is limited by strict regulations), with local price expectations driving much of the volume. This explains why trading remained negligible up until mid to late 2010. However, silver's ascent through $20 resulted in a substantial lift in trading, which gathered pace as silver prices continued to strengthen. In fact there has been a remarkable similarity between Comex trading (by institutional players) and that on the SGE (dominated by retail investors). In terms of the physical market, this benefited from the liberalization of the market in 2009. Despite its relative infancy, the market has already achieved 5 Moz (160 t) of demand in 2010, with 2011 expected to see further healthy growth, to a forecast total of over 8 Moz (250 t). A combination of robust price expectations and inflationary fears have helped drive demand higher.

3.4 High Net Worth (HNW) Investors

In keeping with the aforementioned groups, HNW investors have become increasingly active in the silver market. That said, their involvement in precious metals is geared towards gold, motivated in large part by asset diversification and wealth preservation. In this regard, it is of little surprise that involvement in both gold and silver has accelerated since mid-2009. Although strategic issues, such as portfolio diversification have largely driven HNW involvement in its own right, the timing of any such purchases can be related to developments in both gold and silver prices. In particular, the first four months of this year saw silver investors respond positively to rising gold prices, the perception at times being that silver has failed to keep pace suggesting greater upside potential for silver, compared with the yellow metal.

Similarly to the retail segment in particular, HNW investors tend to favor physical metal, but focus on OTC metal accounts, as well as ETFs, rather than bar and coin. Depending on the size of the fund and the prescribed allocation to silver, the investment in silver may involve a multi-location approach. This reflects security concerns, as well as a requirement for product diversification. While the latter may be well understood, the former, very much a US phenomenon, relates to "9-11" and fears of a repeat event. Finally, some portfolios will feature bullion coins, although these will also be stored in bank vaults, along with OTC purchases. This may surprise, given high retail coin premiums, but some HNW investors will purchase coins as disaster insurance (similar to the retail investor approach). However, in contrast to the retail segment, HNW participants will not take physical delivery of purchased metal.

In terms of HNW involvement in the silver market this falls short of retail demand, from a global perspective, given the dominance of small investors in China and India. One could also draw the same conclusion for the United States and western Europe (principally Germany), given the strength of the coin sector in both locations. That said, as the above commentary shows, HNW investors do participate in the silver coin market, which does complicate the analysis.

4. Investing in Paper Instruments Linked to Silver

4.1 Introduction

Along with growing physical demand for the white metal (see Chapter 5), investor interest in silver futures traded on futures exchanges has also increased in recent years. That said, the substantial growth has been largely reserved for the relatively new Chinese and Indian exchanges, while trading in New York remains below levels seen during the early to mid-2000s.

4.2 New York Mercantile Exchange

Although China and India have in recent years benefited from rising investor activity, the global silver futures market remains dominated by trading on Comex (a division of the New York Mercantile Exchange), which offers 5,000oz futures and options contracts.

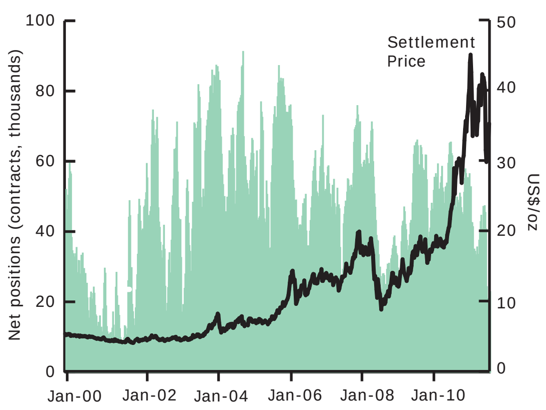
Looking at recent trends, 2008 saw a 31% increase in turnover, with total volumes reaching more than 8.9 million contracts. The data for (combined) non-commercial and non-reportable net positions in Comex futures, is considered as a proxy for investor activity on the exchange. It shows that the net "investor" long reached a peak of almost 76,000 contracts in February 2008, driven by spill-over effects from gold's rally. Nevertheless, long positions then started to fall, reaching a low of 22,268 contracts in October that year. This was due to the deepening financial and economic crisis and subsequent investor liquidations in order to cover losses elsewhere.

In 2009, Comex trading volume dropped by 10% to 8.0 million contracts. The decline was mainly due to lower activity in the first half of the year. Nevertheless, investor interest rebounded in the second half on the back of a general increase in commodity prices and improving industrial demand; the net investor long reached a 15-month high of 66,004 contracts in October 2009.

2010 saw a dramatic increase in silver futures turnover on the Comex. The total volume reached 12.8 million contracts, a rise of 60% on the previous year's level. This was mainly driven by growing investor confidence in silver's underlying fundamentals, in particular the well documented strength in industrial demand. Moreover, in recent years, the economic backdrop has remained supportive for investment demand, in terms of the metal's safe haven appeal. Related to this, rising investment activity in the silver market has been further driven by growing concerns over economic and financial difficulties in Europe and the United States. Nevertheless, in spite of this, the net investor long fell in the final quarter of 2010 partly due to some investors shifting out of futures and into the OTC market.

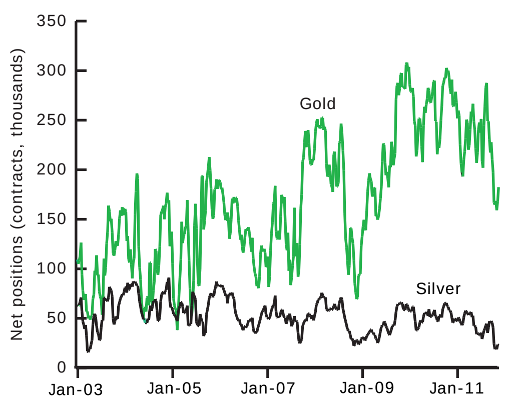
Moving into 2011 investor activity has been notably volatile. The first quarter (and in fact through to early April) witnessed a marked improvement in net longs, as new investors entered the market, attracted by sharply rising silver prices (creating near-bubble

Comex: Net "Investor" Long Positions*



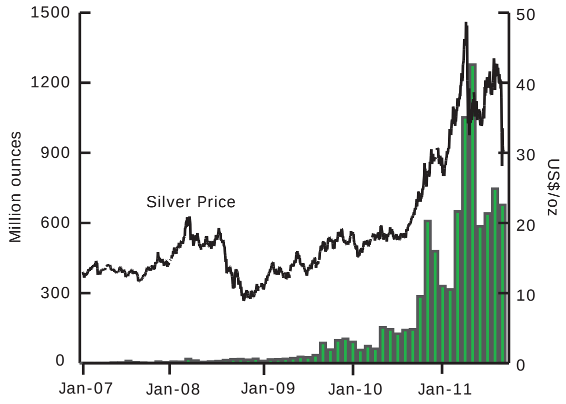
Source: CFTC; *non-commercial and non-reportable net futures positions

Comex: Net "Investor" Long Positions*



Source: CFTC; *non-commercial and non-reportable net futures positions

Shanghai Gold Exchange Futures Turnover



Source: Shanghai Gold Exchange

like conditions). However, the net long then fell back as some investors booked profit and, as the price rally then lost momentum, further and more widespread investor liquidations emerged. It was of little surprise, therefore, to see further declines, with net long positions reaching a low of 29,166 contracts at end-June. Nevertheless, from July through to late September there were signs of firmer investor interest. However, end-third quarter/early fourth quarter investor activity has seen a rapid unwinding of these positions, with net long positions at times falling to levels last seen during early 2003.

4.3 Other Exchanges

As highlighted in the introduction, exchange-related silver trading away from New York is dominated by India, with growing investor activity now emerging in China. Looking first at activity in India, silver futures trading is dominated by activity on the **Multi Commodity Exchange of India** (MCX), with far smaller volumes taking place on the **National Commodity and Derivatives Exchange** (NCDEX); both offer a standard 30kg and a mini 5kg contract, while the MCX also offers a micro 1kg contract. Compared with total turnover on the MCX of 12.7 billion oz (395,000 t) in 2008, by 2010 this has risen to 19.3 billion oz (600,000 t). This reflected robust price expectations which have also pushed volumes dramatically higher this year. Data for the January to October 2011 timeframe reveals that total turnover (excluding the silver micro 1kg contract) rose by 85% year-on-year to 23.2 billion oz (722,958 t).

Turning to China, futures trading was only introduced in 2007 (in fact silver futures trading has not been listed on the Shanghai Futures Exchange, but the Shanghai Gold Exchange tradeable contract, AG (T+D), is effectively a futures contract). Denominated in one kilo lots, trading on the **Shanghai Gold Exchange** (SGE) remained subdued until mid-2010 when silver prices started to climb materially higher. As a result, monthly average turnover jumped from around 144 Moz or 4,480 t (which itself compared favorably with a monthly average in 2009 of just 43 Moz, or 1,340 t), to almost 480 Moz (14,930 t) in December 2010. As prices continued to strengthen this served to reinforce price expectations, which was reflected in a further lift in SGE trading (see the above chart). By April this year silver futures turnover had, for the first time, exceeded 1 billion oz (31,100 t) and although the latest available data (for September) points to a slowdown from these record highs, the year-to-date total still represents a five-fold increase over the same period in 2010.

In sharp contrast, trading on the **NYSE Euronext (Liffe)** (which offers a standard futures contract of 5,000oz and a 'mini-sized' contract of 1,000oz) has remained at slight levels. A trend towards declining futures trading was briefly punctuated in 2008 when the CME Group's Metals Complex was purchased by NYSE Euronext, which saw the contract transferred to Liffe. However, this brief flurry of activity appears to have come to an abrupt end this year, with 2011 so far witnessing a sharp fall in silver futures trading.

In Japan, the **Toyko Commodity Exchange** (Tocom) offers a 10kg contract (lowered from 30kg) quoted in yen and, therefore, demand for silver futures traded on the exchange to a large extent depends on development in the yen:dollar exchange rate. In broad measure, a strengthening yen has been accompanied by a material decline in silver futures activity, which in 2010 stood at just 80 Moz (2,490 t). This year, in spite of the trend towards higher silver prices, further yen appreciation has resulted in a sharp fall in futures trading on Tocom. As a result, total futures turnover, for the January to October period, has fallen by over two-thirds to a paltry 11 Moz (352 t).

Silver Futures Trading

(total volume in nominal million ounce equivalents)

	2008	2009	2010	Change y-o-y
Comex	44,586	40,001	64,117	60%
CME*	3,601	1,187	1,651	39%
Tocom	287	106	78	-26%
MCX	12,659	13,871	19,260	39%

*N.B.: Includes the 5,000-ounce and 1,000-ounce contracts

Source: Comex, CME Group (previously CBOT) & NYSE Euronext, Tocom, Multi Commodity Exchange of India.

Silver trading on the **Dubai Gold and Commodities Exchange** (DGCX), introduced in 2006 and offering a 1,000oz silver futures contract, has remained slight. For example, total futures turnover in 2010 stood at a modest 32 Moz (995 t). However this year, in spite of the strength in silver prices volumes have eased back (covering the January to September period) to just 16 Moz (488 t).

4.4 The Over-the-Counter (OTC) Market

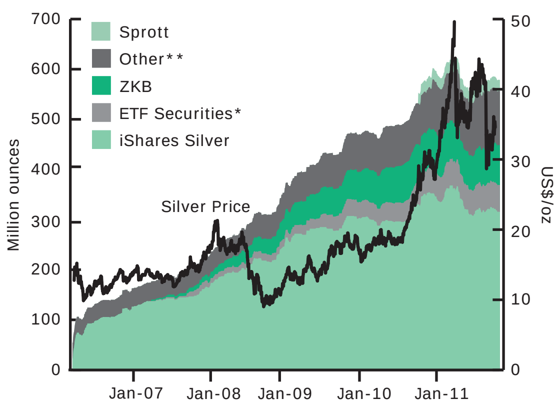
An important theme which emerges from this Investment Report Update is the significant share of silver investment which takes place in the OTC market. There are several advantages in using the OTC market, which not only offers a great variety of spot and derivative products but also access to physical metal accounts. In broad measure, these benefits relate to investors being able to access tailor-made products directly from the issuing institution. In terms of the specific advantages, first there is a cost advantage, due to the lack of fees incurred compared with trading on futures exchanges. Flexibility is another crucial feature, with investors able to source a wide range of products specifically designed to meet their requirements, for example in the form of more highly leveraged products than can be accessed on a futures exchange. Furthermore, the OTC market provides investors with a higher level of confidentiality, due to the OTC market less transparent nature compared with the principal exchanges.

Investors can also gain access to tax-free physical silver, including allocated metal accounts, but this comes at the expense of a higher counterparty risk. Nevertheless, there is also a cost of operating on the OTC market in terms of higher minimum investment requirements. However, the principal market participants tend to be institutional and high-net-worth investors, with only limited interest by small retailers.

In terms of recent trends, late 2008 and early 2009 witnessed substantial liquidations on the OTC market, as investors strove to meet margin calls and raise cash to meet other commitments. The decline in OTC activity, especially during early 2009 also owed much to a shift from silver derivatives, with a high level of counterparty risk, towards physical products such as ETFs on the back of a general rise in risk aversion. In contrast, the second half of 2009 saw investor interest in OTC products rebound, though not to the same extent as transpired on the Comex.

Investment activity in the OTC market remained relatively subdued during early 2010. However, this eventually gave way to a substantial lift (which emerged during August and September), reflecting a widespread rise in commodity-related investment demand, in part as inflationary concerns grew. As discussed in more detail in Chapter 3, rising silver price volatility and the metal's perceived upside potential led to further substantial inflows in the fourth quarter of last year, which carried over into early 2011. However, the prospects of a double dip recession and the growing European sovereign debt crisis has seen OTC buying wane, as institutional players in particular have focussed increasingly on gold. In addition, several institutional participants (and hedge funds in particular) had booked profits during the price run-up earlier this year, with the subsequent sharp price decline acting as a strong deterrent to a number of investors from re-entering the OTC silver market.

Silver ETF Holdings



*ETFS: includes London, Australia, NYSE, Glitter and WITE
**Other:includes Julius Baer, Central Fund of Canada, Silver Bullion Trust, Claymore, DB Physical Silver, iShare ETC and Mitsubishi funds
Source: Respective issuers

4.5 Exchange Traded Funds

One of the themes of the original Investment Report was the role ETFs played in broadening the investor base, a role which is still relevant in this analysis. In summary, silver ETFs, which were first introduced in April 2006, have (in the first instance) offered investors almost direct price exposure to the physical metal, through a security that can be easily traded via brokers. However, arguably of greater importance, has been the increasing participation of retail and high-net-worth (HNW) investors, whose only access to the physical market before the introduction of ETFs was essentially in the coin and bar market.

It is of little surprise, therefore, to have seen a substantial rise in global ETF holdings. In the space of just three years (2008-10), the total grew by nearly 390 Moz (12,100 t), with the end-2010 level standing at 600 Moz (18,660 t). In terms of the individual funds, the New York-based iShares Silver Trust has accounted for the bulk of the growth, with its holdings at end-2010 reaching 351 Moz (10,917 t). A distant second has been the Swiss-based Zürcher Kantonalbank, which accounted for 76 Moz (2,380 t) at end-2010.

Looking at recent trends in more detail, early 2009 saw significant growth in global silver ETF holdings. This was mainly driven by rising concerns over the global financial stability, which encouraged demand for safe haven assets. However, investor interest then slowed significantly with total holdings rising by only 8% from April to September 2009. This performance was in contrast to investment activity in the futures market where net investor long positions more than doubled over the same period. This was due to a decline in risk aversion to pre-Lehman Brothers levels that encouraged investors to focus more on building positions in the OTC and futures markets in pursuit of higher risk and expected returns (even though ETF holdings continued to rise at this time).

In 2010, the market saw a further rise in silver ETF demand. The increase was largely driven by economic and financial problems in Europe and the United States, Quantitative Easing in major advanced economies as well as rising inflationary concerns. Nevertheless, the silver ETFs' outperformance of gold in late 2010 can be explained by an improvement in the metal's fundamentals and the silver price rally which then emerged.

Turning to this year, the trend in ETF (silver) demand can be broken down into three main periods. A broadly neutral first quarter which gave way to steep sell-off, which appeared institutional-related, given the scale and speed of the decline. In other words, there was little evidence to suggest that retail and HNW investors had participated, to any great extent, in the sell-off (an explanation for the apparently different strategies is explored in Chapter 3). In particular, the iShares Silver Trust experienced a drop of some 45 Moz (1,400 t), to finish the quarter (and therefore first half) 13% below its end-2010 level.

From July onwards investor interest in ETFs and other related products rebounded modestly, a function of the downgrade to the United States' credit rating, as well as prevailing concerns relating to Europe's sovereign debt.

Silver ETFs Holdings

(Moz)

	end-2009	end-2010
iShares Silver Trust	305.9	351.1
ZKB Silver ETF	59.0	76.2
ETF Securities*	33.0	51.4
Sprott Physical Silver Trust	-	22.3
Other**	69.8	99.3
Total	**467.6**	**600.3**

*includes LSE, Australia, NYSE, Glitter and WITE

** includes Julius Baer, Mitsubishi UFJ Tokyo, Central Fund of Canada, Silver Bullion Trust, DB Physical Silver, Claymore, iShares ETC

Source: Respective issuers

By end-October, total holdings had therefore recovered some of the lost ground, rising to 577 Moz (17,947 t), some 44 Moz (1,377 t) below the record peak (621 Moz or 19,315 t) established in late April this year.

4.6 Stock Exchange Listed Structured Products

Stock exchange listed structured products on silver are generally cash settled and include warrants, knock-out warrants and certificates. Warrants represent standardized vanilla options. The majority of silver warrants are American style which can be exercised anytime before or on the expiry date. Knock-out warrants are also standardized options only with a built-in knock-out barrier. They are relatively cheaper due to a higher level of risk involved. Certificates include all other exchange listed structured products such as price trackers, discount and quanto certificates.

Due to its relatively low entry cost, ease of access, and the ability to build leveraged positions, the market has been particularly attractive to small retail investors, with participants in Switzerland and Germany being especially active. That said, the use of these products is relatively modest and accounts for only a small share of overall silver investment activity. In addition, retail investors are discouraged from investing in these vehicles because of their greater inherent risk, as well as the complicated nature of many of these products. Furthermore, investing in warrants involves exposure to counterparty risk. As a result, the global financial crisis has led to weaker demand for this asset class, reflecting the general growth in risk aversion. Moreover, with rising concerns over the global economy, investors have shifted some funds away from leveraged assets towards physically backed and less risky ETFs.

5. Physical Investment

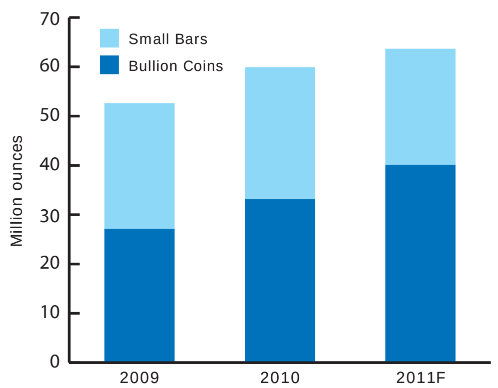
5.1 Introduction

This chapter addresses demand for small bars and coins in the principal retail investment markets. As such it excludes a detailed analysis of the 1,000oz LGD market, although brief commentary does follow where applicable. In addition, the following discussion does not extend to the commemorative coin sector. Even though this accounts for around 25% of total coin minting (basis 2010 data), the demand for these products is driven by collectors, and therefore falls outside the investment-related market.

As the following analysis highlights, the United States and Germany dominate global physical investment. The chief exception to this was India in 2008, when bar consumption exceeded 100 Moz (3,100 t), although this gave way to widespread disinvestment the following year. In contrast, as the two charts below and overleaf indicate, the North American and European markets have not only avoided these swings, but in fact have recently enjoyed a period of elevated and often record levels of physical investment.

With regards to the Chinese market the level of demand is at present relatively modest, given that the bar market is barely two years old (since market reforms were implemented in mid-2009). As a result it is difficult to gauge the "true" level of demand, and whether, for example, it will eventually resemble the US or German markets, in terms of their retail investment levels. Finally, commentary on the Japanese market is included, although domestic silver investment remains slight. However, this does highlight the sharp contrast with Japan's established gold investment sector (although this is now characterized by disinvestment).

North American Retail Investment



Source: Thomson Reuters GFMS

5.2 North America

The North American silver retail investment market is dominated by the **United States**, which has recently benefited from robust demand for (in particular) its 1oz Eagle bullion coin, 100oz bars and 1oz rounds. However, in recent years there has also been a substantial gap between the level of Eagle coin production and the total consumed locally. This has been due to the substantial flow of coins into Europe, especially into the German speaking countries of Switzerland, Austria and, especially, Germany itself.

In recent years there have been quite distinct trends in the United States in terms of the consumption of bars and coins, each of which are discussed below. Looking first at the coin market, the production of Eagles has surged in recent years, after remaining broadly stable during the 1999-2007 period, at an average of 9.4 Moz (292 t) per annum. However, in 2008 total offtake leapt to a record high of 19.7 Moz (613 t), before rising to 34.7 Moz (1,079 t) in 2010. This year, a fresh peak will be set, in excess of 41 Moz (1,275 t), which will therefore achieve a similar gain to the 20% improvement posted in 2010.

The US Mint's impressive outturn has presented the Mint with a series of challenges, principally in terms of sourcing sufficient quantities of blanks (not only to produce bullion coins, but also to satisfy the range of commemorative coins released each year). The rationing, that at times has therefore been imposed by the US Mint (with respect to the number of coins that can be delivered to authorized dealers), has presented an opportunity to the manufacturers of other bullion coins to gain market share in the United States.

Turning to the consumption of US Eagles in the United States, while this has risen in recent years, the level of demand has also fallen considerably short of the number of coins actually minted. As mentioned earlier, Europe has in recent years started consuming large quantities of US Eagles (as well as of other principal silver bullion coins; see the European section below). We estimate that European Eagle demand may have amounted to roughly 20%-30% of total US Eagles produced. This sales pattern therefore suggests that US retail coin demand is somewhat lower than might have been expected (if one had assumed that silver Eagles were consumed almost entirely in the United States). Before surmising the total US retail coin market, it is worth briefly looking at data for some of the other principal bullion coins.

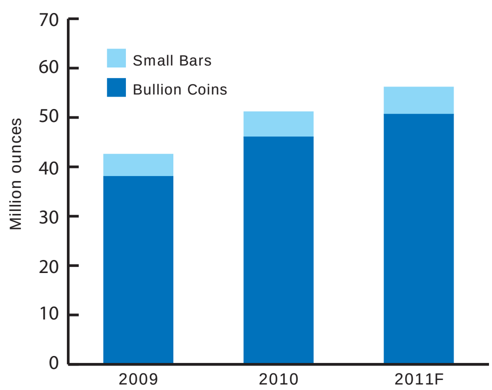
Thomson Reuters GFMS proprietary bullion coin survey reveals that, in 2010, combined sales of the Philharmoniker, Maple Leaf, Kookaburra, Lunar and Koala bullion coins in North America rose by around one-third to an estimated 12 Moz (377 t). Combining the above series with our estimates for US Eagle sales (as opposed to minting, given that a large share of Eagles were shipped overseas), suggests that the total retail coin market in North America in 2010 reached an estimated 33 Moz (1,025 t), a rise of 20% on the previous 12 months. This year, there has been an acceleration in US retail coin demand, with available data (through to the third quarter) revealing that sales have risen sharply, by nearly 60% year-on-year to around 35 Moz (1,093 t).

In terms of the retail investment bar market, this sector is dominated by the local production and sale of 100oz bars. More recently, high silver prices have contributed to rising production of smaller bars, as well as what appears to be substantial growth in the manufacture of 1oz rounds, which have been targeted at smaller retail investors.

In quantifying the size of the US retail bar market, we would suggest that retail demand has risen from a modest 12 Moz (370 t) in 2008 to a peak of 27 Moz (840 t) in 2010, before falling back this year to an estimated 24 Moz (750 t).

However, the 2008 total should not be taken as a benchmark for historical bar demand, given the extent of the fourth quarter surge which emerged that year. In other words, pre-2008 is likely to have seen bar demand fall short of the estimated 12 Moz (370 t)

European Retail Investment



Source: Thomson Reuters GFMS

slated for that year. An indication of the strength of the retail market emerged in 2009 when a number of new entrants, including private mints and, more importantly, silver industrial manufacturers, entered the bar market. (In fact many of these had emerged in late 2008, but their production only reached capacity the following year.) For some, the adventure proved to be relatively short-lived, in part because the lack of LGD or Comex accreditation often discouraged investors from acquiring their bars.

In contrast to the small bar market, which is largely the preserve of retail investors, the purchase of 1,000oz bars is dominated by institutional and high-net-worth (HNW) investors, which takes place in the over-the-counter (OTC) market. The lack of transparency, which characterizes the OTC market, makes it extremely difficult to estimate volumes. However, what is clear is the growth in allocated metal accounts as highlighted by the increase in vaulting capacity in North America.

Turning to **Canada**, the market is dominated by sales of the locally produced 1oz Maple Leaf bullion coin. In keeping with other markets, sales of this coin have surged in recent years, rising by over 50% in 2010. This year, a further substantial lift is expected. In contrast, domestic sales of small investment bars are believed to be extremely modest, at comfortably less than 300,000 ounces (9 t) per annum.

5.3 Europe

Historically, precious metals investment in Europe has centered on gold, with silver having significantly lower prominence. This is partly due to VAT being applied to silver bars and coins, but not since 2000 to gold bullion products. It also, however, stems from silver's legacy as a monetary asset being weaker than, say, in the United States. Nevertheless, retail investment in physical silver has grown in recent years in tandem with the surge in demand for gold bars and coins. Indeed, sales of silver bullion to investors have been especially strong in the three years since the collapse of Lehman Brothers in September 2008, which provided a tremendous stimulus to investment in physical precious metals products that are free of any counterparty risk. Besides the safe haven appeal of silver, for many investors in the white metal it is seen as a more highly leveraged alternative to gold, with greater upside potential.

European retail investor demand for silver last year responded positively to the sovereign debt crisis, which was supported by elevated concerns over the potential for debasement and break-up of the euro. For the year as a whole total European retail physical silver investment is estimated to have risen by around 20% to exceed 50 Moz (1,550 t).

Germany is by far the largest silver investment market in Europe, with Switzerland a distant second and Austria in third place. That said, even though demand is dominated by German-speaking Europe, a fair amount of silver bullion investment has emerged in a number of other countries, such as the United Kingdom and Belgium. In the **United Kingdom** demand is satisfied by a mixture of locally made and imported products (mainly from other EU countries), in the form of kilobar and 5kg bars, with retail investors generally preferring the former.

Turning to **Belgium**, a noteworthy quantity of silver investment demand appears to have only emerged in 2009, in the form of kilobars, a large share of which are produced domestically. Historically, the 21% VAT levied on silver bullion has encouraged investors to favor gold. However, the extent of the wider financial crisis has seen Belgian investors move into the silver market, albeit modestly.

In **Switzerland**, cast kilobars dominate the retail investment sector, a function of the large share of HNW investors, with five kilo bars occupying a far smaller, but still not insignificant share of the market. Minted kilobars also account for a fair share of local purchases, in addition, to a niche segment for 100g minted products. In keeping with other markets across Europe, Swiss retail silver investment surged in 2010, with further gains expected this year. In contrast to Germany, where much of the demand is met from imported material, Switzerland is chiefly served by domestically produced products.

Demand in **Austria** is met from a combination of domestic and other European centers. Silver investment is discouraged somewhat by the 20% VAT rate that is applicable to both silver bars and coins (which contrasts with Germany, see below). However, the market has still grown in the wake of the global financial crisis, to the benefit of the Austrian Mint's 1oz bullion coin, which was only introduced in 2008.

In **Germany**, the VAT structure (19% applicable on silver bars, 7% levied on silver bullion coins) means that silver coins account for the bulk of the country's retail silver investment. (Silver coins attract a far higher premium than bars, but this apparent "disadvantage" is offset by the VAT structure.) Naturally, the tax profile discourages a portion of physical investment demand and accounts for some investors choosing ETFs and other tax-efficient structures, although VAT can be avoided as long as physical products are hold offshore, with Switzerland a popular destination (VAT becomes payable if the investor takes delivery of the metal). Nevertheless, those preferring physical products are generally small to medium size private investors (who therefore have limited access to loco-London metal accounts), who are concerned with counterparty risk.

Turning specifically to coins, Thomson Reuters GFMS estimate that silver coin consumption in the country (as opposed to minting) rose from nearly 32 Moz (1,000 t) in 2009 to around 38 Moz (1,180 t) last year. The growth in demand was serviced not only by locally produced pieces but also by a pronounced rise in imports.

Despite this preference for coins, the past three years have also seen rising German demand for silver bars. This was primarily to the benefit of the kilobar market, although 5kg bar pieces have likewise enjoyed a healthy increase in sales. The preference for a given bar size varies more according to the reason for investment or the type of investor than any specific premium charged. Hence, for investors who fear economic meltdown small denominations are favored, whereas for small investment funds larger products are more sought after.

The size of the German retail investment bar market is difficult to ascertain but we estimate it reached around 4 Moz (120 t) last year, with the market almost entirely satisfied by imported products. However, this figure deliberately excludes the not insignificant sales of a Cook Island "coin". These are included in our coin numbers because the product is legally a coin and investors therefore pay only 7% VAT on the product even though it is similar in weight and shape to a bar.

We expect that in 2011 the German retail investor bar market will grow to around 5-6 Moz (150-190 t). One development that has boosted sales has been the introduction in late 2009 of a 15kg bar.

Finally, it is worth noting that the figures quoted above do not represent the totality of the physical bar market.

Excluded from the analysis are investors' purchases of 1,000oz LGD bars. These are often purchased VAT free, either through the loco-London OTC market (although very rarely would this involve retail investors) or via special investment vehicles which own silver bullion that is kept segregated in allocated accounts in tax free bonded warehouses.

5.4 China

In broad measure Chinese silver investment activity is confined to an emerging physical investment sector, and futures trading on the Shanghai Gold Exchange (SGE). Both have grown in prominence since 2010, albeit for quite different reasons (trading on the SGE is covered in Chapter 4).

In terms of retail investment, this has been dominated by purchases and sales of silver coins, with investment in physical bars only becoming available in July 2009, when restrictions were lifted by the government. Given that silver coins sold in China are generally commemorative in nature and therefore attract a high premium, investment coin demand, although on a rising trend, has been relatively stable and modest over the past few years.

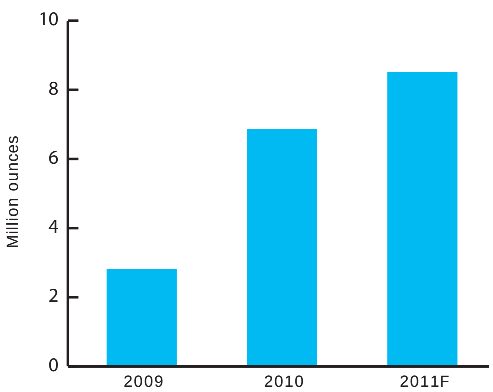
As mentioned above, in July 2009, the country introduced its first ever investment opportunities for silver bullion. At this time, bars were introduced in a variety of sizes, ranging from 500g, 1kg, 2kg through to 5kg, each with a purity of threes 9s, and all subject to VAT. However, the most popular sizes have been 1kg and 3kg. Although a degree of retail interest has emerged, the absolute total is estimated to have only recently overtaken the domestic sales volume for coins (total coin minting in 2010, including exports, was nearly 4 Moz (120 t), compared with 5 Moz (160 t) for bars).

Similarly to gold, silver bars and coins have almost exclusively been produced by state-owned refineries, although 2011 has seen overseas participation in the coin market emerge, in the form of a joint venture. This will help lift local silver (as well as gold) coin production which will help to sidestep VAT, which would be levied on overseas bullion and coin imports (despite their duty free status). This year is also likely to see a further lift in physical bar demand, which could well exceed 6 Moz (190 t), although it is important to note that, with the sector only having been liberalized in mid-2009, China's silver investment demand is arguably still in its relative infancy. Furthermore, concerns about the country's inflationary outlook, together with still robust price expectations, suggest a bullish outlook for investment demand over the remainder of 2011.

5.5 India

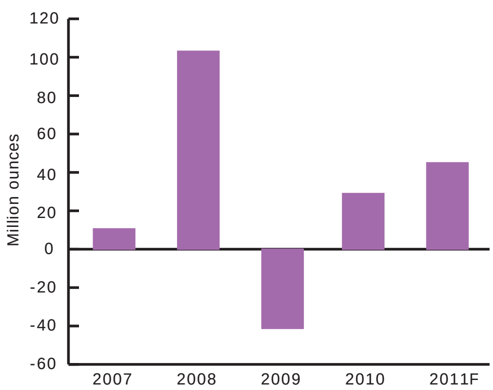
Prior to 2008, the year Indian investment surged, bar and coin demand had remained relatively sluggish. This reflected the preference for jewelry and silverware as forms of investment, which explained the heavy weight of these products at this time. The shift to bars and coins, which then emerged, from the more traditional investment forms was driven essentially by underkarating, although other factors, such as structural changes, also featured. Additionally, speculative motives, as opposed to wealth preservation, lifted demand, as silver prices rallied northwards through a number of key barriers. This was crucial in reinforcing bullish price expectations that have since underpinned silver investment.

Chinese Physical Investment



Source: Thomson Reuters GFMS

Indian Physical Investment



Source: Thomson Reuters GFMS

The pattern of investment from 2008 onwards, however, has oscillated dramatically, reflecting the marked changes in price expectations, which in turn have been fed by price volatility. After peaking at 103 Moz (3,204 t) in 2008, the Indian market saw net disinvestment of nearly 42 Moz (1,300 t) the following year, before returning to net investment of close to 29 Moz (900 t) in 2010. This year investment has continued to grow, although demand briefly waned following the steep price correction around mid-May. Nonetheless, the robust investment activity in the first half period is expected to offset any weakness in the latter half, with total investment estimated to exceed 45 Moz (1,400 t) this year, a 55% increase on 2010.

Looking at the investment pattern in each of the last three years, first, the unprecedented scale of investment in 2008 followed a intra-year price correction of one-third down to Rs. 17,000/kg. However, the following year, as prices climbed first to Rs. 26,000 and then on to the Rs. 30,000 level, widespread disinvestment emerged. Last year, investors entered the market only in August after the price had crossed the Rs. 40,000 mark, a level roughly one-third higher on an intra-year basis. Indeed, it was not surprising given the price in the first eight months had hovered around the Rs. 30,000 mark, the point which had triggered disinvestment in 2009. It was only the rapid escalation thereafter which took the rupee price past Rs. 40,000 in the last four months that generated fresh investor interest on expectations of further price gains.

5.6 Japan

Silver investment in Japan has traditionally been extremely modest, remaining below an estimated five tons per annum from 2000 until 2007. The gold market is, in contrast, far larger but has been characterized by net disinvestment for the last five years, following over a decade of sizable net hoarding. Nonetheless, silver has enjoyed a surge in interest recently as an affordable alternative to the yellow metal, with net investment in 2010 approaching 300,000 ounces (10 t). The rise in demand was initially triggered by the collapse of Lehman Brothers in late 2008 and the ensuing credit crunch in 2009, which led to a surge in interest in safe haven assets. Although macroeconomic conditions so far in 2011 have remained highly supportive of precious metal investment, strong silver prices have led to profit-taking, resulting in net dishoarding.

The main vehicle for investing in silver is in 1,000oz LBMA bars, as small bars tend to be cost ineffective from a production standpoint. These have tended to be international brands, although a major domestic bullion house has recently restarted production on the back of increased demand. While silver has been less popular than gold and platinum for investment purposes, due to its relatively low value and storage issues (in terms of space and maintenance), tighter regulatory requirements concerning the retail trade in gold has encouraged some migration to silver. In general, however, retail silver investment remains largely a niche market.

6. Silver Mining Stocks

6.1 Introduction

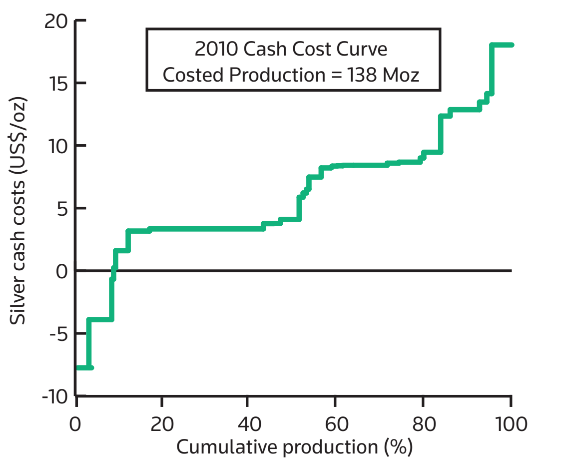
One of the key reasons why the silver price rose so dramatically in 2010 and through the early part of this year was investment flows into the market, mainly in the form of physical investment products and ETFs. However, physical or quasi-physical investments are not the only vehicles available to investors seeking exposure to the silver commodity space.

Silver mining stocks offer an alternative for investors looking to capture the inherent optionality that producers and developers can provide. The investment characteristics of silver mining stocks are different from those of the metal, but in a rising market they can often outperform the silver price and hence may potentially offer healthier returns.

6.2 Investment Case

A basic investment thesis for silver stocks is that silver price rises flow straight to the bottom line of silver producers' income statements and, all other things (such as the cost of production) being equal, this should lead to increased margins, earnings and cash generation, which can be reinvested in the company for growth or returned to shareholders. The attractiveness for these shareholders is therefore the expectation of benefitting from capital appreciation of the stock and/or a stream of dividends.

Primary Silver Producers Cash Cost Curve



Source: Thomson Reuters GFMS

Top 20 Silver Producing Companies in 2010

Ranking 2009	Ranking 2010		Output (Moz) 2009	Output (Moz) 2010
1	1	BHP Billiton	42.0	46.6
3	2	Fresnillo plc. [1]	37.9	38.6
2	3	KGHM Polska Miedź	38.7	37.3
4	4	Pan American Silver Corp. [1]	23.0	24.3
16	5	Goldcorp Inc. [3]	11.8	23.0
5	6	Cia Minera Volcan [2,3]	21.0	20.0
6	7	Hochschild Mining	18.8	17.8
7	8	JSC Polymetal	17.3	17.3
9	9	Coeur d'Alene Mines [1]	16.9	16.8
11	10	Sumitomo Corp. [3]	14.3	14.4
8	11	Kazakhmys plc.	16.9	14.1
10	12	Cia. de Minas Buenaventura [2]	14.8	13.5
13	13	Southern Copper Corp.	13.2	12.6
15	14	Xstrata Zinc [4]	12.7	11.6
14	15	Teck Resources	13.0	11.5
17	16	Eti Gümüş A.Ş.	11.3	11.5
12	17	Kinross Gold [5]	14.0	11.3
18	18	Hecla Mining [1]	11.0	10.6
19	19	Yamana Gold	10.5	10.0
20	20	Industrias Peñoles	9.6	9.2

1 Primary producer 2 Includes production from minority subsidiaries
3 Estimate 4 Reported silver in concentrate and lead bullion
5 Reported sales

Source: Company Reports, Thomson Reuters GFMS

In recent times the silver price has accelerated to near record highs while the unit cost of production (after consideration of by-product credits) has not increased at the same rate. Therefore cash margins have increased dramatically in recent years. Due to the polymetallic nature of the majority of silver orebodies, it is rare to find a producer of the metal which does not also benefit from output of associated metals. This effectively provides silver miners with a natural hedge, in broad measures reducing the risk posed by adverse price movements in any one of the metals in which they are active. In 2008, the annual average silver price stood at US$14.99/oz, compared to average primary silver mine cash costs of US$5.20/oz, creating a cash margin of US$9.79/oz. By 2010, although average cash costs had risen to US$6.00/oz, this compared to an average price for the year of US$20.19/oz (up 35%), meaning that miners average cash margins have increased by 45%. It is in this way that silver mining companies provide investors with greater leverage to the silver price, as compared to owning the metal directly, assuming all other factors affecting share price remain equal.

Since the beginning of this year the silver price has almost broken through US$50/oz (on an intra-day basis) and, despite a significant retracement, has broadly traded over the past few months in the US$30-40/oz range. As a result, so far this year silver miners have enjoyed further margin appreciation.

With improved cash generation, producers may well look to commit to growth through the expansion of existing operations, increased exploration or mergers and acquisitions. In addition, companies may decide to distribute excess cash back to shareholders in the form of dividends or share buy backs.

6.3 Risk Characteristics of Silver Stocks

The optionality and leverage that silver mining stocks provide to investors brings with it a higher level of risk than that associated with owning the metal directly. This derives from the fact that there are considerable technical, management and financial risks in extracting an ounce of silver from its geological setting and delivering it to the market. Miners sometimes face significant technical challenges in accurately quantifying their ore reserves, then mining and processing the ore profitably.

Risk also varies according to where a mine or project sits on its life cycle curve. While producing companies manage the technical extraction risk, companies with pre-production, development projects have first to de-risk the project through a lengthy process, which entails confirming the robustness of project parameter assumptions, dealing with permitting issues, construction costs and risks and putting in place finance to bring the project to fruition. The risk/reward equation for such companies is thus greater than for producers, and it follows that those silver companies who have yet to reach the production stage will usually exhibit greater share price volatility.

6.4 Investment Criteria

After deciding that silver stocks fit within their risk profile, investors have some practical decisions to consider regarding which stocks fit their requirements for size and liquidity. While retail investors will generally be able to freely invest in companies across the size spectrum according to their objectives, an institutional fund manager will invariably have different criteria and usually these will be more constrained in terms of market value and capital structure. Large funds may also be restricted by the size of company they can invest in; meaning that market capitalization will have to be above a certain threshold.

Furthermore, when buying in the market, fund managers require that the company has enough shares outstanding (and fully diluted) to allow them to gain entry without necessarily affecting the share price and without acquiring a significant portion of the company, as most want to be investors and not managers. Funds also like to see sufficient liquidity in a stock(volume of shares trading on a daily basis), to allow them to exit without moving the market when they deem the time is right, as they do not wish their actions to have a detrimental impact on the price they receive when selling.

Evaluating Stocks

When determining which silver stocks they wish to invest in, investors will often rely on recommendations from professional mining analysts. These analysts utilize a full spectrum of technical inputs (for example, reserves and resources, ore grades, mining methods, and rates, and processing parameters), plus metal price forecasts, to devise a financial model of a particular company's mining projects.

The net present value (NPV) of future earnings and cash flows derived from these models, combined with the current net asset value (NAV) of net cash and investments, produces an overall NAV which, when compared with the current market price of the stock, will indicate whether or not a company represents good relative value.

6.5 Investment Opportunities

Having established an investment case for silver stocks, investors may face a challenge in identifying a suitable mining company investment with a primary exposure to the silver price.

Given that only a relatively small percentage of annual world silver production is derived from primary silver producers, it is of little surprise to learn that the market features a modest number of primary silver companies.

Indeed, in 2010, 70% of world production originated as the by-product of mining gold or base metals.

The world's largest silver producer in 2010 was BHP Billiton, with output of 46.6 Moz, or 1,450 t (6% of global output), of which its Cannington mine in Australia, contributed 38.6 Moz, or 1,200 t (as well as substantial tonnages of lead and zinc). That said, revenue from silver is a relatively insignificant contributor to BHP's income statement. Other large silver producers include KGHM Polska Miedź, Goldcorp, Sumitomo Corp and Kazakhmys plc. Like BHP Billiton, these companies are less rational choices for investors seeking to maximise their exposure to silver, as silver is essentially a by-product for these companies.

In recent years one very large primary silver mining company has emerged; Fresnillo plc. Fresnillo listed on the London Stock Exchange in May 2008 as a spin-off of Industrias Peñoles' Mexican silver assets, raising US$1.8 billion through an initial public offering (IPO) for 22.9% of the company, with Peñoles retaining the majority shareholding. Fresnillo was the world's second largest silver miner in 2010, with output of 38.6 Moz (1,200 t).

In three years the company has added considerable value for shareholders with its market capitalization rising from around US$8 billion at listing to around US$20 billion during mid-2011.

Producers' 2010 Share Price Mean and Deviation

Company	Share Price Currency	Mean Share Price	Mean Share Dev.
Coeur d'Alene Mines	USD	17.97	80%
Endeavour Silver	CAD	4.24	97%
Excellon Resources	CAD	0.87	80%
First Majestic Silver	CAD	5.61	202%
Fresnillo	GBP	1049	95%
Great Panther Silver	CAD	1.09	191%
Hecla Mining	USD	6.29	108%
Polymetal	USD	12.96	86%
Pan American Silver	CAD	28.05	71%
Silvercorp Metals	CAD	8.22	101%
Silver Standard Resources	CAD	20.75	63%
Silver Wheaton	CAD	22.86	117%
Cia. de Minas Buenaventura	USD	39.80	66%
Hochschild Mining	GBP	367	115%

Source: Thomson Reuters

Producers' Market Capitalisation*

Company	Shares Outstanding (Million)	90 Day Volume ('000)	Market Cap (M US$)
Cia. de Minas Buenaventura	274.9	392	10,138
Coeur d'Alene Mines	89.5	562	2,009
Endeavour Silver	84.0	592	802
Excellon Resources	277.3	260	166
First Majestic Silver	104.9	1,052	1,750
Fresnillo	717.2	844	18,166
Great Panther Silver	134.9	874	338
Hecla Mining	280.0	1,823	1,596
Hochschild Mining	338.1	287	2,370
Polymetal	361.4	266	5,897
Pan American Silver	107.9	278	2,972
Silvercorp Metals	173.7	1,397	1,463
Silver Standard Resources	80.4	206	1,514
Silver Wheaton	353.3	2,185	11,017

* Figures from 7th October 2011

Source: Thomson Reuters

Otherwise, would-be silver investors wanting the relative peace of mind of investing in large cap mining companies might consider other top tier silver-focused miners.

Pan American Silver, Hochschild Mining, Coeur d'Alene Mines, Compania de Minas Buenaventura, OJSC Polymetal and Hecla Mining are all within the top 20 silver producers globally, with market capitalizations in excess of US$1.5 billion. However, even some of these companies cannot be strictly classed as primary silver producers because they produce significant quantities of gold or base metals.

If a more "pure" primary silver producer is sought, investors may choose to look to the smaller producers, in some cases with lower market capitalization. Many of these companies are relatively new entrants to this market, but often offer increased growth opportunities.

These companies, many with a geographic focus in Mexico, the world's largest producing nation in 2010, include Silver Standard Resources, First Majestic Silver

Corp, Silvercorp, Endeavour Silver, Fortuna Silver Mines, Great Panther Silver and Excellon Resources.

A number of companies who have yet to achieve producer status are developing silver mine projects. These companies effectively offer the opportunity to invest in in-situ silver resources but as discussed previously are inherently more risky.

Finally, aside from conventional mining stocks, for those investors still seeking a pure play upon silver, there are streaming companies, such as Silver Wheaton Corporation, which has a market capitalization of $11 billion. This company derives more than 90% of its income from silver, yet is not a mine operator, acting rather as a financier for mining companies. Income is generated through the purchase of silver from the miner at a low fixed price via long term contracts, which is agreed along with an up front cash payment. Shareholders then are able to benefit from exposure to silver's price upside, yet remain shielded from any cost pressures as these streaming companies carry zero exposure to mining cost inflation.

The table on page 24 (top right) shows the market capitalization, shares outstanding and average daily volume for the main primary silver mining or silver-focused companies. Daily share turnover for these stocks are roughly comparable (as a percentage of the company's tradable shares) to the major and intermediate gold miners.

With reference to volatility, the silver price exhibited extreme volatility in 2010 (with levels only exceeded in 1980), which can make the timing of investment decisions crucial. The range from low to high compared with the annual average price was 77%. By comparison, silver companies displayed in the table with a market cap of over $1.5 billion traded over a range of 100% as a group average, while companies with a market cap of less than $1.5 billion traded with an average range of 117%.

6.7 Conclusions

For investors wishing to invest in primary silver producers there is a relatively small number of potential targets, certainly compared with the gold space. The suite of mining companies that investors can choose from ranges from the more established, major producers, to the higher risk development companies.

Typically it will be, in part, the investor's individual risk appetite that governs their investment decision, with the juniors (which usually display a much higher volatility in their share price movements) representing the more speculative plays in the sector.

Silver Developers and their Projects

Company	Project	Country	Status
Avino Silver & Gold Mines	Avino	Mexico	Trial Mining
Bear Creek Mining Corporation	Santa Ana	Peru	Scoping
	Corani	Peru	Feasibility
Chesapeake Gold Corporation	Metates *	Mexico	Scoping
International Minerals	Pallancata (40% IMZ, HOC 60%)	Peru	Operating
	Inmaculada (40% IMZ, HOC 60%)	Peru	Feasibility
Golden Minerals Company	El Quevar	Argentina	Feasibility
	Zacatecas	Mexico	Exploration
	Atlas	Argentina	Exploration
	Cochabamba	Peru	Exploration
MAG Silver Corp	Juanicipio (44% MAG, FRES 56%)	Mexico	Pre-feasibility
Orko Silver Corp	La Preciosa **	Mexico	Feasibility

* the project also contains significant volumes of gold

** Pan American Silver is currently working towards earning a 55% interest in the project

7. Analysis of Privately Held Bullion Stocks

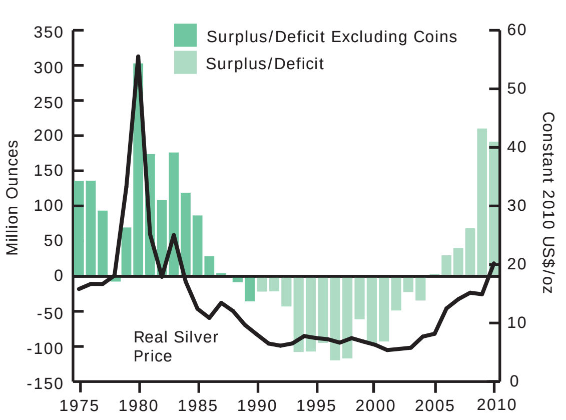
7.1 Introduction

Over the past three decades privately held bullion stocks have played a key role in the silver market, assuming an increasingly important position in recent years, in terms of the bearing on the silver supply/ demand balance.

Prior to 2006 (for the purpose of this analysis the review starts in 1990), substantial deficits generated in the silver market (defined as the difference between the sum of silver mine supply and scrapped silver, and fabrication demand, excluding coins & medals; see the chart below) required private holders to fill the "gap" by liquidating holdings. For instance, between 1990 and 2004 we estimate that private bullion stocks fell by a total of 978 Moz (30,409 t). During this time, the deficit was also partly filled by the sale of government stocks, especially during the 1998 to 2008 timeframe.

In 2005, the picture changed noticeably, as the silver market switched from deficit to surplus. From this point the surplus grew, from just 2.4 Moz (75 t) that year, to a record high of 209 Moz (6,504 t) in 2009, before easing back a fraction to 190 Moz (5,910 t) last year. As a result, a (combined) rundown in private stocks during 1990-2000, of 589 Moz (18,300 t), was comfortably offset by a lift in stocks during 2001-2010 (of a cumulative 989 Moz or 13,760 t). As significant a build-up as this was in isolation, it assumes greater relevance given the substantial drawdown in government stocks which, as the chart on page 27 depicts, have fallen by 739 Moz (22,990 t) (over the 1998-2010 timeframe), to their lowest level in over 20 years. Furthermore, with the prospect of government purchases unlikely, these stocks will play only a minor role in the silver market going forward. This is in sharp contrast to gold, where there is little difference in the totality of official sector and private bullion holdings, both of which are sizable (932 Moz, or 28,990 t, and 1 billion oz, or 31,100 t, respectively at end-2010).

Silver Deficits and Surpluses



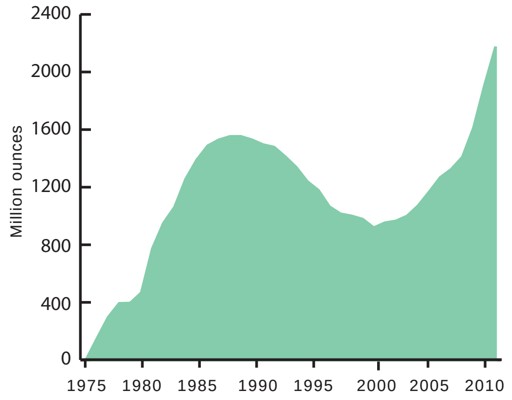
Source: Thomson Reuters GFMS

In terms of fabricated silver products, these account for the largest share of above-ground silver stocks. This is the one similarity they share with the gold market although, as discussed below, only a small share of accumulated silver fabrication can be quickly mobilized, in sharp contrast to the position in the gold market.

Looking back at silver offtake over the past twenty years, since 1990 cumulative silver fabrication (excluding coins) has exceeded 16 billion oz (497,700 t). However, breaking down this total into some of its key components reveals that only a small share of this silver can be defined as near market. Firstly, the largest share of the fabricated total is accounted for by silver-bearing industrial products (7.5 billion oz, or 234,000 t). However, a large portion of this material has been "lost" to landfill, with environmental legislation only recently having a positive impact on the recovery of silver from end-of-life industrial products. The above-ground stock of fabricated industrial silver is therefore far lower than suggested by the above total. Furthermore, the recovery of silver from these products is linked more to these legislative changes than short-term price developments (rising silver prices over a longer prices can encourage greater investment in infrastructure to recover silver, although this will also be related to trends in other precious metal prices); this infers that the above-ground silver stock of fabricated industrial products cannot be quickly mobilized.

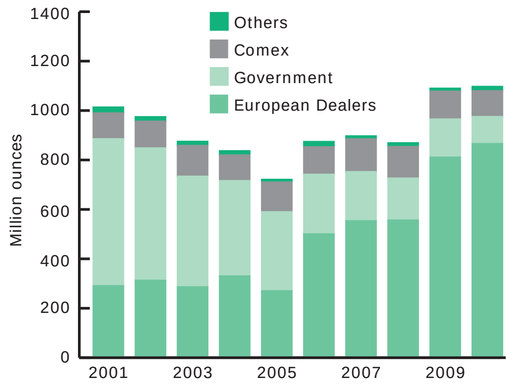
Looking at other silver fabrication also reveals that only a small portion can be deemed near-market. Although combined jewelry and silverware offtake accounts for nearly one-third of cumulative silver fabrication since 1990 (5 billion oz or 155,000 t), the bulk of this silver has been consumed in western markets and is therefore typified by high retail markups. (India, historically the largest traditionally price sensitive fabricator, has accounted for 1.1 billion oz, or 54,000 t, of silverware/jewelry demand between 1990-2010.) Western demand is also more adornment, rather than investment, related, which can often reduce the

Cumulative Change in Privately Held Stocks



Source: Thomson Reuters GFMS

Identifiable Bullion Stocks



Source: Thomson Reuters GFMS

propensity of these products to be quickly "brought to market". That said, this characteristic has been tested this year, with several western markets seeing higher rates of scrap supply (especially from the jewelry sector). Although volumes being recycled have been at elevated levels, they remain extremely low, compared both to prevailing levels of annual western consumption, and the estimated total of above-ground stocks.

Overall, therefore, only a small share of the above-ground silver stock of fabricated products can be quickly or efficiently mobilized. In contrast, privately held silver stocks can be "brought to market" far more quickly. As a result, even though the volume of above-ground privately held stocks is far smaller (compared with the size of fabricated stocks), the fact that they can be mobilized more rapidly means they have assumed greater importance in the silver market.

7.2 Prevailing Trends & Outlook

Turning to 2011, our expectations for silver's underlying supply/demand fundamentals offer a guide as to potential developments in bullion stocks this year. In terms of the principal individual components, world fabrication (excluding coins) in 2011 is expected to achieve its highest total since 2007. However, this will be offset by a healthy rise in global mine production. As a result we expect this year to generate a silver market surplus not dissimilar to the 2010 total of 190 Moz (5,910 t). In other words, the surplus should remain at near record highs, against the far more modest levels seen in the mid 2000s. In value terms the forecast surplus for 2011 is even more noteworthy, at an estimated US$7.5bn, nearly double the position in 2010 (which itself was a record level).

In spite of this hefty surplus, silver prices have, in broad measure, strengthened further this year, pointing to, at times, still robust levels of investor demand, which has effectively "stepped in", as occurred in 2009 and 2010, to absorb this excess metal.

The growing importance of privately held stocks is highlighted further in the chart above. This suggests that end-2011 stocks will, at a minimum, exceed 2 billion oz, or 62,200 t. (Given the starting point for this chart is 1975 this data series excludes, for example, bar production and, arguably of greater importance, significant levels of coin minting before 1975.) In fact, as a reality check, the Identifiable Bullion Stocks graph above helps to verify the 2 billion oz stock total. Put simply, combining the total for European dealers stocks at end-2010 of 930 Moz (28,930 t), with cumulative coin production for 1990-2010, of 863 Moz (26,840 t), the total comes to 1.8 billion oz (56,000 t), which does not include coins minted during the 1975-1989 timeframe (for which data is incomplete).

On a separate note, what is also apparent from the chart above left is the steeper build-up in private stocks through to 2011, compared with the earlier and somewhat more moderate decline in stocks. This serves to reaffirm the large scale nature of investment now prevalent in the silver market, underpinning the price rise, which has emerged in a relatively short space of time. While this might point to an apparent concentration of above-ground privately held silver bullion stocks, what is clear from this report is not only the distinct groups of silver investors that hold silver, but also the quite separate motives that have influenced these purchases.

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Thomson Reuters GFMS is the world's foremost precious metals consultancy, specialising in research into the global gold, silver, platinum and palladium markets. The majority of Thomson Reuters GFMS' 22-strong research team is based in London, UK, but the company also has staff and consultants located in Australia, India and Russia plus an unrivalled network of contacts and associates across the rest of the world.

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