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WORLD SILVER SURVEY 2009

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Coeur d'Alene Mines Corporation

Coeur d'Alene Mines Corporation is one of the world's leading silver companies and also a significant gold producer. The Company, which has no silver production hedged, will have its first full year of production this year at the world's largest pure silver mine – San Bartolomé in Bolivia – and began production in March at another world-leading silver mine – Palmarejo in Mexico. These two new mines are fueling an expected 66% increase in silver production – to 20 million ounces – and an 85% increase in gold production over last year's levels. The Company also operates underground mines in southern Chile and Argentina and one surface mine in Nevada; and owns non-operating interests in two low-cost mines in Australia. Coeur also owns a major gold project – Kensington in Alaska – and conducts exploration activities in Argentina, Chile and Mexico. Coeur common shares are traded on the New York Stock Exchange under the symbol CDE, the Toronto Stock Exchange under the symbol CDM, and its CHESS Depositary Interests are traded on the Australian Securities Exchange under symbol CXC.

Fresnillo Plc

Fresnillo Plc is the world's largest primary silver producer and Mexico's second largest gold producer, listed on the London Stock Exchange under the symbol FRES. Fresnillo has three producing mines, all of them in Mexico – Fresnillo, Ciénega and Herradura; two development projects: Saucito and Soledad Dipolos; and three advanced exploration prospects – San Juan, San Julian, Orysivo, as well as a number of other long term exploration prospects and, in total, has mining concessions covering approximately 1.75 million hectares in Mexico. Fresnillo has a strong and long tradition of mining, a proven track record of mining development and reserves replacement, and a low cost of production, being in the lowest quartile of the cost curve for both silver and gold. Fresnillo intends to maintain its position as the world's largest primary silver producer with the aim of approximately doubling production, on a silver equivalent ounce basis by 2018.

Industrias Peñoles, S.A.B. de C.V.

Peñoles is a mining group with integrated operations in smelting and refining non-ferrous metals, and producing chemicals. Peñoles is the world's top producer of refined silver, metallic bismuth and sodium sulfate, and the leading Latin American producer of refined gold, lead and zinc. The Company was founded in 1887 and it is part of "Grupo BAL", a privately held diversified group of independent Mexican companies. Peñoles's shares have traded on the Mexican Stock Exchange since 1968 under the ticker PE&OLES.
Peñoles highlights:

- Began operations in 1887 as a mining company.
- Has integrated operations in the areas of exploration, mining, metallurgy and chemicals.
- Listed on the Mexican Stock Exchange since 1968; the stock is included in the IPC index.
- One of the largest net exporters in Mexico's private sector.

Silver Wheaton Corp.

Silver Wheaton is the largest silver streaming company in the world. The company forecasts annual silver sales of 15 to 17 million ounces in 2009, with this growing to approximately 30 million ounces annually by 2013, without any on-going capital expenditures being required to generate this growth. Silver Wheaton has entered into nine long-term agreements to purchase, at a low fixed cost, all or a portion of the silver production from high-quality mines located in Mexico, Sweden, Peru, Greece, Canada and the United States. The company's unique, simple, and proven business model has reduced many of the risks faced by traditional mining companies. With fixed cash costs and unhedged silver sales, the model is designed to create long-term shareholder value, providing strong upside potential with downside protection. Silver Wheaton is well positioned for further growth.

World Silver Survey 2009

Produced for The Silver Institute
by GFMS Limited

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The data on which this report is based has been obtained by The Silver Institute and GFMS Limited from sources which are generally believed to be reliable. However, this does not guarantee complete accuracy in the information presented here. It is in the nature of the precious metals markets that estimates for a number of components must be made on the basis of incomplete information. A number of figures may have been revised from last year's World Silver Survey in the light of new information. The opinions expressed here represent those of the authors of the report at the time of writing.

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This is the fifteenth annual survey of the world silver market to be produced for The Silver Institute by GFMS Limited, the London-based analysts of global precious metals markets. The information contained here is based in part on the analysis of the GFMS database of international trade statistics, company report data and other public-domain information. But more importantly, it is also based on a series of interviews with the industry's main players, carried out every year by the GFMS team of analysts and consultants, which provide the essential data to allow the compilation of reliable estimates for world supply and demand.

GFMS is grateful to the many miners, refiners, bullion dealers, bankers and fabricators throughout the world who have contributed their time and information to ensuring that the picture of the industry described in the *World Silver Survey* is as complete and accurate as possible.

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Units used:
supply and demand data are given in units of million troy ounces (Moz) rounded to one decimal place.
1 Moz = 31.103 t (metric tons)
1 ton = 32,151 troy ounces
1 ton = 1,000,000 grams (g)

Terminology:
"-" = not available or not applicable
0.0 = zero or less than 0.05
"dollar" refers to the US dollar unless otherwise stated.
Implied Net Investment = the residual from combining all other GFMS data on silver supply/demand as shown in Table 1. As such, it captures the net physical impact of all transactions not covered by the other supply/demand variables.

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.

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1. Summary and Outlook

Silver's exceptional price volatility over the course of 2008 was testament to its duality as both an industrial metal and an investable asset. During the first half, investors drove prices up to well above the $20/oz mark (a high of $20.92 was recorded in March) against a backdrop of still generally firm fabrication demand. It was a different story in the second half though, as the economic outlook rapidly deteriorated, resulting in a sell-off by investors that anticipated the eventual weakness in industrial demand that set in over the fourth quarter and which saw prices drop to a low of under $9 in October. Although we doubt that 2009 will see such an extreme trading range, silver this year will continue to be driven in different directions by expected weakness in fabrication and strength in investment demand.

The first four months of this year saw silver average $12.58, 28% lower than the equivalent for January-April 2008. However, compared to the final four months of 2008 (when silver averaged just $10.76), prices over the first third of this year had in fact recovered a good part of the lost ground. Moreover, it is noteworthy that this rebound in 2009 has occurred at a time when industrial offtake (50% of total silver demand in 2008) was plummeting. Indeed, our information is that industrial consumption of silver in the first few months of this year slumped, with savage inventory adjustments compounding very weak underlying demand. Although we are by no means expecting a major recovery over the remainder of 2009, it could well be that the worst is behind us when it comes to cuts in industrial demand for silver. This may well relieve some of the downward pressure on the metal, even if the generalized weakness of fabrication that we expect to persist throughout most, if not all, of 2009 will still act as a major drag on prices.

Some modest decline in supply is forecast this year; the outlook for mine production, scrap and government

Table 1 - World Silver Supply and Demand (million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Supply										
Mine Production	556.9	591.0	606.2	593.9	596.6	613.0	637.1	641.3	664.2	680.9
Net Government Sales	90.3	60.3	63.0	59.2	88.7	61.9	65.9	78.2	42.3	30.9
Old Silver Scrap	181.6	180.7	182.7	187.5	184.0	183.7	186.0	188.0	181.9	176.6
Producer Hedging	-	-	18.9	-	-	9.6	27.6	-	-	-
Implied Net Disinvestment	51.7	87.1	-	11.6	-	-	-	-	-	-
Total Supply	**880.4**	**919.1**	**870.9**	**852.2**	**869.3**	**868.2**	**916.7**	**907.5**	**888.4**	**888.4**
Demand										
Fabrication										
Industrial Applications	339.0	374.2	335.2	339.1	349.7	367.1	405.1	424.5	453.5	447.2
Photography	227.9	218.3	213.1	204.3	192.9	178.8	160.3	142.4	124.8	104.8
Jewelry	159.8	170.6	174.3	168.9	179.2	174.9	173.8	166.3	163.5	158.3
Silverware	108.6	96.4	106.1	83.5	83.9	67.3	67.8	61.2	58.8	57.3
Coins & Medals	29.1	32.1	30.5	31.6	35.7	42.4	40.0	39.8	39.7	64.9
Total Fabrication	864.4	891.7	859.1	827.3	841.3	830.4	847.1	834.1	840.3	832.6
Producer De-Hedging	16.0	27.4	-	24.8	20.9	-	-	6.8	23.5	5.6
Implied Net Investment	-	-	11.7	-	7.0	37.7	69.6	66.6	24.7	50.2
Total Demand	**880.4**	**919.1**	**870.9**	**852.2**	**869.3**	**868.2**	**916.7**	**907.5**	**888.4**	**888.4**
Silver Price (London US$/oz)	5.220	4.951	4.370	4.599	4.879	6.658	7.312	11.549	13.384	14.989

sales is for all three to soften a little. This should, at the margin, also provide some degree of support for the price. However, when it comes to silver's upside over the remainder of 2009, this will have to come from investors, who notwithstanding some attrition in supply, will be called upon to take up a still heavier burden due to the above-mentioned weakness in fabrication demand.

Indeed, basis these expected supply/demand trends, the resulting bullion 'surplus' that investors will need to absorb is likely to be much higher than it was in 2008, when our implied figure, for instance, came to 50.2 Moz (1,562 t). Fortunately for the price, on the basis of the evidence to-date this year, investors seem to be equal to the task.

The first four months of 2009 have seen, for instance, silver ETFs collectively add 69.0 Moz (2,147 t) and there has also continued to be very good demand in North America and Europe for bullion bars and coins. The 'investor' net long position in the futures market also saw gains but this was only until the beginning of March, after which a notable slide back occurred.

Given our expectation of a favorable economic and financial backdrop for investment in silver and the probability that gold will tend to strengthen this year on the basis of mounting inflation concerns and other factors, it is likely that investment demand and therefore silver prices will also tend to be robust, particularly given the relatively low level, around the $11 mark, at which silver kicked-off 2009.

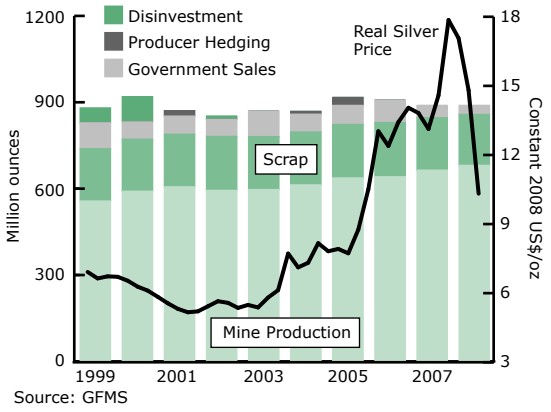
Supply in 2008

- **Mine supply *rose by 2.5% in 2008, driven by strength in the gold and lead/zinc by-product sectors, to a fresh record of 680.9 Moz (21,179 t).***
- **Net government sales *last year fell by 27% to 30.9 Moz (961 t).***
- ***Losses from photography meant total scrap fell by 2.9% to an 11-year low of 176.6 Moz (5,494 t).***

Global silver mine supply recorded a sixth year of consecutive growth, totaling 680.9 Moz (21,179 t). This represented a record high, driven by strong gains in Latin America, Asia and the CIS. Looking at individual countries, the strongest gain was seen in Bolivia, where output more than doubled owing to a full year of production from the San Cristobal property. Another notable increase was seen in Russia, where the commencement of operations at the Kupol mine helped push the country's output up by 24%. Turning to the losses, Chilean production fell markedly, by a substantial 28% after two years of consecutive growth, largely due to La Coipa and the country's copper sector. Sharply lower output was also noted in the United States and Canada.

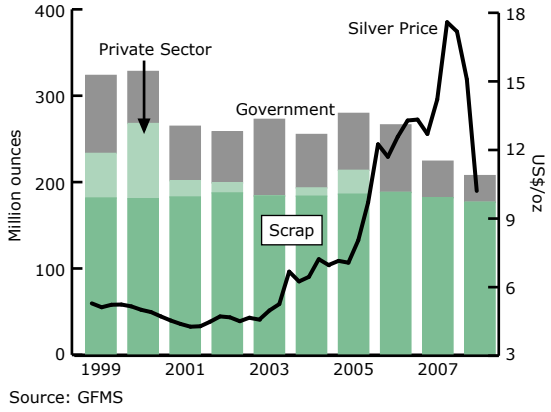
In terms of the source metallurgy of silver, strong growth in 2008 were derived from the gold and lead/zinc by-product sectors. For the former, substantial additions came from Kupol and San Jose, while for the latter, increased output from Xstrata's operations in Australia and the start up of San Cristobal in Bolivia were responsible. However, unlike 2007, the supply of silver from primary mines contracted slightly in 2008.

World Silver Supply



Source: GFMS

Mobilization of Above-Ground Stocks



Source: GFMS

Meanwhile, silver sourced from copper operations declined heavily, primarily due to losses in Chile.

Scrap supply declined by almost 3% in 2008, reaching an 11-year low of 176.6 Moz (5,494 t). Considering the 12% rise in the average dollar silver price, the fall may appear counter-intuitive. There was nonetheless some increase in the price-related recycling of jewelry and silverware in most markets. This was also joined by a modest rise in industrial recycling, chiefly due to non-price factors such as an increase in volumes collected. All this, however, was offset by further declines from photographic sources, with the losses concentrated in the liquids and consumer film segment due to the ongoing shift to digital technologies.

In both the United States and Europe, scrap fell only slightly as a small rise in jewelry and silverware recycling (a product of higher prices and economic weakness), ongoing gains in industrial scrap and the re-appearance of coin melt (in the case of Europe) largely offset the drop in supply from photography. In contrast, Indian scrap retreated by 14%, chiefly as weaker silver prices in the latter stages of the year limited consumer recycling.

Net government sales in 2008 fell by 27% to 30.9 Moz (961 t), their lowest annual level for over a decade. Last year's decline was primarily due to a reduction in Russian official bullion sales in conjunction with the absence of India and China.

Demand in 2008

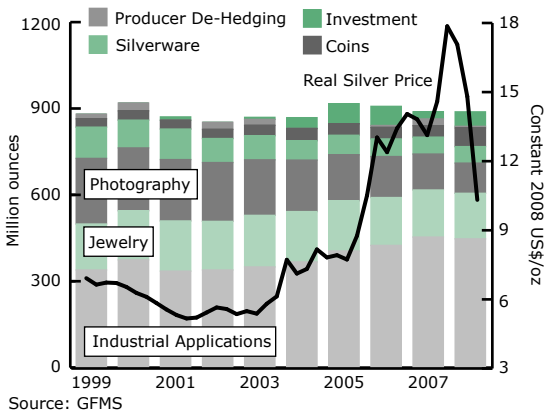
- ***Total fabrication fell 0.9% to 832.6 Moz (25,896 t) as the jump in coin demand was outweighed by losses, mostly slight, in all other areas.***
- ***A weak year-end led to industrial demand slipping a modest 1.4% to 447.2 Moz (13,910 t).***
- ***The structural decline in photography continued last year, with a 16% fall to 104.8 Moz (3,260 t).***
- ***Jewelry offtake slipped 3.2% to 158.3 Moz (4,923 t), with losses most acute in Italy and Thailand.***
- ***Silverware fabrication continued its secular slide but it only fell a slight 2.5% to 57.3 Moz (1,783 t).***
- ***De-hedging of 5.6 Moz (175 t) last year left the global silver hedge book at 54.6 Moz (1,698 t).***
- ***Implied net investment more than doubled to 50.2 Moz (1,562 t), largely due to record inflows into the ETFs and a surge in Indian investment.***

The modest scale of the 0.9% dip in **total fabrication** in 2008 hides major variations. The largest fall was in photography, whose decline accelerated to 16% or 19.9 Moz (620 t). Losses for jewelry and silverware were in contrast modest, while the percentage fall for industrial demand was smaller still as strong first half gains were only just outweighed by an end-year slump. The chief exception was coins and its 63% or 25.2 Moz (784 t) rise.

Even though **industrial demand** fell in 2008, the total reached (447.2 Moz or 13,910 t) remained the second largest ever and the drop was a mere 1.4%. The small scale of the overall decline again hides wide variations. Firstly, there was a marked change within the year as first half gains (by double-digit percentage amounts in many countries) were followed by a fourth quarter collapse (and a very shaky start to 2009). Secondly, there were major differences between countries, with Japan's 12% slump accounting for over 80% of the (gross) global decline, while US offtake actually rose by 4% or 5.1 Moz (158 t).

The silver price and issues of substitution or thrifting were mere side stories in explaining the above changes. Losses were instead overwhelmingly the product of the abrupt slowdown in GDP growth that occurred towards the end of the year as the financial crisis spilled over into the 'real' economy. This was transmitted to silver demand as sales by major end users, in particular producers of big ticket consumer goods, such as household appliances or cars, slumped and as residential construction fell sharply. It was this that largely ended the growth since 2001 in electrical/electronics offtake and caused the 1.8% drop in brazing alloys and solder fabrication last year. Destocking right the way down the supply chain also explains some of this weakness.

World Silver Demand



Source: GFMS

Jewelry demand fell by just over 3% last year to 158.3 Moz (4,923 t), its lowest level since 1998. Italy and Thailand accounted for almost 75% of the gross drop as their export-focused industries suffered at the hands of falling western consumption, a development itself due chiefly to the economic slump and the benefits from consumers trading down from gold being limited by their focus on higher added value rather than weight. Substitution was also seen in India, which together with a price-driven recovery in second half traditional jewelry and ongoing gains in urban sales of fashion-oriented pieces, brought about a 10% rise in that country's fabrication. Gains of note were also recorded in China and Russia thanks mainly to robust domestic sales.

Silverware offtake fell by 2.5% last year to 57.3 Moz (1,783 t) or roughly half the level of 10 years earlier. Italy and then East Asia accounted for the bulk of the drop as sales in western markets faced losses from secular changes and the economic crisis. In contrast, India saw a 7% increase thanks to a price-driven second half rise while Russia enjoyed buoyant consumption gains.

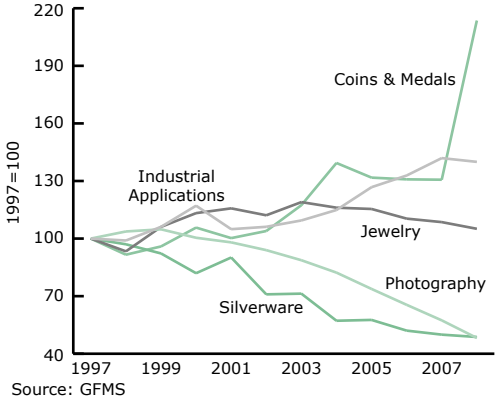
The use of silver in **photography** realized the largest drop of any area of fabrication in 2008, falling by 16% to 104.8 Moz (3,260 t). In addition, the decline was the most significant recorded by the photographic industry since its secular decline first emerged in 2000. Digital solutions continued to take market share from silver halide products, but part of the weakness, notably in the consumer industry, was due to the economic downturn.

Last year, **coin** fabrication jumped by over 63% to 64.9 Moz (2,019 t), due to a surge in investor related buying, principally in the United States and western Europe.

Net **producer de-hedging** provided 5.6 Moz (175 t) of demand last year as the global producer hedge book at end-2008 was scaled back to 54.6 Moz (1,698 t) in delta-adjusted terms. This represented a slowdown in the rate of de-hedging compared with 2007 but was nevertheless the third consecutive year on the demand side for this potential swing factor. A large reduction to the options book was responsible for much of the de-hedging as several producers allowed positions to be run down and did not renew cover at a comparable rate. Active buy-backs to forward sales portfolios, notably by Barrick and Kinross, also took place. Fresh hedging activity occurred in relatively limited quantities again last year.

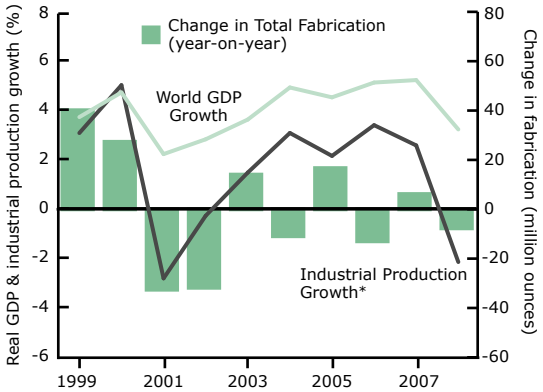
Implied net investment rose to a healthy 50.2 Moz (1,562 t) in 2008, up markedly (by over 100%) on the previous year's level. This derived figure however, might initially appear contradictory to the record inflow of 93.1 Moz (2,894 t) into silver ETFs by year-end. Furthermore, this apparent 'mismatch' is only magnified when considering the robust net retail purchases seen in the physical markets during the year. The picture is nonetheless resolved when taking into account the overall net selling that took place last year, particularly during the second half, on the Comex and, according to our research, in the over-the-counter (OTC) market. Outflows from these arenas were fuelled by the deleveraging in global asset markets and the acute flight from risk, particularly in the wake of the failure of Lehman Brothers in September. Overall, the trends in silver's investment markets mirrored gold's. However, the former, which tends to be a more volatile and speculative asset, experienced markedly greater downside pressure, as investors altogether abandoned the hunt for yield in favor of wealth preservation.

World Silver Fabrication Indices



Source: GFMS

Fabrication Demand & World Economic Indicators



* Industrial countries only; Source: IMF, GFMS

2. Silver Prices

- ***An increase in investment was the main factor behind 2008's 12% rise in the annual average silver price to $14.99, a level only ever bettered in 1980.***

- ***Investment and then end-year industrial demand losses were the key forces behind price moves during 2008.***

Silver's annual average price last year, $14.99, was the highest ever since 1980's $20.98. The rise over the 2007 average was a robust 12.0% and, although that paled in comparison to some recent years' gains, such as 2006's jump of 58%, it was the seventh consecutive annual rise. The increase was, however, much smaller than gold's 25% rise last year as that suffered far less from a crumbling industrial base, but silver's precious edge meant it did better than most base metals, with the average copper price for example down 2%. Silver's daily high of $20.92, posted in mid-March, was again only last bettered in 1980 with its record $49.45. In contrast, it was only as recently as January 2006 that prices below the 2008 trough, late October's $8.88, were seen.

The rise in the annual average, the rally to the March high and the slump to the October low were largely the result of investor activity. Much of this activity shadowed gold and swings in the value of the dollar and the oil price, together with the changing ramifications of the financial crisis. Other forces were, however, critical, in particular industrial demand. This is indicated by the gold:silver price ratio remaining broadly steady in the low 50s through to early August but then rising relentlessly to over 80 by mid-October as industrial offtake slumped. At the time, silver received limited help from its relatively smaller price sensitive areas, such as jewelry, but strong assistance did emerge in the form of small bar and coin demand in India, which surged as the price fell back.

The March spike and subsequent correction meant that price volatility shot up to 53% last year from 26% in 2007. It is also notable that there were scarcely any periods in which the price could be described as stable; the lowest figure for quarterly volatility was the second quarter's 36% in comparison to a low in 2007 of 21% in its second quarter.

US$ Silver Price

	1978	1988	1998	2008
Annual Average	5.422	6.532	5.544	14.989
Maximum	6.264	7.822	7.810	20.920
Minimum	4.818	6.050	4.690	8.880
Range:Average	26.7%	27.1%	56.3%	80.3%

Source: GFMS

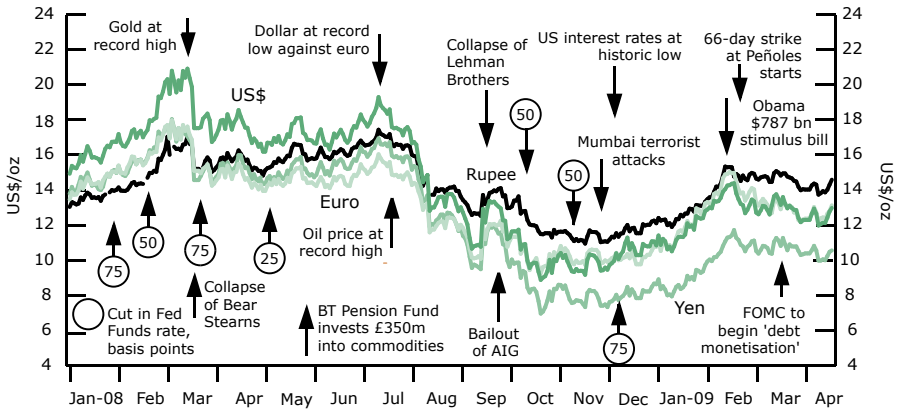
The Silver Price in Other Currencies in 2008

	Euro/kg	Rupee/kg	Yen/10g	Yuan/kg
Annual Average	324.5	21,620	501.6	3,355
Maximum	435.4	26,250	689.4	4,764
Minimum	224.1	16,480	266.0	1,954
Range:Average	65.1%	45.2%	84.4%	83.8%

Source: GFMS

London Silver Market: Spot Price

US$/oz; other currencies reindexed to 2nd January 2008



Due to marked periods of dollar weakness, silver prices tended to see smaller gains when expressed in other currency terms. This was particularly the case for industrialized consuming countries, with the euro price for example up only 3% and the yen price actually falling a little. Producer prices also tended to exhibit smaller gains, with the Australian dollar price, for instance, up 9% and the Peruvian sol price up just 4%. The Mexican peso price, however, registered a near identical 12.3% increase. The only country of note to record a notably faster rise in the price was India, where in rupee terms an increase of 15% was recorded. The timing of rupee weakness was also of importance as it pushed the rupee price high for the year into July.

In real terms, silver's price gains last year were impressive, with a return to 1984 necessary to find a higher annual average, although the rest of the early 1980s and much of the 1970s saw higher real prices. It is also of note that the 2008 average was a dramatic 182% higher in constant 2008 money than the 2001 trough, although in euro terms, the gain was a less radical 85%, highlighting the long run slide in the dollar.

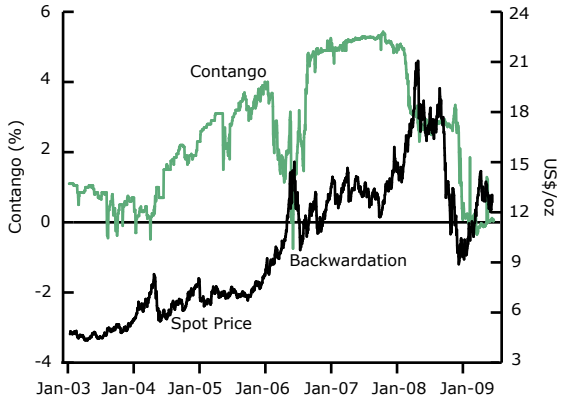
From the beginning of the year through to mid-September, lease rates showed little direction, with (calculated) 3-month rates fluctuating either side of zero while the 12-month only occasionally managed to exceed 0.5%. This all changed in September as the sudden surge in bullion demand in India led to rates, across all tenures, rocketing higher. The market's ample liquidity, however, was demonstrated in that, despite this sudden call on the market, rates failed to clear 2.5% and fell back notably during December.

Market Analysis

The year began in a decidedly bullish manner, with the price rising from an opening $14.93 to $20.80 on March 6th. This rally was chiefly driven by the surging gold price, although it was of note that in this period the silver price outperformed gold (the only time that this properly occurred in 2008), perhaps mainly as a result of silver's generally lower liquidity, with the gold:silver ratio narrowing to 47 at the time of this initial price peak. The sensitivity of silver to other precious metals was also demonstrated in the days immediately after this early March high as it was then that the platinum group metals began their steady correction as fears over the security of South African supply in the face of power cuts began to ease a fraction. Nonetheless, gold and silver held their nerve, with further gains being made and silver rallying over a dollar in the space of three trading days to its annual high of $20.92 on March 17th.

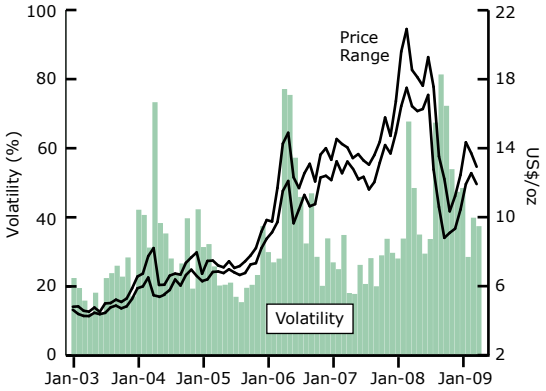
The main factors behind the push higher in silver (and gold) prices included the steady rise in the price of oil (and commodities generally), a fall in the dollar (although both only kicked in a few weeks into the year) and successive cuts in US interest rates. Behind this were growing fears over the security of the global banking system, with previous months having seen a run on a UK bank and March itself witnessing the collapse of Bear Stearns. Some of the initial investment behind this upward price move was seen on the Comex, although from mid-February the net 'investor' long on the exchange began to fall. Reserves in silver's exchange traded funds (ETFs) grew more steadily, adding almost 30 Moz (over 900 t) from the start of the year to the March

London Spot Price and 3-month Contango



Source: GFMS

Daily Silver Price Volatility



Source: GFMS

price high. It is also believed that there was substantial net buying in the over-the-counter (OTC) market in these weeks (possibly the only time in the whole year when the OTC market was clearly in net investment mode).

From the annual high, the price suffered a dramatic collapse of over three dollars in three days to $17.53 on March 20th. A frequently cited cause of this initial drop was disappointment that US interest rates had been cut by "only" 75 basis points against market expectations of 100. Perhaps of more substance was the perception that the market had entered dangerously overbought territory and that profit taking made a good deal of sense given the huge gains already achieved.

Prices then entered a volatile but ultimately rangebound period through to the beginning of July. These conditions were partly due to the sideways move in the dollar, although it is of note that silver (and gold) failed to track oil's ongoing march higher. This was ascribed by some to a growing perception, which may now seem like wishful thinking, that the worst of the financial crisis was over and that the US economy should only face a soft landing. There was some net selling initially on Comex and in the OTC markets and, while net selling in the former soon subsided, OTC disposals look to have continued, if at a much more modest pace. Overt price weakness, however, was avoided at this time partly as a result of the ongoing steady increase in ETF holdings.

After a brief uptick to over $19 in mid-July on the back of a record dollar low and oil price highs, silver began its third main phase of price moves during 2008, a relentless correction that saw the price more than halve to the annual low of $8.88 on October 24th. Much was driven by a turnaround in the price of oil, and other commodities, as a belief began to grow that the US and perhaps also the world economy could soon face an abrupt slowdown in growth. Despite this, the dollar began to recover strongly due to such factors as capital repatriation.

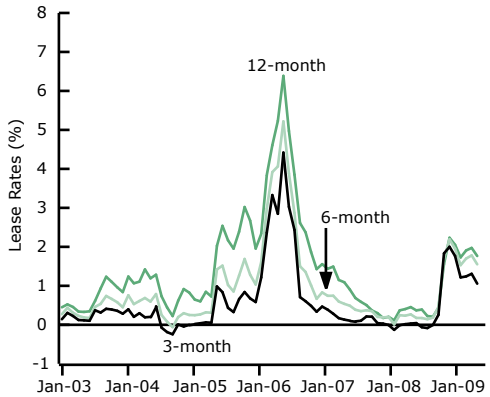
It might have been expected that the financial crisis, arguably at its height in September, would have ended this correction. This looked to be the case when silver bounced over $2.50 higher in the third week of September to $13.38 in the aftermath of the collapse of Lehman Brothers and then the US government being obliged to take control of Freddie Mac, Fannie Mae and AIG. However, these gains proved short lived as the market had to face a round of heavy fund selling, which ended up driving the price down to its low for the year in late October. Much was in a sense 'forced' as the funds were obliged to raise cash for margin calls or to cover losses elsewhere and were often faced with redemptions by nervous clients questioning funds' solidity. Once again, heavy selling was seen on the Comex, although arguably more occurred in the OTC market but ETF holdings continued to progress steadily higher.

Volatility (US$ Price)

	2005	2006	2007	2008
Actual - 1 year	24%	45%	26%	53%
Implied - 1 month	25%	40%	25%	45%
Implied - 3 months	26%	40%	27%	42%
Implied - 1 year	26%	39%	29%	39%

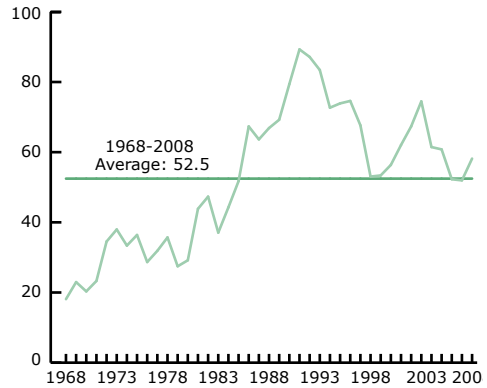
**implied statistics source: UBS*

Silver Leasing Rates



Source: GFMS

The Gold / Silver Price Ratio



Source: GFMS

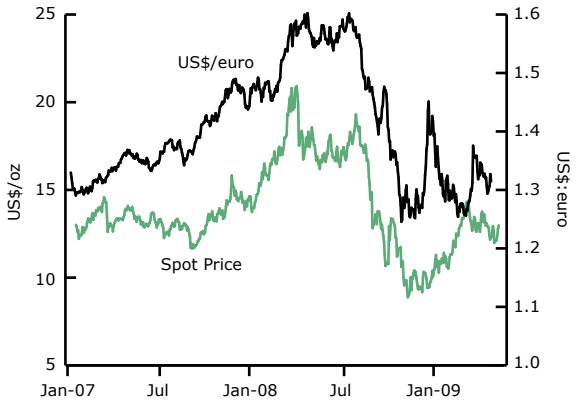
From this point, a volatile recovery began that saw the price end the year at $10.79 (and then rally more assertively in the new year to over $14 by mid-February). The turnaround in gold explained a fair portion of silver's recovery, with both benefiting from initial overt dollar weakness, although it was of note that oil was continuing to fall steadily. A second key factor specific to gold was a growing wave of investment by those seeking a safe haven in times of bank failures, shaky equities and, largely thanks to the adoption of loose monetary and fiscal policies by many governments, the start of inflation concerns. It is hard to argue that silver directly benefited to any great degree from this wealth preservation drive. Certainly, within a western context, it missed out on much of gold's fourth quarter's explosion in retail investment. This was one of the main reasons that the gold:silver ratio continued to widen, rising from around 70 at the start of the quarter to over 80. The more limited physical interest in silver is in part shown by ETF holdings, which flat-lined for much of the fourth quarter.

Another key reason for silver lagging gold was the crumbling of its industrial base, an area that accounts for around half of the metal's total demand. Numerous fabricators visited informed GFMS that, having enjoyed strong growth in the first half of 2008, they suffered a slump in offtake well into double-digits in the final months of the year as sales to end users such as the automotive or residential construction industries collapsed, a development not immediately apparent from the only slight 1.4% drop in full year industrial demand. The scale of industrial weakness was evidenced in the base metals' ongoing price slide and it was of note that these under-performed versus silver with its precious overtones.

A third key reason why silver fared less well than gold (but better than the base metals) relates to the limited scale of its price sensitive demand. For silver, jewelry offtake made up little more than 10% of total demand in 2008 and so, even when a price responsive rise began in the final months in countries like India, the net benefit to the market was limited. This remained the case even taking into consideration the substitution in western markets from gold to silver in economically tough times. Another price responsive sector, silverware, was also burdened by long term trends undermining its demand. However, there was one important and specifically price-driven development that did lend great support to the market, the end year boom in retail investment in India, which amounted to over 100 Moz (or more than 3,200 t).

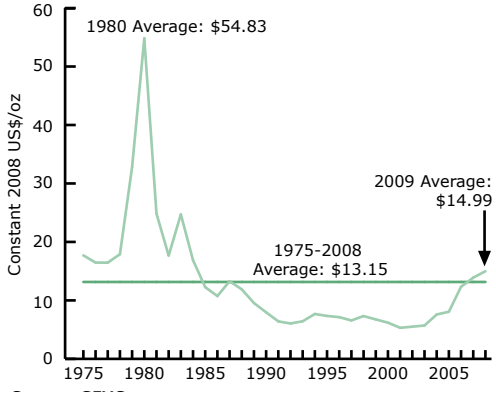
The final main area of fabrication, photography, also fell sharply, although that was largely as expected given its main driver being a shift to digital and much of this loss would have been countered by lower photographic scrap. However, the offset from that was not as large as 'normal', given that initially high prices encouraged a wave of recycling of old film, mainly x-rays. There was some increase in jewelry (and silverware) scrap but nothing on the scale witnessed in gold, particularly as regards consumer returns, and so total scrap still fell last year. It is hard to argue that the slight rise in mine output had much price impact, although growing awareness that this might well rise in the years to come had a negative edge for sentiment. There was also the demand loss stemming from the 17.9 Moz (557 t) slump in producer de-hedging. Much of this price negative, however, was neutralized by the drop in government sales, which acted to leave total supply flat year-on-year.

The Silver Price and the US Dollar



Source: Thomson Reuters EcoWin

Real Silver Prices



Source: GFMS

Silver and Other Commodity Prices

GFMS believe the examination of correlation coefficients is highly useful, not only as an indication of underlying themes that may influence the market but also to confirm economic theory with empirical evidence. It must be noted, however, that the existence of either a positive or inverse correlation between two assets is not sufficient in itself to establish direct causality.

The statistics in the opposite table illustrate the long standing positive relationships between the price of silver and gold, commodities in general (proxied by the GSCI and the CRB indices) and base metals (proxied by the DJ-AIG Industrial Metals Index).

In 2008, silver and gold prices generally moved in the same direction through the course of the year. It is a well known fact that, of the two, it is the yellow metal that invariably takes the lead. However, the strength of its impact on silver varied significantly during 2008. This is due to a few fundamental differences between the two metals: silver has more industrial uses than gold, it lacks gold's safe haven and monetary features and its market is less liquid. As such, its correlation with gold tends to be lower during periods of elevated risk aversion and in a recessionary environment.

As for the correlation between silver and other commodities, it was much weaker than that with gold during the period under review. The link with base metals was very weak despite their demand fundamentals having a fair degree of overlap and the fact that the majority of all the silver mined worldwide is merely a by-product, primarily, of base metal mining. The fact that silver still has some image as a safe haven asset provides it with some additional support during times of liquidations in the base metals complex.

As regards the link between oil and silver, it is evident from the data above that the metal has shown a relatively low and sometimes 'zero' correlation with oil prices.

The correlation between silver and agricultural products (proxied by DJ-AIG Agriculture) weakened last year after showing strength in the second half of 2007 and early 2008. Despite the fact that prices of soft commodities fell last year along with those of silver and other hard commodities, demand for core food products was relatively sustained. Robust demand in developing markets as well as the widening use of biofuels helped soften the decline within the agricultural complex. This resulted in a relatively stronger performance of the above index compared to silver, as reflected in a weaker correlation between these assets.

Correlations of Changes in Daily Prices

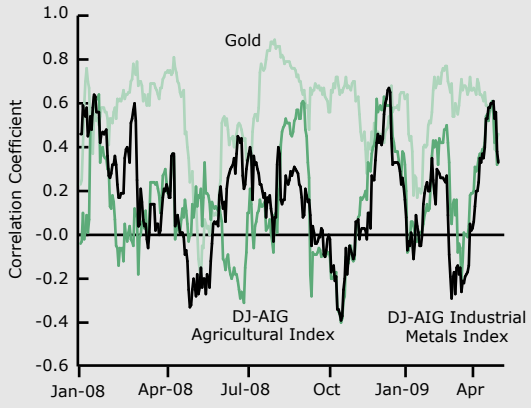
(using log-returns in spot prices)

	2008 Q1	2008 Q2	2008 Q3	2008 Q4	2009 Q1
Gold	0.63	0.48	0.70	0.59	0.57
Oil (WTI)	0.02	0.15	0.15	0.00	0.11
GSCI	0.09	0.18	0.18	0.05	0.10
CRB	0.34	0.00	0.18	0.02	0.19
DJ-AIG	0.25	0.05	0.11	0.05	0.13
Industrial Metals					
DJ-AIG Agriculture	0.26	-0.02	0.15	0.13	0.19

Source: GFMS, Reuters EcoWin

20-Day Rolling Correlation Coefficients

in log-returns between daily silver prices and other indicators



Source: GFMS, Thomson Reuters EcoWin

Gold, Silver and Copper Prices

Source: Thomson Reuters EcoWin

3. Investment

- ***Investor activity was the main driver of the high but volatile silver price last year. Most of the net buy side interest was seen in ETFs and in physical metal, including coins.***

- ***Demand for silver bullion from Indian investors exploded during the latter part of 2008 as local prices dropped to very attractive levels.***

Overview

Throughout the rally in silver in recent years, investor activity has played a crucial role in governing prices. Arguably, 2008 saw investors' influence increase further, as silver's investment arenas experienced exceedingly wide fluctuations on both the buy and sell sides of the market. Investor inflows propelled silver to multi-decade highs, in not only daily price terms but also in the annual average, and, while the over-the-counter (OTC) and futures markets experienced speculative buying followed later by massive liquidations during the second half of the year, interest in silver exchange traded funds (ETFs), bullion bars and coins saw, quite remarkably, an uninterrupted advance.

Silver has traditionally drawn interest from a segment of investors that largely maintains a price outlook premised on views independent of the trends in other commodities. However, a majority of silver investors tend also to consider developments and expected returns across a host of other assets, specifically gold, base metals, the dollar and energy. Moreover, the broader economic and financial backdrop is another factor that is highly important in terms of its influence on investors' decisions regarding portfolio allocations in the white metal.

The long standing quantitative relationship, measured by the correlation of log returns, between silver and some other assets (most importantly, gold) is a useful investment tool, with the statistical links readily confirmed by the data and analysis included in the dedicated focus box in Chapter 2. It then comes as no surprise that silver prices again tended to trade somewhat in line with gold as well as the dollar:euro rate over much of 2008. However, it is important to note that during the January to mid-March period, silver clearly outperformed the yellow metal, while the opposite held true thereafter to end-year. It is often the case that during rallies in the precious metals complex silver tends to outperform gold, largely due to it being a smaller and less liquid market. Furthermore, with capital gains being the seminal investment theme during the first half, silver proved extremely popular, gaining on robust speculative inflows that drove the price up by over 40% during the first three months. Price strength was a feature of the market through to mid-year, while during the second half, steep liquidations and a severe correction were the main features.

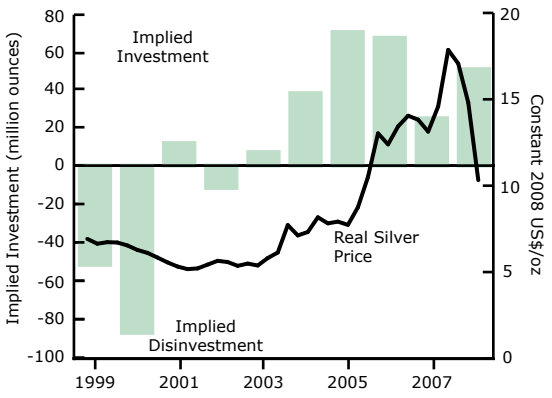
Returning to the first quarter of 2008, though, investor sentiment towards silver was driven by a broad range of variables such as inflationary threats, soaring oil and other energy prices, geopolitical risks, the dollar's breach of $1.50 against the euro and gold's rally to over $1,000. With this positive backdrop for investment, silver was

Silver Price and Investment Indicators

	2007 Average	2008 Average	Change y-o-y
Silver Price $/oz	13.384	14.989	12%
Contango (3-mth annualized)	5.15%	2.46%	n/a
US$ Libor (3-mth annualized)	5.30%	2.93%	n/a
S&P 500 Index	1,477	1,220	-17%
CRB Index	405	426	5%
XAU Index	150	155	3%
World GDP Growth*	5.2%	3.2%	n/a
Advanced Countries CPI*	2.2%	3.4%	n/a

*Annual rates; Source: IMF World Economic Outlook, April 2009; GFMS

Implied Net (Dis)investment



Source: GFMS

London Bullion Market (LBM) and Comex Turnover

(daily averages)

	LBM No. of Transfers	Turnover Moz	Comex Turnover Moz	LBM/ Comex Ratio
2002	241	87	63	1.4:1
2003	233	92	82	1.1:1
2004	326	104	101	1.0:1
2005	331	110	110	1.0:1
2006	447	147	109	1.3:1
2007	462	114	135	0.8:1
2008	519	126	176	0.7:1

Source: LBMA, Comex

lifted to $20.92 on March 17th, a level not seen since mid-October 1980 (when the Hunt Brothers speculative buying boosted the price to almost $50). Impressive activity was seen in all of silver's investment arenas, as gauged by strong long side volumes in the OTC market as well as a high level of open interest in silver futures (where the Comex 'investor' net long soared to a 22-month high in February). Additional price support came from increased diversification into precious metals and commodities by institutional investors, with index and basket-type products (several of which contain weightings in silver) proving exceptionally popular.

After the rally to over the $20-level came a slight correction and consolidation in prices, not only in silver but in gold as well, with the pull back being, in our view, triggered by the lower than expected cut in short term US interest rates (at "only" 75 basis points) by the Federal Reserve on March 18th. Despite this, a further notable spike came in mid-July, in line with gold's foray back towards $1,000, a sharp jump in the Comex 'investor' net long, steadily rising total holdings in silver ETFs and a record low in the dollar:euro rate to around $1.60.

Most significantly, the latter event marked a double bottom in the currency pair, after which point the dollar sharply rebounded, strengthening through to the fourth quarter. What is more, this contributed to an entirely different climate in the silver, precious metals and broader commodities markets in the second half. One initial development was the white metal's slight decoupling from gold, as evidenced by the spike in the gold:silver ratio, which rose to 84:1 in November, a peak not seen since the first quarter of 1995. With the eruption of the worst financial crisis and economic downturn since the Great Depression, gold markedly benefited from safe haven inflows, fuelled by the overall rise in systemic financial

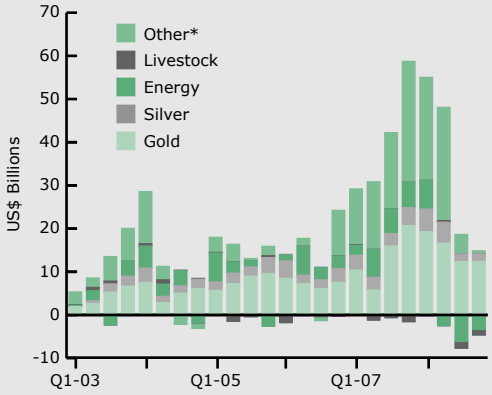
Investment in Commodities

2008 proved to be one of most volatile years for the prices of precious metals and other commodities. Strong fundamentals, a weak dollar and robust speculative activity drove prices in the majority of commodities to all time highs in the first half. Yet, with the steepening global downturn, financial crisis, threats of stricter US regulation in commodity futures markets and a rebounding dollar after mid-July the complex sharply corrected.

With this, silver and industrial commodities experienced tremendous risks to the downside, as such factors heavily dampened the outlook for demand. The broader complex was additionally impacted by the turmoil within global equity markets and financial institutions, specifically during the third quarter. This, combined with heightened risk aversion, led to widespread selling in global asset markets (including gold and silver), particularly as funds struggled to raise cash in the wake of investor redemptions, margin calls and mounting losses elsewhere. Furthermore, while gold found a degree of support from safe haven inflows, silver largely failed to see any benefit from this, decoupling from the former and plunging to multi-year lows in the second half.

Looking ahead, GFMS expect commodity prices to remain pressured in the short term by the global economic downturn. Yet, price support may arise from investor bargain hunting, as well as from the potential inflationary consequences of the ambitious fiscal stimulus and monetary easing in the United States, Europe and elsewhere. Such initiatives, and most crucially, the Federal Reserve's "quantitative easing", will invariably, in our view, stoke inflationary pressures going forward. As such, investors are again looking to commodities as an inflation and dollar hedge, and any further rise in investor activity in the complex, particularly in basket-type and index tracking products, could lend healthy support to the price of silver in the coming quarters.

Speculative Positions in Commodity Futures



* Other includes soft, agricultural and dairy commodities

Source: Various

Investment

risk and distrust in the banking system. In sharp contrast however, silver, the PGMs, base metals, crude oil and a host of other commodities and financial assets saw their prices plummet. Silver, often classed as a quasi-industrial metal, was heavily sold off as the outlook for its uses in industrial applications was significantly impaired. Elsewhere, the broader "commodities supercycle" underwent a precipitous correction. This was caused in part by the rising dollar but more so by the deterioration in economic growth rates, as the United States and Europe slipped into recession, while emerging markets slowed sharply.

Net "Investor" Position on Comex

		Contracts	Moz	Price
2004		68,949	345	6.69
2005		59,450	297	7.30
2006		56,912	279	11.55
2007		55,879	249	13.38
2008	Q1	69,223	346	17.60
	Q2	59,696	298	17.17
	Q3	50,411	252	14.97
	Q4	26,888	134	10.15
2009	Q1	33,781	169	12.63

(average non-commercial and non-reportable net futures positions, Moz equivalent and average Comex settlement price in $/oz; Source: CFTC)

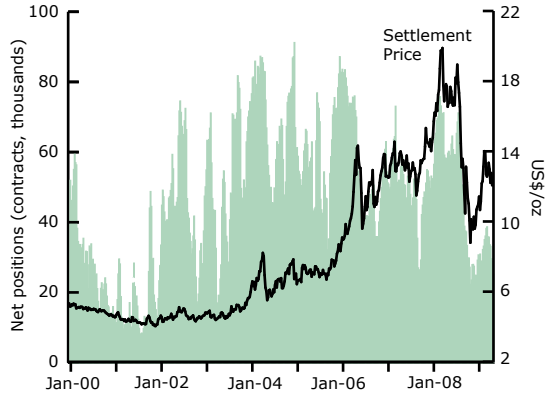
The collapse of Lehman Brothers and several other large banks in September proved a powerful catalyst in igniting steep liquidations and deleveraging within the majority of asset markets. Silver, along with gold, was hurt by funds dumping holdings across a wide range of assets in an attempt to raise cash for margin calls and a record wave of investor redemptions. Silver prices tumbled (as many funds sold outright positions in the metal and in commodity index-tracking products) by over 50% from the July peak to the low for the year ($8.88 on October 24th), with investors aggressively reducing their long positions in the OTC and futures markets.

It is noteworthy at this juncture to highlight the change in the composition in investment within the silver (and gold) market which took place at this time, defined by the shift from 'paper' products to outright physical or bullion-backed vehicles. The demand for physical investment was staggering; with the hunt for yield largely abandoned (amidst the rampant flight from risk), retail investors, high net worth individuals and the wealth management industry heavily turned to this arena. (It should be noted that such demand for physical silver was not confined to 'western' markets: India, in particular saw an unprecedented wave of purchases as local prices dropped to what were regarded as 'bargain' levels.) Equally impressive, the uptrend in silver ETF holdings continued unabated. The lack of price response or decline in interest and holdings of these products illustrated investors' defensive mindset and paramount concerns over wealth preservation. Again, much of the strength in activity in silver's physical investment markets owed much to the healthy spill over effect from gold. Yet, basis both metal's intra-year returns in 2008 (gold: +2.7%; silver: -27.7%) it is clear that silver, overall, largely failed to benefit from safe haven inflows or to appeal as a store of wealth.

Looking at the trend in the first few months of 2009, silver prices have tended to recover and averaged $12.58 in the January-April period. On an intra-year basis too, prices climbed by some 14% by end-April, helped by

Comex: Net "Investor" Positions

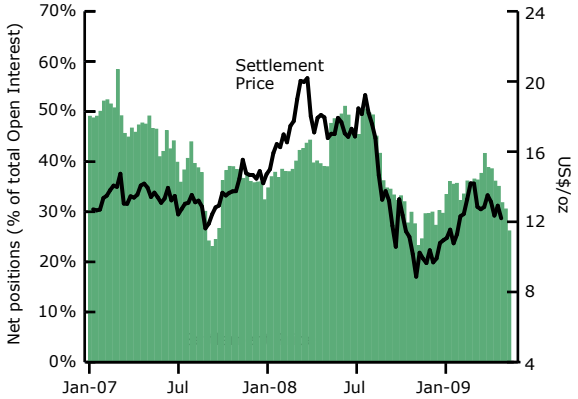
Non-Commercial & Non-Reportable Net Futures Positions & Price



Source: CFTC

Comex: Net "Investor" Positions

Weekly Net Futures Positions as a Percentage of Total Open Interest



Source: CFTC

the return of speculative interest in the futures market. More importantly perhaps, has been the ongoing growth in investment in ETFs and physical silver. Indeed, aggregate positions in the former have at the time of writing reached an all-time high, up by over a quarter from end-2008, on the back of a near 70 Moz or over 2,100 t inflow. Healthy investor interest in physical silver is expected to continue in the coming months, driven by continuing economic woes and uncertainty over the health of the financial services industry. Although the poor demand outlook for silver's industrial applications is set to restrain prices (and probably in GFMS' view prevent a return to the 2008 highs), a degree of support and perhaps upside pressure on silver could well arise from any renewed strength in the gold market. Ongoing fiscal stimulus plans in the United States and across much of the rest of the global economy, near zero-interest rates in many advanced countries, "quantitative easing" and the Federal Reserve's debt monetization are likely to maintain investor interest and inflows into silver, gold and other precious metals over the medium term.

OTC Market

Due to the lack of meaningful publicly available data on activity in OTC products in silver (as there exists no actual data on volumes and open interest), GFMS cannot give a precise estimate of the impact of OTC activity on the physical market. Although the clearing statistics from the London Bullion Market (LBM) can provide a gauge, this data however is an imperfect reflection of investor activity. Firstly, it does not capture the trends in other OTC markets and secondly, it fails to differentiate between pure investment flows and other forms of activity. Therefore, GFMS rely on information collected through extensive field research, which in 2008, suggested that on balance the OTC market experienced net selling.

Quite similar to the trend seen in gold, the OTC market in silver experienced robust inflows over the first quarter. A significant portion of this activity was considered to have been related to purchases in OTC commodity basket vehicles, as surging prices of energy, base metals and the like attracted tremendous speculative interest. Selling pressures however emerged in the second quarter due in part to profit taking, as some institutional investors moved to liquidate long positions.

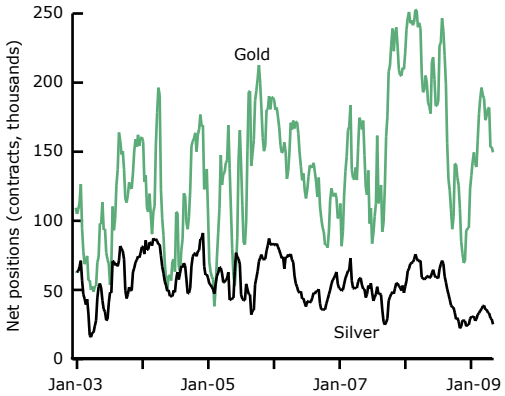
Yet, it was not until the second half of the year, in line with the widening financial crisis, the generalized sell-off in commodities and spike in risk aversion, that interest in OTC market products substantially fell. Furthermore, it was the selling over this period that led the year as a whole to swing into net disinvestment (looking just at the OTC market). Worth noting was the shift away from derivatives and other 'paper' products, which carry a high level of counterparty risk, towards physical products. The notable success of silver ETFs was a prime example, as part of the reduction in long positions in unallocated metal accounts reflected investors' moving their positions into the physically-backed and less risky silver ETFs.

Physical Investment

Purchases of physical bullion bars and coins last year soared to levels not seen in decades. Buy side volumes were respectable during the first half but it was not until the final third of 2008 that demand dramatically jumped. Quite similar to gold, the physical investment market in

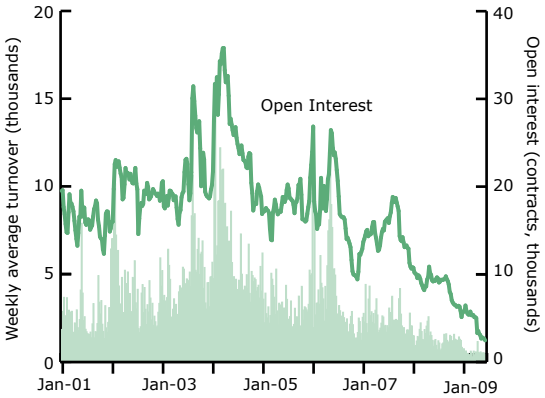
Comex: Net "Investor" Positions

Non-Commercial & Non-Reportable Net Futures Positions



Source: CFTC

Tocom Futures Turnover and Open Interest



Source: Tocom

Exchange Traded Funds

2008 was another successful year for silver exchange traded funds (ETFs). Total bullion holdings in the trio of physically-backed investment vehicles currently operating surged by 93 Moz or 54% to 265 Moz (equal to roughly 8,250 t) over the course of the year. (Note: In this focus box, instead of end-2007 holdings, we have used those of January 2nd 2008 to eliminate an erroneous transaction in the iShares Silver Trust that was recorded on the last trading day of 2007.)

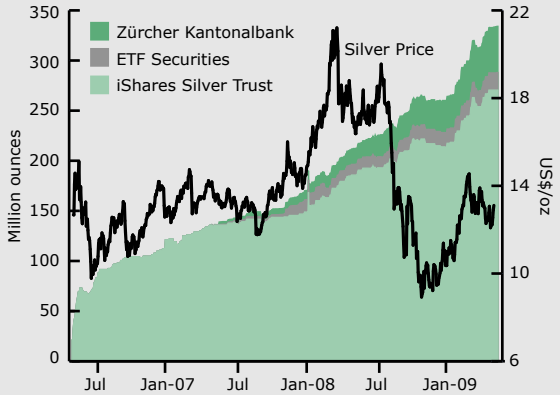
Interestingly, investment activity in the first half of 2008 notably exceeded the inflows registered during the last six months of the previous year. More impressive still, however, was the fact that silver ETF's holdings have proved to be highly resilient during corrective phases in the silver market, such as those that occurred during the second half of 2008. The buoyancy of these holdings is largely due to the fact that the bulk of investors in silver ETFs appear typically to pursue a buy and hold strategy and are seeking long term capital appreciation. To illustrate, over the period when the silver price sank by 58% to $8.88 in October from its March high the combined holdings of silver ETFs only saw occasional and minor redemptions occurring and the general uptrend in overall holdings remained intact.

This performance of the silver ETFs, for instance, noticeably contrasted with the trend on the Comex in 2008, where the non-commercial and non-reportable net long 'investor' position was at the end of the year down by no less than 46% on its end-2007 level. Indeed, demand for silver ETFs received additional support from those investors moving out of long positions in the futures and OTC markets, basis their growing concerns over counterparty risks.

Regarding individual products, the iShares Silver Trust held the leading position in terms of both growth in volume and outstanding size. During 2008, the fund's holdings surged by nearly 45% to a level of 218 Moz (6,793 t) at year-end. Holdings of the second largest ETF, ZKB Silver, managed by the Zürcher Kantonalbank, also enjoyed strong growth, with total volume gaining by an impressive 258% to end the year at 33 Moz (1,018 t). Finally, silver stocks held in the ETF Securities product were also on the rise in 2008, reaching more than 14 Moz (442 t) mark by year-end and showing an intra-year growth of 15%.

In terms of value, silver's three physically-backed ETFs reached a level of nearly $4.5 billion by mid-July 2008. However, over $1.5 billion of this was lost in the rest of the second half of 2008 on the back of the sinking silver price that was severely hit by a chain of liquidations in the July-October period. At year-end, the 2008 total value of silver held in ETFs came to $2.9 billion, this compares to a figure of $2.8 billion at the end of 2007.

Silver ETFs Holdings



Source: various ETF issuers

silver was characterized by extensive delays in delivery, rising premiums and, in some instances, prolonged shortages of popular bars and coins. The main reasons for the strong rise in physical investment in the latter part of the year were heightened levels of risk aversion and a massive surge in Indian demand.

Growing concerns over global growth prospects and, more crucially, the ongoing credit crunch and deepening financial crisis were the core drivers of bullion demand. With this, interest within North America and Europe skyrocketed, particularly after the collapse of Lehman Brothers and other large banks in September. Looking at the demand in North America, sales of US Eagle coins in 2008 nearly doubled year-on-year, hitting a record high of 19.6 Moz (609 t), while purchases of the Royal Canadian Mint's Maple Leaf coin also soared to a fresh, all-time high. Demand for 100-ounce bars was also noteworthy and rose appreciably in the final months of the year. Meanwhile, in Europe, buy side interest was equally pronounced, particularly in 1-ounce coins and kilobars. Although purchases of bars by investors increased considerably, this was out-paced by those of state-minted coins, a trend chiefly attributable to the substantially lower value added tax (VAT) rate applied to the latter in certain EU member countries. (In Germany, Europe's

most important physical investment market, for instance, bars carry 19% and coins 7% VAT.)

In India over recent years there has been a structural shift in investment preferences, with bars and coins being increasingly favored over traditional, high karat silver jewelry. Part of this trend is due to greater consumer awareness of widespread underkarating of silverware and jewelry in the country. Last year, however, low local silver prices led to such bullion demand growing exponentially, to reach 103.1 Moz (3,207 t) from 10.6 Moz (330 t) in 2007. GFMS estimate that this investment accounted for 53% of overall demand in the Indian market last year (surpassing the combined demand from jewelry, silverware and industrial uses). The explosion in investor interest was reflected in the record level of bullion imports of 162.3 Moz (5,048 t) in 2008. A sign that most of these imports were indeed destined for investment was that roughly 75% of the them were delivered to parts of the country which have no fabrication capacity.

One factor appears to have been primarily responsible for stimulating retail demand; investors considered silver to be very good value as the price fell below Rps 17,000/kg by November (particularly after having seen the rupee silver price rise to a peak of Rps 26,250/kg in July). However, against a backdrop of collapsing asset prices, there is little doubt that wealth preservation also underpinned the boom in physical silver investment. Most transactions were effected through cash, so as not to leave any audit trail, and were mainly in bars, as well as cut imported London Good Delivery (LGD) bars. Typical weights were in the range of 1 to 3 kilograms, but our field research also revealed that substantial amounts were hoarded in the form of LGD large bars.

Commodity Exchanges Activity

Investment activity in silver futures traded on Comex, a division of the Nymex, continued to grow in 2008. Total volume for the year jumped by 31% year-on-year to a new record above 8.9 million contracts, equivalent to 44.6 billion ounces or 1.4M t. Another historic high of 189,941 contracts was also set for open interest on February 13th, roughly one month before silver's multi-decade peak of $20.92 on March 17th. Nevertheless, the end-year number for open interest at almost 86,000 contracts (equivalent to a nominal 430 Moz or 13,360 t) was 44% lower compared to the end-2007 level.

Silver Futures Trading

(total volume in nominal million ounces equivalents)

	2006	2007	2008	Change y-o-y
Comex	27,165	34,036	44,586	31%
CBOT*	47,250	8,712	3,680	-40%
Tocom	828	518	287	-45%
MCX	9,697	10,551	12,659	20%
NCDEX	1,841	499	148	-70%

*N.B.: Includes the 5,000-ounce and 2,500-ounce contracts

**CBOT figure for 2008 includes positions for the January-August period, prior to the trading transfer to NYSE Euronext; change in y-o-y calculated against the January-August period of 2007.

Source: relevant exchanges

Analysis of the data published by the CFTC in its weekly reports on non-commercial and non-reportable net positions in Comex futures and options provides a proxy for investor activity on the exchange. It should be noted, however, that CFTC reports are a somewhat imperfect gauge of investor activity, as there can actually be a degree of investment 'hidden' within the commercial side and vice-versa.

A spill-over effect from gold's rally in the early part of 2008 pushed silver prices higher, helping to motivate investors into building up long positions in Comex silver futures. After reaching its peak for the year at almost 76,000 contracts in February, the net 'investor' long then started to shrink gradually. As downward pressure on the price intensified in the second half of last year, the net 'investor' long dramatically plummeted, hitting a low of 22,268 contracts in late October. This was primarily the result of the deepening global financial and economic crisis and subsequent liquidations in financial and commodity markets (particularly associated with a bout of hedge fund redemptions and other investors raising cash to cover losses elsewhere). In the final two months of the year, the net 'investor' long managed only a partial recovery. This accelerated, however, at the beginning of 2009 on the back of renewed risk aversion and the rally in gold, with the net 'investor' long position as a result pushed back up to the 39,000 contracts level by the first week of March. Nevertheless, a correction in the price followed later in the month and this led some investors to close their positions, either to take profits or stop losses. As such, by end-April the net 'investor' long dipped to just under 28,000 contracts (equivalent to 137 Moz or 4,270 t), albeit still up 23% from the low point seen in October 2008.

Table 2 - Silver Fabrication: Coins and Medals (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	10.7	13.4	12.3	15.3	14.5	15.5	16.6	17.6	16.0	25.1
Canada	1.4	1.0	0.9	1.0	0.3	1.3	1.6	2.9	4.3	9.0
Austria	0.3	0.2	0.3	0.4	0.4	0.5	0.6	0.5	0.5	8.3
Germany	7.0	8.8	8.1	6.0	9.7	9.7	9.7	8.7	6.3	6.9
Australia	0.9	1.0	0.8	0.6	1.3	1.3	1.0	1.4	3.5	5.9
China	2.3	1.2	1.5	2.1	2.3	2.3	1.8	1.6	2.6	2.8
Mexico	0.4	0.7	1.1	1.1	1.5	2.7	2.6	1.9	1.6	1.4
Spain	1.5	1.8	1.8	1.5	1.1	2.2	1.7	1.5	1.2	1.1
Other Countries	4.6	4.1	3.7	3.5	4.5	6.8	4.3	3.7	3.7	4.4
World Total	**29.1**	**32.1**	**30.5**	**31.6**	**35.7**	**42.4**	**40.0**	**39.8**	**39.7**	**64.9**

Coins and Medals

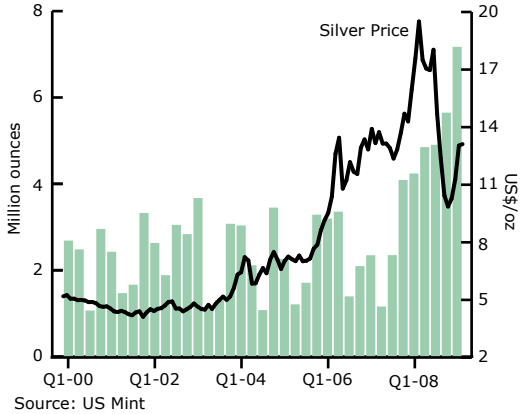
Last year, coins and medals fabrication jumped by 63% to a record of 64.9 Moz (2,019 t). In addition, 2008 saw the most significant rise in a twelve month period in GFMS' series. The main reason for this was the surge in investment-related purchases of bullion coins, both in the United States and Europe. Whereas gold coin demand had burst into life following the collapse of Lehman Brothers (in mid-September), silver coin minting had already risen appreciably before then. That said, the last four months did effectively see an "explosion" in demand.

It was therefore of little surprise to see fabrication of the **US** silver Eagle bullion coin achieve a record of 19.6 Moz (609 t) last year, around double 2007's total. It may therefore be curious that total US coin minting "only" increased by 58% in 2008. This apparent anomaly reflected a scaling back of other programs to afford greater capacity for bullion coin production. Even so, the growth in demand last year was so pronounced that an allocation system, with respect to supplying coins to dealers, had to be introduced. This in turn provided an opportunity for other mints to gain market share in the United States, although the ability to deliver product to the market was by no means restricted to the United States. Another beneficiary of the jump in coin demand was **Canada**, which also achieved a record high last year, driven by a surge in Maple Leaf bullion coin offtake.

The rise in investor interest was not restricted to the United States, with Germany and Switzerland, in particular, also seeing a large rise in bullion coin demand. One beneficiary of this was **Austria**, which, in February 2008, launched a 1-ounce silver Philharmoniker, the success of which enabled Austria to jump to third in the global rankings. This propelled it above **Germany**, even though the country's coin minting rose last year. In contrast to the other leading fabricators, Germany's production consists almost entirely of commemorative pieces. Although five coins were again released last year, the issue limit per coin was reduced to 1.76 million pieces from 1.90 million in 2007, with the *rise* in 2008 minting therefore due to early production of a 2009 issue.

Turning to 2009, physical investment demand has continued to increase, with little sign that last year's shortages, particularly in terms of coin blank production, are any less acute this year. The US Mint has already achieved a near 70% year-on-year rise in first quarter US Eagle sales and, as impressive as this appears to be, given that the Mint's allocation system is still in place, it is not surprising that total minting (over the first quarter) from the world's leading bullion coin fabricators is nearly double that of one year ago for the same period.

US Eagle Bullion Coin Sales



Source: US Mint

4. Mine Supply

- ***Global silver mine production in 2008 totaled 680.9 Moz (21,179 t) representing a new record following the revised high of 664.2 Moz (20,660 t) seen in 2007.***

- ***Strong growth of 26% was seen from output derived as a by-product of gold mining, while output from copper-silver mining contracted strongly, by 7% or 11.8 Moz (367 t).***

- ***Primary silver cash costs jumped sharply higher to average $4.53/oz due to inflationary input cost pressures and diminishing base metal by-product credits.***

- ***Producer de-hedging amounted to 5.6 Moz (175 t) representing a 9% cut to the silver producer hedge book.***

Mine Production

- ***Global mine output recorded a sixth consecutive annual gain, rising by just less than 3%, driven by strong production increases in Bolivia, Russia and Peru.***

Global silver mine production reached a fresh record high last year, totaling 680.9 Moz (21,179 t), an increase of 3%. A small handful of major developments were behind much of the rise. Bolivia, for example, where silver output more than doubled, benefited from a full year of operations from Sumitomo Corp's San Cristobal zinc-silver mine. Similarly, in Russia it was a single operation, Kinross' majority owned Kupol gold-silver mine, that was the driving force behind the second strongest country level growth of the year. Not unexpectedly, Chilean production stood out for the magnitude of its decline,

Top 20 Silver Producing Countries

Ranking			Output (Moz)	
2007	2008	Country	2007	2008
1	1	Peru	112.6	118.3
2	2	Mexico	100.8	104.2
3	3	China	78.8	82.8
5	4	Australia	60.4	61.9
4	5	Chile	62.0	44.9
7	6	Poland	39.6	38.9
8	7	Russia	29.3	36.1
6	8	United States	40.5	36.0
11	9	Bolivia	16.9	35.8
9	10	Canada	26.7	21.5
10	11	Kazakhstan	22.7	20.2
14	12	Turkey	7.5	10.1
15	13	Argentina	7.1	9.9
12	14	Sweden	9.4	8.4
13	15	Indonesia	8.6	8.0
16	16	Morocco	6.8	7.8
17	17	India	6.2	7.1
19	18	Guatemala	2.8	3.2
18	19	Iran	2.9	3.2
21	20	South Africa	2.5	2.7
		Rest of World	20.1	19.7
		World Total	**664.2**	**680.9**

Source: GFMS

Top 20 Silver Producing Companies

Ranking			Output (Moz)	
2007	2008		2007	2008
2	1	BHP Billiton	45.7	42.3
3	2	KGHM Polska Miedź	39.1	38.4
-	3	Fresnillo Plc [1]	34.7	34.8
4	4	Cia. Minera Volcan [2]	21.1	23.0
5	5	Pan American Silver [1]	17.1	18.7
8	6	Cia. Minas Buenaventura [2]	16.0	17.5
9	7	Polymetal [1]	15.9	17.2
11	8	Hochschild Mining	13.6	16.9
7	9	Kazakhmys	16.4	15.6
10	10	Southern Copper Corp	15.2	12.3
15	11	Coeur d'Alene Mines [1]	11.5	12.0
13	12	Teck Resources	12.1	11.6
1	13	Industrias Peñoles [3]	11.9	11.2
-	14	OZ Minerals [4]	10.3	10.4
17	15	Kinross Gold [5]	8.4	10.1
16	16	Yamana Gold [6]	8.6	9.8
6	17	Goldcorp	17.0	9.6
14	18	Codelco [7]	11.7	9.3
20	19	Xstrata Zinc [8]	7.5	9.0
-	20	Hecla Mining [1]	5.6	8.7

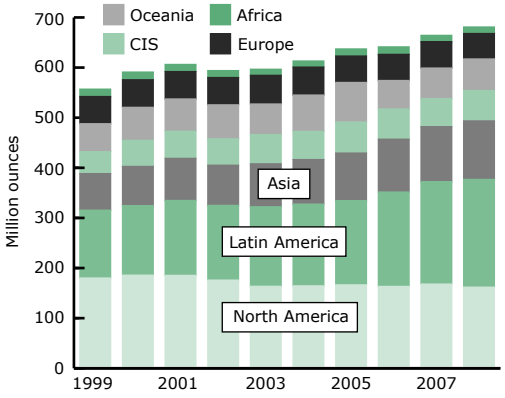
1 Primary silver producer. 2 Includes production from minority subsidiaries.
3 2007 restated following Fresnillo Plc listing.
4 Pro-forma, subsequent to Oxiana-Zinifex merger. 5 Estimate.
6 Pro-forma sales, subsequent to Meridian acquisition.
7 Contained silver in anode slimes. 8 Reported Sales.

Source: Company reports; GFMS

as output from its copper industry contracted and the La Coipa mine moved back to conventional operations, following roughly one year of exceptional silver production levels.

Assessing the origin of the growth by source metal, and of interest, particularly given the disruption to the industrial metals markets, lead/zinc operations remained a robust source of silver production growth. Contrary to the production trend of gold, where mine production declined again last year, silver recovery from gold mines advanced strongly last year, expanding by 26% in 2008. Primary silver mine output decreased by a marginal 1% year-on-year

World Silver Mine Production



Source: GFMS

Given the widespread cuts made to base metal production in the second half of the year, it is noteworthy that a year-on-year increase was sustained, although it will be the current year when the magnitude and potentially sustained impact of cut backs will be fully realized.

North America

North America experienced the largest regional fall last year in both percentage and absolute terms. This happened in spite of a strong performance in Mexico, the principal producing country within the group, as double-digit percentage falls were noted in both Canada and the United States.

Silver mine output in **Mexico** expanded by 3% to total 104.2 Moz (3,241 t) last year, an outcome that benefited significantly from the debut of a number of major projects and the continued ramp up of operations at newly established mines. Foremost were the continuing improvements made at Pan American Silver's Alamo Dorado, which entered commercial production in mid-2007 and added 2.3 Moz (72 t) to its annual total last year. Slightly behind it, the start-up of Goldcorp's emerging flagship property, the Peñasquito project in Zacatecas, achieved the first doré pour from the initial oxide stage in May last year and reported pre-commercial production of 1.4 Moz (42 t) in its first partial year of operations. In addition, the company's Los Filos mine made good ground to achieve steady state capacity early in 2008, also gaining from a reallocation of the Nukay underground operation, formerly accounted for as part of the San Dimas division. The latter recorded one of the country's sharpest falls. At the end of the year, token contributions were also made from the recent start-up of operations at Minefinders' Dolores and Farallon Resources' Campo Morado G-9.

As regards established mining operations, Mexico's leading silver producing property, Fresnillo, was spun off from parent company Peñoles in April 2008, along with the company's holdings of the La Ciénega and Herradura gold-silver properties, into a London-listed entity, Fresnillo plc. The new company's production edged higher to 34.8 Moz (1,084 t) for the year. More recently in April 2009, Southern Copper received an important court ruling in declaring the termination of labor contracts with the mine's unionized workers lawful, following a dispute that has lasted almost two years and led to extensive damage to facilities at the substantial Cananea copper complex. The company is currently reviewing whether to re-hire and restore operations at the property, a move that has been brought into question due to weak market conditions and the large amount of capital required to repair the damaged mine and plant.

Silver output in the **United States** declined by 11% to total 36.0 Moz (1,120 t) last year. All of the nation's biggest silver producing properties posted losses, from the base metals and primary sectors alike. Alaskan producers showed some of the heaviest falls, with the Greens Creek silver/zinc mine (of which Hecla consolidated ownership in April 2008) and Teck Resources' Red Dog lead/zinc complex both decreasing output. The former recorded silver output down almost one-fifth, in part a grade-related issue. A top ten primary silver mine in past years, Coeur's Rochester mine in Nevada reported substantially lower output as activities were limited to residual leaching activities only, following

Table 3 - World Silver Mine Production (million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Poland	35.9	36.7	38.0	38.9	44.2	43.8	40.5	40.5	39.6	38.9
Sweden	8.9	9.5	8.8	9.4	9.9	9.4	9.1	8.6	9.4	8.4
Portugal	0.9	0.7	0.7	0.6	0.7	0.8	0.8	0.6	0.9	1.3
Greece	1.3	1.0	2.0	2.4	0.1	0.0	0.0	0.8	1.2	1.0
Macedonia	0.8	0.8	0.5	0.4	0.2	0.1	0.2	0.3	0.3	0.4
Bulgaria	0.7	0.6	0.8	0.8	0.7	0.6	0.7	0.6	0.4	0.4
Ireland	0.3	0.5	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1
Spain	3.8	3.7	1.8	0.4	0.1	0.0	0.2	0.1	0.1	0.1
Serbia and Montenegro	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1
Italy	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0
Czech Republic	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Romania	1.2	1.1	1.2	1.0	0.9	0.9	0.9	0.4	0.1	0.0
Total Europe	**54.3**	**55.0**	**54.7**	**54.5**	**57.2**	**55.8**	**52.7**	**52.2**	**52.3**	**50.8**
North America										
Mexico	79.8	84.3	88.7	88.3	82.6	82.6	93.1	95.5	100.8	104.2
United States	62.7	63.7	55.9	43.4	39.9	40.2	39.2	36.7	40.5	36.0
Canada	37.5	37.7	40.7	44.1	41.0	41.6	34.2	31.2	26.7	21.5
Total North America	**180.0**	**185.7**	**185.3**	**175.9**	**163.5**	**164.4**	**166.5**	**163.3**	**168.0**	**161.8**
Latin America										
Peru	71.7	78.4	86.0	88.8	93.9	98.4	102.6	111.1	112.6	118.3
Chile	44.4	39.9	43.4	38.9	42.2	43.7	44.3	51.5	62.0	44.9
Bolivia	13.6	14.9	12.2	14.9	15.8	14.0	12.8	15.2	16.9	35.8
Argentina	3.3	3.3	5.6	4.1	4.4	4.6	5.0	6.2	7.1	9.9
Guatemala	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.6	2.8	3.2
Honduras	1.6	1.7	1.6	1.8	1.7	1.6	1.8	1.9	1.8	1.9
Brazil	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
Colombia	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.3
Uruguay	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Nicaragua	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Latin America	**135.4**	**138.8**	**149.5**	**149.1**	**158.7**	**163.1**	**167.7**	**188.3**	**204.2**	**215.1**
Asia										
China	48.0	51.3	55.6	52.9	58.8	63.2	67.0	75.3	78.8	82.8
Turkey	3.5	3.5	3.7	3.7	3.6	4.0	5.2	6.0	7.5	10.1
Indonesia	8.7	10.0	12.0	10.7	9.6	8.6	9.9	7.9	8.6	8.0
India	1.9	1.8	1.7	2.2	2.9	3.4	3.6	6.2	6.2	7.1
Iran	2.6	2.7	2.6	2.6	2.6	2.7	3.0	3.2	2.9	3.2
Papua New Guinea	1.9	2.4	2.2	2.1	2.0	1.7	1.5	1.6	1.4	1.7
Mongolia	1.1	1.0	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2
North Korea	0.8	0.7	0.6	0.7	0.8	0.8	0.8	0.9	0.9	0.9
Thailand	0.2	0.2	0.2	0.7	0.6	0.5	0.6	0.5	0.4	0.4
Philippines	0.6	0.7	1.1	0.3	0.3	0.3	0.6	0.8	0.9	0.4
Japan	3.2	3.5	2.7	2.7	2.7	1.7	1.0	1.1	0.4	0.4
Saudi Arabia	0.3	0.3	0.3	0.3	0.6	0.5	0.4	0.3	0.3	0.3
Dem. Rep. of Laos	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.1	0.2
Other Countries	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Total Asia	**72.9**	**78.2**	**84.0**	**80.2**	**85.7**	**88.9**	**95.2**	**105.4**	**109.9**	**116.7**

Table 3 - World Silver Mine Production (million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Africa										
Morocco	8.9	9.3	9.1	8.5	6.2	6.7	7.4	7.6	6.8	7.8
South Africa	4.9	4.6	3.5	3.6	2.8	2.3	2.8	2.8	2.5	2.7
Dem. Rep. of the Congo	0.0	0.0	0.0	0.1	1.2	1.1	1.7	2.2	2.3	1.1
Zambia	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.4	0.4	0.4
Tanzania	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4
Namibia	0.0	0.5	0.6	0.6	0.9	0.9	1.0	1.1	0.3	0.2
Botswana	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Mali	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ghana	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
Other Countries	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Total Africa	**14.7**	**15.3**	**14.3**	**13.8**	**12.2**	**12.1**	**14.1**	**14.9**	**13.0**	**13.0**
Oceania										
Australia	55.0	65.1	63.3	66.8	59.9	71.5	77.4	55.6	60.4	61.9
New Zealand	0.8	0.7	0.9	0.9	1.0	1.0	1.5	1.1	0.6	1.0
Fiji	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total Oceania	**55.8**	**65.8**	**64.3**	**67.8**	**60.9**	**72.5**	**78.9**	**56.7**	**61.0**	**63.0**
CIS										
Russia	19.8	20.2	20.9	22.5	29.5	30.3	32.5	31.3	29.3	36.1
Kazakhstan	20.6	28.6	30.2	27.3	25.8	22.6	26.1	25.6	22.7	20.2
Uzbekistan	2.0	2.0	1.7	1.6	1.7	1.9	2.0	2.0	2.5	2.5
Armenia	1.1	1.1	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.4
Kyrgyzstan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3
Tajikistan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total CIS	**43.7**	**52.1**	**54.2**	**52.8**	**58.5**	**56.2**	**62.0**	**60.4**	**55.9**	**60.6**
World Total	**556.9**	**591.0**	**606.2**	**593.9**	**596.6**	**613.0**	**637.1**	**641.3**	**664.2**	**680.9**

the conclusion of mining during 2007. One of the leading gains in the country, from the restart of the historic Sunshine mine in Idaho, proved only temporary, as operations were suspended due to financing difficulties, following six months of mining from March 2008 through mid-September.

Canadian output slumped by 19% in 2008 to 21.5 Moz (670 t). This weak result was dominated by the termination of mining at Barrick's Eskay Creek mine in British Columbia during the first quarter due to reserve depletion, broadly in line with longstanding guidance. The cessation of Eskay Creek was responsible for an estimated shortfall of around 4.4 Moz (140 t), over four-fifths of the country's net year-on-year deficit. Elsewhere, silver output from Agnico-Eagle Mines' polymetallic LaRonde mine fell by 0.8 Moz (26 t) or 17%, representing disproportionately lower yields of the metal than was the case for gold. A noteworthy observation is that Canadian silver produced as a by-product of nickel was one of the few areas to have registered an increase, with Vale Inco's Sudbury operations having benefited from higher precious metal grades.

Latin America

In 2008, Latin American production increased by 5% to total 215.1 Moz (6,689 t). Representing the strongest regional gain, Latin American countries posted the most extreme national changes, as both the world's greatest increase and decrease in production took place here, in Bolivia and Chile respectively.

Mine supply from **Peru**, the world's leading silver producer, recorded a solid 5% increase to register annual output of 118.3 Moz (3,681 t). This rise was headed by two of Hochschild's operations, Pallancata and Arcata, which added 3.5 Moz (108 t) and 2.5 Moz (77 t) respectively. Pallancata contributed its first full

year of output in 2008, having started production in the third quarter of 2007, while supply from Arcata showed the benefits of the plant expansion which was completed during the year. Further consolidating the improvements in Peru's output was a strong performance from Buenaventura's Uchucchacua, the country's largest primary silver mine, which posted a 16% increase to reach a total of 11.4 Moz (355 t), and the significant Antamina joint venture which increased silver output by around 8%.

A reduction in processed ore grade was a factor behind many Peruvian mines' production shortfalls. The largest such drop came from Sociedad Minera El Brocal's Colquijirca zinc operation, where output plummeted for the second consecutive year, by 36% in 2008, taking it back towards 2005's silver production levels. Two of Hochschild's operations, Selene and Ares, saw the country's second and third largest absolute declines, falling by 1.8 Moz (57 t) and 1.1 Moz (36 t) respectively, again driven by lower grades. Pan American Silver's Morococha and Quiruvilca operations also suffered grade related losses.

Bolivian supply surged in 2008, more than doubling to reach a total of 35.8 Moz (1,114 t). A full year of production at Sumitomo Corp's lead/zinc San Cristobal increased output by an estimated 14.0 Moz (435 t), which single-handedly accounted for just over three-quarters of Bolivia's total production and 8% of Latin American output. Additional supply was seen from the debut of Coeur d'Alene's San Bartolomé, which added 2.9 Moz (89 t), having reported its first doré pour in June 2008. Declines in the country were almost negligible, with output from Newmont's Kori Kollo slipping marginally.

Argentina showed the second strongest growth in the region, with supply climbing by 40% to 9.9 Moz (309 t). The country's biggest contribution came from Hochschild and Minera Andes' joint venture, San José, which commenced operations in mid-2007 and bolstered the outcome through a plant expansion during 2008 to record a 3.4 Moz (106 t) increase.

In **Guatemala**, production reached its highest ever recorded level. A 7% increase in silver grades and 4% rise in mill throughput at Goldcorp's Marlin resulted in a 13% lift in the mine's output, taking the country total to 3.2 Moz (100 t).

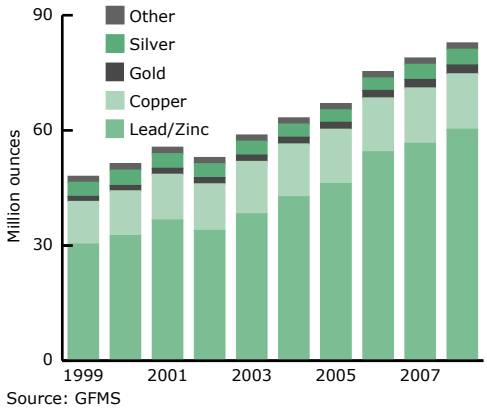
In **Chile**, production fell sharply by 28% to 44.9 Moz (1,396 t), following two years of significant growth. The greatest losses came from the primary silver mining sector, with Kinross' La Coipa showing the greatest decline. Temporarily classified by GFMS as a primary silver mine, when the Puren deposit formed the principal source of run of mine ore, it returned to primary gold operations during 2008. Furthermore, a pit wall failure at Coipa Norte early in the year compounded the loss. Declines were also seen at Coeur d'Alene's Cerro Bayo, where operations were impeded by planned downtime for electrical infrastructure upgrades.

The country's copper operations, many of which also yield substantial quantities of silver, registered heavy declines in silver production. BHP Billiton's Escondida, and state-run copper company, Codelco, both recorded significant year-on-year shortfalls. The only gain of note came from the primary gold sector, namely Yamana Gold's El Peñón, which lifted production by 2.2 Moz (69 t) as a result of increased mill throughput. Elsewhere in Chile, Barrick announced in April 2009 that the Pascua Lama project that straddles the Andes into Argentina has moved a step closer to a construction decision, now that cross-border tax issues have reportedly been largely resolved.

Asia

Chinese silver production attributable to domestic mines is estimated to have increased to 82.8 Moz (2,574 t) last year. During GFMS' most recent trip to China during early 2009, the impact of declining industrial metals prices was becoming increasingly widespread on domestic mining operations and several smelting and refining companies had expressed concern over their ability to

Chinese Silver Mine Production by Source Metal



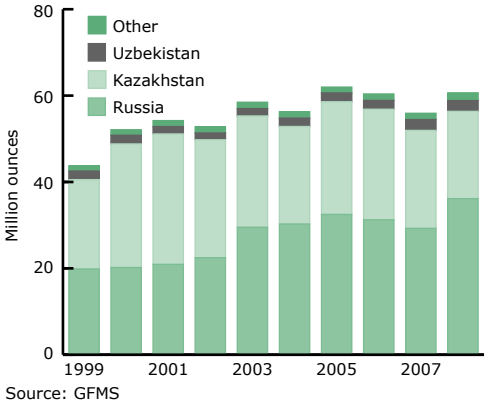
Source: GFMS

secure adequate feed volumes in light of the depressed base metals prices. By the end of 2008 many domestic lead/zinc and copper operations had scaled back mining output, although moves to cease production outright had reportedly been confined to a limited number of mines. However, this partial hiatus at the end of the year was insufficient to alter the directional trend of lead/zinc output, which continued to increase through 2008.

In the case of lead/zinc mining there has been exceptional growth in output in the North Eastern province of Inner Mongolia, with incidental silver output having been a clear beneficiary. Elsewhere, the record high recorded for the Chinese gold mining industry produced a corresponding increase in by-product silver. Finally, production from the primary sector, which accounts for only a small percentage of national output, benefited from the start of commercial production from Silvercorp Metals' LM and TLP mines in Henan province during early 2008, which supplemented higher output from the flagship Ying operation.

Turkish mine production spiked higher last year, by one-third, to total 10.1 Moz (313 t), which appears to have principally originated in the primary silver sector. Another strong increase was noted for **Indian** mine production where Hindustan Zinc's output expanded. In addition to this we have upwardly revised the 2004-07 statistics to account for domestically mined silver-bearing zinc concentrates that are exported for processing. The region's heaviest loss occurred in **Indonesia**, with output some 0.7 Moz (21 t) lower due to reduced silver from the Grasberg and Batu Hijau copper mines.

CIS Silver Mine Production



Source: GFMS

Oceania

A decline in **Australian** primary silver supply was surpassed by increases from the lead/zinc sector, pushing total silver output in the country up by 1.5 Moz (48 t). Looking firstly at primary silver supply, BHP Billiton's Cannington, currently the world's largest primary silver mine, posted a 2.9 Moz (91 t) loss due to reduced head grades during calendar year 2008. Production in 2008 totaled 34.6 Moz (1,075 t). A minor gain was provided from the start-up of Macmin Silver's Twin Hills operation. As mentioned above, it was the lead/zinc sector that staged the improvement, headed by Xstrata's Mount Isa operations, where output of silver contained within crude lead increased by 2.7 Moz (83 t), due to improved throughput at the lead/zinc concentrator and smelter. In addition, an estimated 0.7 Moz (22 t) gain was seen from Jabiru Metals' Jaguar property. Elsewhere in the country production changes remained relatively insignificant.

Commonwealth of Independent States (CIS)

Following two years of consecutive decline, production in the CIS recorded an 8% increase to 60.6 Moz (1,886 t), attributable to a rising level of both primary silver mining and silver recovered as a by-product of gold operations. The increase was exclusively due to a strong performance in **Russia**, where two operations saw significant gains. Fresh production was seen from Kinross' Kupol property in Chukotka, which commenced milling in May 2008 and, by year-end, had produced 5.2 Moz (161 t) of silver as a gold by-product. In addition, at the country's largest silver producing operation, Polymetal's Dukat in Magadan, processed higher volumes of ore and achieved improved recoveries, leading to a 1.7 Moz (53 t) increase in metal output. However, during 2008, GFMS revised down its estimates for Russian silver production as a by-product of base metal mining for the period 2003-08, due to a change in assumption of yields from this sector.

The region's second largest producer, **Kazakhstan**, recorded a third year of lower silver output, falling by 2.5 Moz (77 t) to stand at 20.2 Moz (629 t). Although Kazakhmys plc's copper division, the country's largest producer, recorded increases to both group-wide ore extraction and copper and zinc production, the volumes of silver recovered as a by-product decreased due to a lock-up of material in process. This material is expected to be recovered during 2009. In addition, there was a reduction in silver recovered from Kazakhmys' gold operations.

Elsewhere in the CIS, production remained relatively stable in **Kyrgyzstan** and **Uzbekistan**. In Armenia, a slight uptick in production during the year, as output increased at Dundee Precious Metals' Deno Gold operations, proved temporary as operations were suspended early in 2009 due to depressed metal prices.

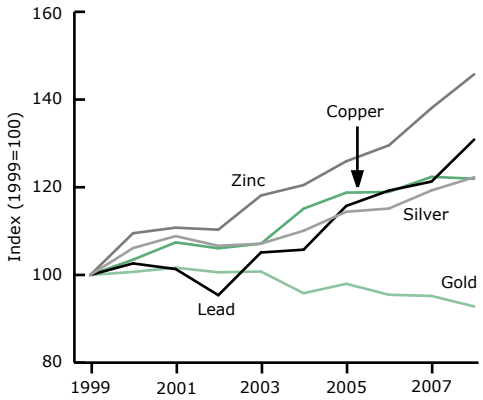
Europe

European output of silver fell last year by 3%, or 1.5 Moz (48 t). In **Poland**, the region's leading producer accounting for around three-quarters of production, copper-silver producer KGHM Polska Miedź again recorded a modest 2% fall, where ore extraction rates fell during 2008. Nevertheless, silver production for the year, at 38.4 Moz (1,193 t), remained 7% above the company's budgeted output for the year due to an exceptionally strong fourth quarter. Elsewhere, **Sweden** saw output fall 1.0 Moz (31 t) or 11%, led by drops at Boliden's Aitik and Boliden Area properties, where harder ores impacted processing rates in the first half at the former and planned production cutbacks were responsible at the latter. There was, however, better outcome in **Portugal**, where production, prior to the suspension of zinc operations at Neves-Corvo and at Aljustrel, provided modest gains.

Africa

Output from Africa remained stable in 2008, governed mainly by changing production from two countries. In **Morocco**, Managem's subsidiary Société Métallurgique d'Imiter's Imiter operation recorded a 16% increase in silver production. Balancing this gain, in the **Democratic Republic of the Congo**, production fell by 55% at Anvil Mining's Dikulushi, from an exceptionally strong 2007 level, due to a transitional period of lower feed grades while the mining method was changed, and from the instigation of a care and maintenance program in December.

Indexed Global Metal Mine Production



Source: ILZSG, WBMS, GFMS Metals Consulting, GFMS

Outlook

• ***Silver mine production is currently expected to fall slightly in 2009, with output forecast to decline from all by-product sectors except gold.***

The fall in prices, throughout 2008, of three of the main metals from which silver is mined as a by-product (see table, page 31), carries strong implications for silver mine supply in 2009. Where 12 months ago we would have expected continued growth from the lead/zinc sector, our view has now been moderated. However, we expect that many of the production cuts to be announced have likely already taken place; we do not expect silver supply from this sector to fall precipitously, though certainly a decline of some measure is probable. There is some positive news, however, as figures suggest another year of growth of silver supply as a by-product of gold mining.

Declines are expected across most regions, with the exception of Latin America, where growth is forecast to continue. Most notably, and in a repeat of 2008, Bolivia and Argentina will exhibit firm growth once again. In Bolivia, gains will be driven by a full year of production at Coeur d'Alene's San Bartolomé, while Argentina will see a good contribution from Silver Standard's recently inaugurated Pirquitas, which is forecast to produce around 6 Moz (190 t) in 2009, and Pan American Silver's Manantial Espejo.

Growth is also expected in Russia, with plans by Polymetal, the country's largest silver miner, to increase output to 18.0 Moz (560 t). Any significant fall in silver prices would, however, necessitate a review of the cut-off grades at its largest operation, Dukat, and potentially drag the company's output down to around 14.0 Moz (435 t). In addition, a full year of operations at Kinross' Kupol should provide additional upward momentum. Meanwhile, in North America, Coeur d'Alene's Palmarejo is forecast to add 5.3 Moz (165 t) to the global total.

Average Prices of Source Metals

($/ton)						Change
	2004	2005	2006	2007	2008	y-o-y
Lead	888	976	1,288	2,595	2,085	-20%
Zinc	1,048	1,382	3,273	3,250	1,870	-42%
Copper	2,868	3,684	6,731	7,126	6,952	-2%
Gold ($/oz)	409	444	604	695	872	25%

Source: LME, Thomson Reuters EcoWin

World Mine Production of Source Metals

(Thousand tons)						Change
	2004	2005	2006	2007	2008	y-o-y
Lead	3,139	3,435	3,539	3,600	3,884	8%
Zinc	9,712	10,149	10,442	11,127	11,748	6%
Copper	14,721	15,188	15,210	15,650	15,594	0%
Gold (tons)	2,494	2,550	2,485	2,478	2,416	-3%

Source: ILZSG, WBMS, GFMS

By-Product Analysis

- ***Primary silver posted a 1% decline last year to account for 28% of total mine production in 2008.***

- ***Outcomes for silver from other metals mining were more extreme, with silver from copper mining 7% lower and silver from lead/zinc and gold up by 6% and 26% respectively.***

Primary silver supply contracted slightly in 2008, driven by losses in all but two regions. Mexico, Peru and Australia again led the pack of primary silver producing countries. The most significant falls were seen from BHP Billiton's Cannington, the cessation of mining at Barrick's Eskay Creek and the return of Kinross' La Coipa to normal (primary gold) operations. Partly accountable to the latter, the supply of silver as a by-product of gold mining rose by the strongest margin in 2008, to represent 11% of world output, up from 9% in 2007. Key to this rise were gains recorded in Latin America and Russia, where silver production from this sector increased by 7.6 Moz (236 t) and 4.7 Moz (145 t) respectively.

The market environment for the by-product metals linked to silver changed dramatically in 2008. Average annual prices for copper, lead and zinc fell by 2%, 20% and 42% respectively last year. Weak demand triggered by the credit crunch brought about a supply response, particularly from the lead and zinc producers, as 2008 progressed. For copper, the reaction was less extreme as prices did not fall as far down the cost curve as for the other base metals.

Lead consumption has held up well last year, despite the dramatic decline in industrial production. According to the International Lead Zinc Study Group (ILZSG), demand increased by 6.5% last year to 8.7M tons, with the metal's recession resistant properties coming to the fore. Demand is driven by the battery market which accounts for over two-thirds of offtake. Within this sector, the replacement battery market accounts for 70% of demand, where offtake is a function of vehicle population i.e. the number of vehicles on the road rather than the level of vehicle output.

Lead concentrate production rose by 7.5% in 2008 to 3.88M tons. China was responsible for the bulk of the growth, with an 11% increase to 1.54M tons. The full year figures do not, however, capture the reduction in mine production in response to the fall in prices. Mine output in December was 179,000 tons, down 7% from the July 2008 high of just over 190,000 tons. Production in the first two months of 2009 was around 10% up on last year reflecting higher output in China.

Apart from China, the only other major source of growth in mine output last year was Bolivia where former 65% shareholder, Apex Silver, commissioned the San Cristobal project. Largely as a result of this lead mine output in Bolivia increased to 72,000 tons compared to 20,000 tons in 2007.

The growth in lead mine output seen in 2008 is set to slow this year. The next generation of lead mines in China are small-scale, typically under 25,000 tpy. In addition, the low prices have seen production decline in a number of key producing areas, notably Australia, Canada, and the United States. Many of the operations that have been closed are unlikely to be re-commissioned. In addition, there has been only limited investment in new lead mining capacity.

In 2008, zinc concentrate production rose by 5.6% to 11.8M tons. The increase primarily reflected sharply higher output in China and Bolivia. Within China, the bulk of the increase came from relatively small-scale operations. Apart from the commissioning of the Lanping mine (100,000 tpy of zinc at steady state), we are not expecting any significant boost to mine output.

Silver Output by Source Metal

(million ounces)

	2007 Output	% of Total	2008 Output	% of Total	Change y-o-y
Primary	194.1	29%	191.2	28%	-1%
Gold	60.7	9%	76.7	11%	26%
Lead/Zinc	234.9	35%	249.9	37%	6%
Copper	171.3	26%	159.6	23%	-7%
Other	3.3	0%	3.6	1%	9%

Source: GFMS

Zinc mine production in early 2009 is running approximately 9% above the levels seen a year earlier. This is almost exclusively a function of higher production within China. Elsewhere the major trend is lower production associated with the suppressed prices seen in late 2008. The reductions in output have been centered on Australia, Canada and the United States. Most of these operations are relatively high cost and are unlikely to come back on stream in the near future. In addition to the closures on price grounds, the massive Brunswick mine in Canada, owned by Xstrata, is scheduled to close by the end of 2010. There are few projects in the pipeline to replace this operation.

A key driver of the bull market for copper was the tightness at the raw material stage. In 2008, global mine output increased by just 0.1% to 15.6M tons. The growth in copper production has been held back by a combination of price related cutbacks at Freeport McMoRan, and perhaps more importantly by lower grades at a number of key producers. Last year, mine output in Chile, for example, (the world's largest producer) fell by 4.1% to 5.33M tons.

Much of the expansion to copper mine production is located in the African Copperbelt where output has consistently fallen below expectations. This factor, together with lower grades at a number of existing producers, will limit the growth in copper production.

Production Costs

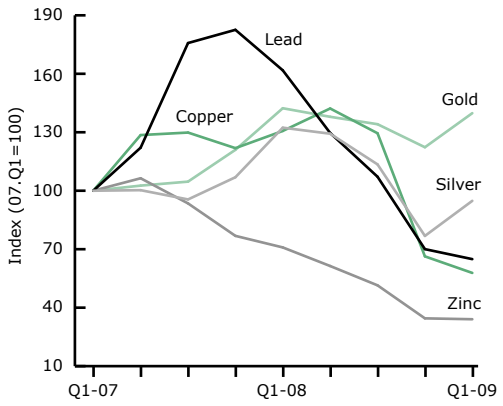
- ***World silver cash costs surged, almost tripling in 2008, where sharp declines in the major by-product metal prices proved an influential factor.***

Global cash costs at primary silver mines increased dramatically during 2008, to a weighted average of $4.53/oz, representing an increase of $3.00/oz year-on-year. This represented the highest level recorded since GFMS began collating statistics on the cash cost of primary silver production, from 1996, for *World Silver Survey 1998*. Throughout this period cash costs had remained below the $4.00/oz level; a necessity when silver prices generally hovered around $5.00/oz.

It should be noted that GFMS' analysis excludes all mines where silver is not ordinarily the primary source of revenue, and the figures are presented on a by-product accounting basis. The 2008 sample size of 102.3 Moz (3,181 t) represents 53% of primary silver supply.

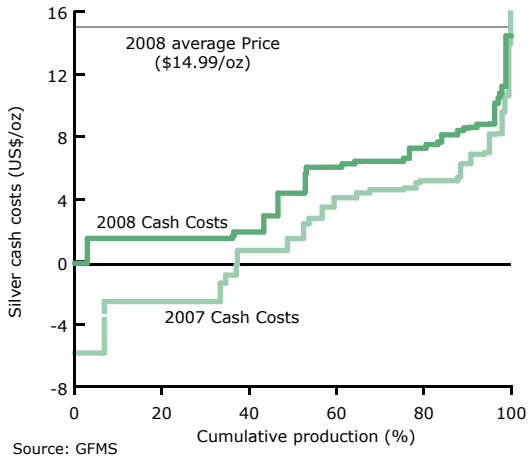
In stark contrast to 2006 and 2007, last year saw a meaningful reduction in the prices of the main by-product metals associated with silver mining, namely lead, zinc and copper. While the declines in the annual average prices can be seen in the table on page 31, losses

Indexed By-product Metal Prices



Source: ILZSG, WBMS, GFMS Metals Consulting, GFMS

Silver Cash Costs



Source: GFMS

Silver Mine Production Costs

	2006	2007	2008
Cash costs	1.20	1.53	4.53
Average spot price	11.55	13.38	14.99
% sample with costs > spot price	0%	1%	0%
Sample size (million ounces)	92.4	126.3	102.3

Source: GFMS

intra-year were much more severe, at -63%, -53% and -56% for the three metals respectively. Gold was the exception, exhibiting another year of price increases.

The majority of producers cited lower realized by-product metal prices, which act as a credit against operating costs, as a significant factor in both annual and quarterly cost increases. Indeed, only four of the mines studied managed to reduce cash costs, those being Coeur d'Alene's Rochester (where, as a leach operation, mining costs are no longer incurred), First Majestic Silver's La Parilla and both Endeavour Silver and Great Panther Resources' Guanajuato mine complexes. Looking at a quarterly split of the cash cost data, the effect of the by-product price crash is demonstrated by cash costs in the fourth quarter of 2008 rising even further, above $5.00/oz. It is interesting to note that while cash costs at gold operations, as recorded in *Gold Survey 2009*, eased in the fourth quarter by 9%, partially due to falling input costs for consumables and energy, this effect was not fully apparent in the primary silver mining industry's average costs. The sustained falls in the prices of lead, zinc and copper throughout the year drowned the benefits of these deflationary effects, seen in inputs such as energy, labor, process reagents, explosives and steel late in the year. However, for the year as a whole, the average cost of these inputs nevertheless remained historically high.

Producer Hedging

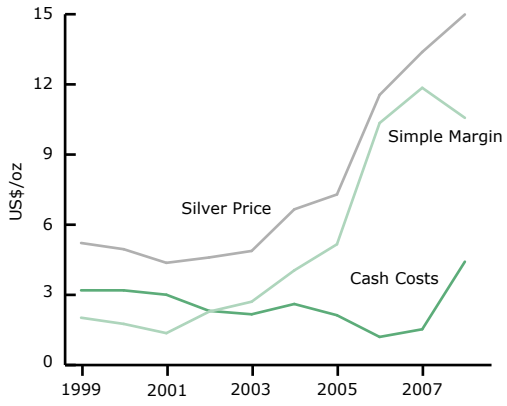
- ***The global silver hedge book was estimated at 54.6 Moz (1,698 t) at end-December in delta-adjusted terms, representing a 9% reduction in outstanding producer hedges, which generated 5.6 Moz (175 t) of net physical silver demand.***

Following substantial reductions made to the producer hedge book in 2007, last year represented a more balanced year, with the overall cut to the producer hedge position amounting to 5.6 Moz (175 t). This represented the third consecutive annual reduction to the hedge book.

Not for the first time, the driving force behind the decline was attributable to a change in the option contracts volume, which decreased to 15.7 Moz (488 t), with total outstanding forward sales having contracted by only 1.0 Moz (31 t) in 2008 to 38.9 Moz (1,210 t). It should be noted that this analysis is only concerned with longer dated hedging and does not attempt to analyze ongoing near-term forward contracts utilized by many miners and refiners as a standard means of marketing their end product.

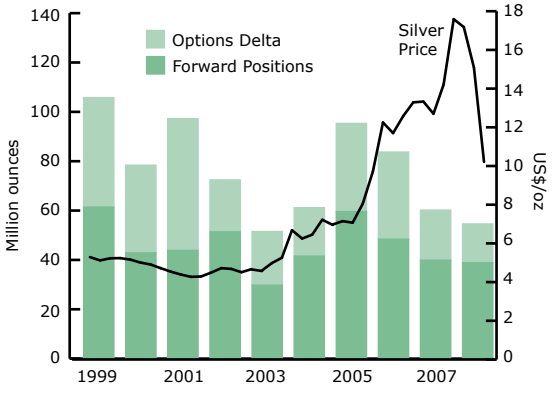
Interestingly, the effect of delta exposure against the options position played an important role in moderating the decrease in the delta-adjusted options position. This was a function of the implied delta against the options book increasing, which served to mitigate a sharply reduced options book in nominal terms. This decrease in nominal terms primarily occurred through natural attenuation as contracts matured and ran off the book and were not renewed with fresh hedge positions in comparable volume.

Historical Silver Cash Costs



Source: GFMS

Producer Hedging: Outstanding Positions



Source: GFMS

Among the major changes, regarding the forward sales position, it was interesting to note that the largest year-on-year book reductions originated from the gold sector. Kinross accounted for one of the most significant net reductions in the position, amounting to 3.6 Moz (112 t) of forward sales against the Kupol project that the company took control of through the acquisition of Bema Gold, which commenced production during 2008. Although a clause in the hedging agreement that Bema entered into precludes the premature buy back of the Kupol hedges, a similar result was achieved though a bullion forward purchase to effectively neutralize the 2009 forward sales position. Fellow tier 1 gold producer, Barrick Gold, was another active player, having reduced its fixed price silver sales by 3.4 Moz (106 t), partly by the conversion of contracts to a floating price structure. Swedish diversified miner Boliden also cut back its level of silver hedging through 2008.

Fresh hedging was more muted by comparison with the largest increase undertaken by Peruvian silver-gold miner Hochschild Mining. Across late 2008 and early 2009, Hochschild established a significant silver forward sales position against part of its projected 2009 sales to protect against price volatility. Although much of this will qualify as 2009 intra-year activity, 3.3 Moz (103 t) of hedging was implemented prior to end-2008.

GFMS uses Brady plc's *Trinity*™ integrated trading and risk management system as an integral tool for the analysis of producers' options hedging exposure and sensitivity. In the case of KGHM Polska Miedź, although the company's hedge position was reduced in terms of nominal contracts, the delta hedge actually expanded. This was brought about thanks to the end-year (Comex settlement) silver price used to value the options, which dropped in 2008 from $14.80/oz to $11.27/oz and pushed the company's put options, priced at around $12/oz, towards into-the-money from an out-of the-money position at end-2007. Elsewhere, AngloGold Ashanti's remaining positions matured, while the delta-adjusted options books held by Industrias Peñoles, GlobeStar Mining and Sumitomo Corp (the latter against San Cristobal's debt package, established by Apex Silver) all underwent calculated decreases year-on-year.

Sensitivity of the Options Book (Moz, end-2008)

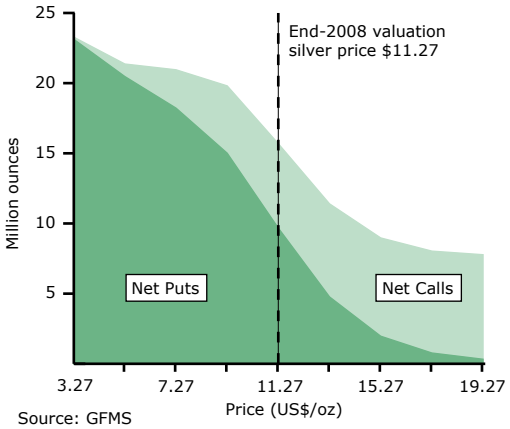
Change in volatility (%)	Change in silver price (US$/oz)				
	-8	**-4**	**0**	**4**	**8**
20	22.3	20.2	14.8	10.4	8.6
10	22.7	20.7	15.2	9.8	8.2
0	23.3	21.0	**15.7**	9.0	7.8
-10	24.1	20.5	16.4	7.9	7.6
-20	24.7	18.9	18.2	7.0	7.7

Source: GFMS

Looking at the options sensitivity chart below (and matrix above), it is apparent that the dominant function of the remaining options book is price protective in nature, comprising puts that will trigger under falling price conditions. The majority of the remaining call position has been established as part of put-call collars, much of which is already in-to-, or close-to-the-money, with relatively little scope for substantial delta increases in the event of rising prices.

As has been noted in the past, we are inclined to attribute part of the lack of uptake of fresh hedging, especially within the project finance universe, to the continuing increase in the use of silver stream royalty finance agreements. To illustrate the point, Silver Wheaton, the world's largest silver stream company added four purchase agreements to its portfolio last year for combined up-front capital of $197 million. These were for part of the future production anticipated from the following properties: Mineral Park mine (Mercator); Campo Morado G-9 project (Farallon Resources); La Negra mine (Aurcana) and the Keno Hill project (Alexco Resources). More recently, Silver Wheaton moved to further expand its reach through the proposed acquisition of Silverstone Resources, another silver stream company, which was announced in March 2009.

End-2008 Delta Adjusted Options Position



Source: GFMS

5. Supply from Above-Ground Stocks

- ***Net supply from above-ground stocks fell by 14% to 151.7 Moz (4,717 t) in 2008.***

- ***The decline featured lower net government sales and a modest drop in scrap supply.***

- ***A further decline in Russian disposals, as well as the absence of any sales from China and India, resulted in a 27% fall in net government sales.***

- ***The 5.3 Moz (166 t) decline in scrap supply to an 11-year low was the result of a drop in photo-related recycling.***

Net Silver Supply © GFMS Ltd / The Silver Institute

(Million ounces)

	2007	2008
Implied Net Disinvestment	-24.7	-50.2
Net Producer Hedging	-23.5	-5.6
Net Government Sales	42.3	30.9
Sub-total Bullion	-5.9	-24.9
Old Silver Scrap	181.9	176.6
Total from Above-Ground Stocks	**176.0**	**151.7**
Mine Production	**664.2**	**680.9**
Total Net Supply	**840.3**	**832.6**

Note: In contrast to Table 1 on page 7, total supply is presented on a net basis in the table above. This provides a measure of the drain on existing above-ground stocks of metal that was required to fill the gap between mine production and fabrication demand.

Overview

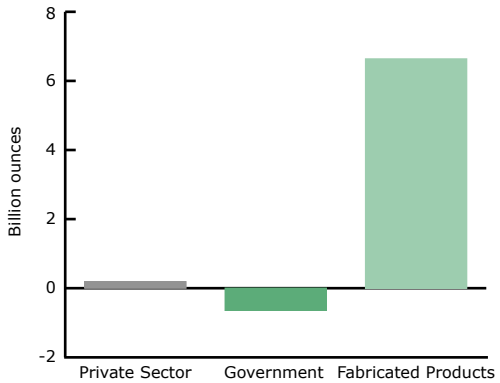
The supply of silver to the market can be broadly divided into two categories, namely supply from new mine production and from above-ground stocks. The latter can either be sourced from the recycling of fabricated products or from the mobilization of bullion stocks owned by private individuals or by governments.

The accompanying table features the net contribution to supply from its various components. As the appended note points out, this approach differs from the way this information is presented in Table 1 on page 7 (where figures appear on either the supply or demand side). This is done in order to provide readers with a measure of the net drain on above-ground stocks (in both fabricated and bullion form) required to plug the fundamental deficit that for yet another year appeared between mine supply and fabrication demand. The added benefit of this approach is that it allows us to compare the contribution from net supply from above-ground stocks with that of mine production.

Under this methodology, mine supply, at 680.9 Moz (21,179 t), accounted for 82% of total supply last year. (Note that using the approach featured in Table 1, mine supply accounted for 77% of total supply.) The source for the remaining 151.7 Moz (4,717 t) of metal supplied to the market in 2008 was recycled above-ground stocks of silver which, in turn, were split between scrap supply and net government sales, net of the decline in the producer hedgebook and implied net investment.

As for government sales, its total slumped by 27% to 30.9 Moz (961 t). Sales from this source accounted for 4% of total net supply. A slowdown in sales from Russian stocks as well as the absence of any disposals from China and India was the driving force behind the decline. Unlike gold, where the bulk of liquidity for the lending market is provided by central banks, the metal used to fund producers' activities in the silver forward and derivatives market is largely sourced from privately held stocks of bullion. By implication, therefore, the 5.6 Moz (175 t) decline in the producer hedgebook is understood to have also been reflected in a net increase in private

Changes in Above-ground Stocks (1999-2008)



Source: GFMS

stocks of silver. Combined with the 50.2 Moz (1,562 t) implied net investment figure derived for the year, this suggests that a total of 55.9 Moz (1,737 t) went into privately held stocks of silver bullion. (Note that this analysis excludes newly minted bullion coins, which are discussed in a separate section in Chapter 3.) Combining this with the 30.9 Moz (961 t) net decline in government owned stocks suggests above-ground bullion stocks increased by 25.0 Moz (776 t) over the year. In other words, private individuals and governments combined demanded rather than supplied silver bullion on a net basis in 2008.

The largest contribution historically to supply from above-ground stocks has been from the recycling of fabricated products. The majority of this continues to be accounted for by photographic scrap. This component of scrap has been on a steady decline over the last few years (in tandem with photographic fabrication demand) and its drop in 2008 was sufficient to more than offset higher levels of recycling from other sources, leaving the overall total for scrap at an 11-year low, in spite of the powerful advance in silver prices. Behind this apparent conundrum is the fact that most sources of recycled silver are a good deal less price sensitive than those, for example, for gold.

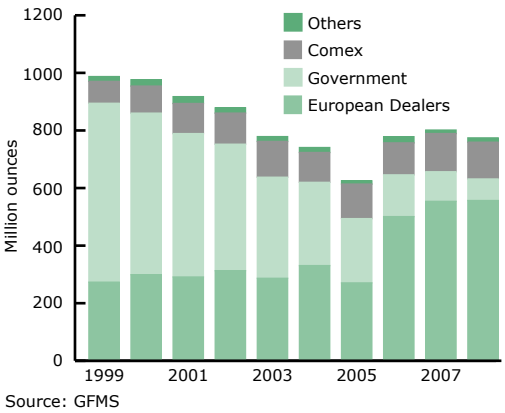
In gold's case, the bulk of fabricated products are in the form of jewelry, scrap from which is highly price sensitive due to the metal content accounting for a very high portion of the finished product's value. Silver-bearing finished products, on the other hand, with a few exceptions, tend to have a low contained metal value. As such, silver scrap tends to be relatively inelastic to price levels and volatility, and is mostly driven by the performance of the relevant sector (taking into account any relevant lags) as well as environmental legislation.

Identifiable Bullion Stocks

GFMS' analysis of identifiable bullion stocks includes inventories for which sufficient evidence is available to form a statistical picture. In contrast, silver bullion held in depositories on which information is not available, as well as in private individuals' vaults, is excluded from our figures. Besides suggesting the existence of additional stocks of silver, this caveat has implications for the interpretation of changes in our estimates of identifiable bullion stocks. Specifically, in addition to such changes being driven by the absorption of surpluses or the filling of deficits, they could in theory be explained by metal flowing out of unidentifiable stocks and into identifiable ones or vice versa.

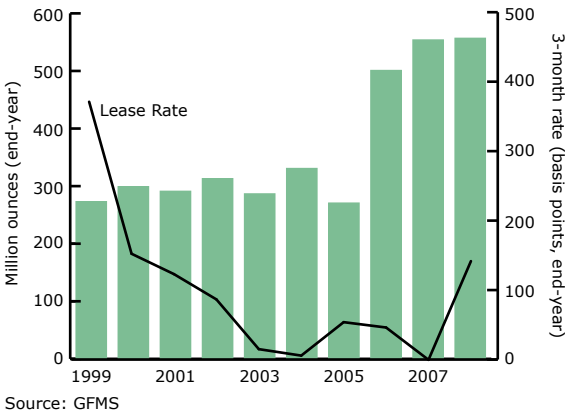
For instance, at first glance, the decline of 30.0 Moz (934 t) in identifiable stocks that GFMS estimate took place last year seems to be largely offset by the 25.0 Moz (776 t) inflow implied by the sum of implied net investment and producer de-hedging, less net government sales over the year. Although it is possible that some portion of this mismatch is fueled by flows of metal that have not been included in our supply and demand analysis, we are confident that a significant part of it is indeed explained by already existing, previously unidentifiable, stocks moving into the identifiable category monitored by GFMS.

Identifiable Bullion Stocks



Source: GFMS

Bullion Stocks in Dealers' Vaults in Europe



Source: GFMS

Identifiable Bullion Stocks

(Million ounces)

	end-2007	end-2008
European Dealers	553.8	556.7
Comex	132.6	127.7
Government	102.9	72.0
Other Stocks	12.1	15.0
Total	**801.4**	**771.4**

Source: GFMS

Comex Silver Stocks (end period)

(Million ounces)

	Q1	Q2	Q3	Q4
2006	125.0	102.3	105.2	111.1
2007	125.8	139.9	132.6	132.6
2008	135.9	136.0	135.5	127.7
2009	125.4			

Source: Comex

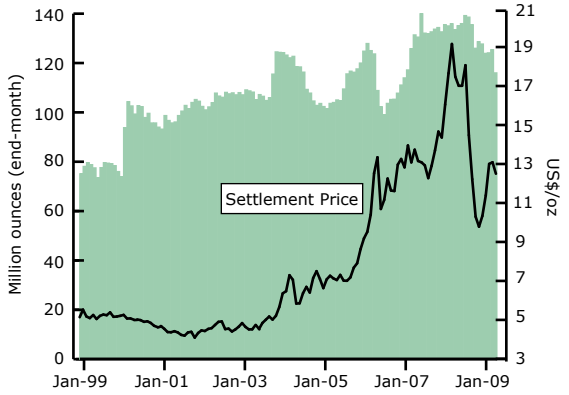
The table above and the chart on page 36 show the breakdown of identifiable bullion stocks of silver at year-end. The decrease these experienced over the year was primarily the result of the 30.9 Moz (961 t) drop in the government stocks. A smaller, 4.9 Moz (153 t) decrease was also recorded in the stocks held at Comex depositories. These falls were partly offset by the 2.9 Moz (90 t) rises recorded both in European dealers' and other stocks.

European Dealers' Stocks

Since 1996, GFMS has conducted a confidential survey of bullion stocks held in European dealers' vaults and has reported an aggregate end-year total for these in the *World Silver Survey*. At the end of 2008, these stood at a combined 556.7 Moz (17,315 t), up by 2.9 Moz (90 t) or 0.5% on their end-2007 level. The total number would have been much higher had there not been an impressive drop in silver stocks during the last quarter of 2008. Over this period combined silver stocks dropped by nearly 10% or 61 Moz (1,895 t). As is discussed elsewhere in this report, such a drain was largely the result of a surge in Indian bullion imports, much of which was sourced from Europe.

In contrast, inflows into the silver ETFs played an important role in lifting dealers' stocks in 2008, with these offsetting outflows from the rest of their coffers (for more on this see the relevant discussion in the focus box in Chapter 3). Elsewhere, the 5.6 Moz (175 t) decline in the global producer hedgebook seen over 2008 would also have contributed to the increase in dealers' inventories.

Comex Warehouse Stocks



Source: Comex

Comex Stocks

Silver stocks held at Comex depositories totalled 127.7 Moz (3,972 t) at the end of 2008. Compared to end-2007 stocks declined by 4.9 Moz (153 t) or 4%. Encouraged by the rocketing premiums on physical silver, as well as by the related lack of immediate availability of this metal on the silver bullion market, some investors decided to use this opportunity for arbitrage as well as to secure their positions by requesting physical delivery from Comex warehouses during the last quarter of 2008. This tendency has continued to strengthen in the first few months of 2009: as of end-April a further 9.2 Moz (357 t) of silver had been shipped from the exchange's vaults, leaving its reserves at 116.2 Moz (3,615 t) or some 9% below the end-2008 level.

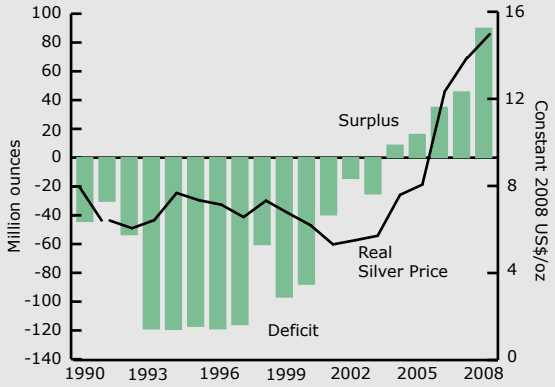
The analysis of movements in the stocks of individual depositories throughout 2008 reveals a two-way flow of the metal. In terms of the outflows, a drop of 11.7 Moz (362 t) in ScotiaMocatta's stocks was augmented by the 2.7 Moz (83 t) of silver withdrawn from the Brinks Inc. depository. In contrast, stocks held at HSBC Bank USA and the Delaware Depository rose by 8.3 Moz (258 t) and 1.1 Moz (34 t) respectively.

Deficits and Surpluses in the Silver Market

The 1990s and the early part of this decade witnessed a series of market deficits – defined as the difference between supply from mine production plus scrap and demand from fabrication (in this case, excluding coins and medals minting as this is treated as part of new bullion demand). These deficits were covered by the mobilization of above-ground bullion stocks, the bulk of which came from privately held inventories that had been accumulated in the 1970s and early 1980s when investors were bullish on silver. Sales of government stocks, particularly from 1999 onwards, were another source used to fill the gap. Not surprisingly, this heavy selling from both private and government stocks consistently put the silver price under great pressure over the period.

As the graph on the right shows very clearly, in recent years the picture has changed considerably, as the market has shifted from a deficit to a surplus. Even though governments have still continued to sell silver on a net basis, this excess metal has been more than offset by the growth in private investors' stocks. Indeed, for the past few years, both institutional and private investors have been encouraged to buy silver due to its outstanding price performance and the expectation of further gains in the future. The availability of silver ETFs has also facilitated the process. Although the surge in investment demand has undoubtedly been the driving force behind silver's rally, to some extent the foundations for the bull market were put in place by the years of heavy deficits that whittled away the overhang of near-market bullion stocks. In 2008, the surplus registered a further increase, with the total amount nearly doubling from the level recorded in 2007, due to much higher investment demand last year. Much of this investment was centered on the ETFs and physical bullion, highlighting investors' growing concerns over the security of financial institutions in the wake of widespread bank failures.

Silver Deficits and Surpluses

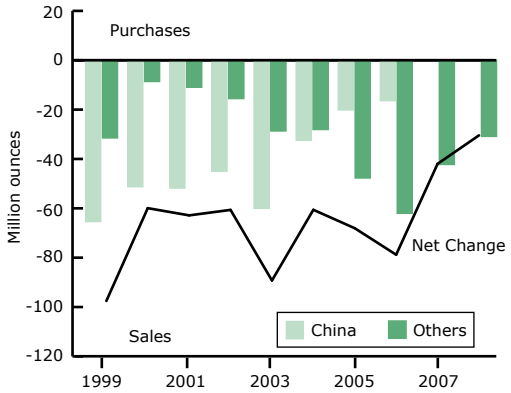


Source: GFMS

Government Stocks

Government stocks of silver fell by an estimated 30.9 Moz (961 t) last year to 72.0 Moz (2,238 t) at end-2008. It is worth noting that our estimates are almost exclusively based on private information GFMS have collected through field research, as there is very little publicly available data on levels of government-owned silver stocks. This is a very important caveat when assessing the level of outstanding government holdings where our numbers are likely to be somewhat conservative. Looking at the country-by-country breakdown, net sales from government stocks were dominated by Russia in 2008. Our estimates show the country released nearly 26.1 Moz (811 t) into the market, accounting for around 84% of the total sales. (The remaining balance of government sales was accounted for by smaller disposals from a number of other countries.) Interestingly, despite the high price environment last year, disposals from the

Changes in Government Stocks



Source: GFMS

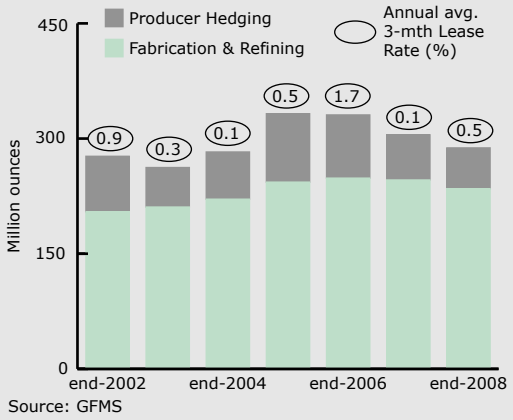
Silver Borrowing

The silver market saw some reduction in borrowing demand last year. This was partly due to a further fall in the size of the producer hedge book. It also reflected the modest drop in global fabrication demand as shown in our numbers. However, arguably of greater importance in terms of fabrication-related borrowing was the impact of high silver prices and the credit crunch. These two factors encouraged users of silver to reduce inventories and work-in-progress in order to keep the value of silver borrowed within lenders' credit limits.

Over the first seven months of 2008, softer borrowing demand coupled with good availability of metal from growth in investors' long positions in unallocated metal kept silver leasing rates at very low levels. Thereafter, borrowing costs jumped considerably, to average no less than 1.9% on a three month basis (annualized) in the fourth quarter. The explanation for this was related more to supply than demand side developments.

Indeed, during the fourth quarter borrowing demand probably fell even faster than it had earlier in the year. After all, it was in this period that industrial fabrication started to suffer from the global economic downturn, it having been very resilient up until then. Furthermore, in the wake of the Lehman Brothers collapse in September lenders' terms became more demanding. However, such forces were more than compensated by the draining of liquidity from the market as a result of, firstly, large scale investor selling from July onwards out of unallocated positions, secondly, a general shift in silver holdings from unallocated to allocated form (especially in the latter case, into ETFs) and finally, perhaps most importantly, the massive shipments of silver out of the loco-London market to India in the final months of 2008.

Silver Borrowing



Source: GFMS

N.B. The above chart shows GFMS' estimates for the total amount of silver borrowed at year-end. This is split into two main categories, first, the quantity borrowed in relation to producers' outstanding hedge positions and, second, the amount of liquidity required by fabricators and refiners.

Russian government are believed to have declined by nearly a third year-on-year and sales in the first half of 2008 appear to have been particularly low. This could reflect either official stocks held by the country starting to reach a level consistent with long term objectives for example, a strategic holding or, simply, the near exhaustion of such stockpiles after several years of heavy disposals. Once again, the two significant sellers in the earlier part of this decade, namely China and India, did not make any material sales last year.

Regarding China, the country's stocks seem to have now fallen to a more "desirable" level, particularly in the light of the country's need to diversify its (broadly defined) reserve assets away from an overdependence on the US dollar. Moving to India, it is our understanding that Indian stocks have now been depleted after two years of substantial disposals (in 2005 and 2006) and that no material sales from the country can therefore be expected in the future.

Other Stocks

In addition to the above-mentioned stocks, GFMS also track those registered on the Tokyo Commodities Exchange, the Chicago Board of Trade and Japanese trade stocks, as reported by the country's Ministry of Trade and Industry. Due to their only accounting for a small fraction of the overall figure, we have aggregated these under the "Other Stocks" category in the chart on page 36 and the table on page 37. Over the course of 2008, these stocks grew in aggregate by 24% or 2.9 Moz (90 t).

Scrap

• The fall last year in world scrap supply, to an 11-year low, was largely due to a drop in photo-related recycling, which offset growth in most other areas.

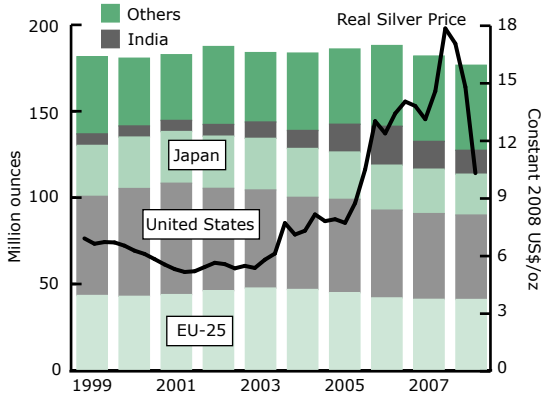
In 2008, the supply of old silver from recycled products dropped by 2.9% to 176.6 Moz (5,494 t), its lowest level since 1997. At first sight this may appear surprising, given not only the 12% rise in average dollar silver prices, but also the 15% rise in annual average rupee prices, in the second largest market for jewelry and silverware. In fact, Indian scrap volumes did fall in 2008, the product both of strong price expectations in the first half, a time of rising prices, and then price weakness towards year-end. Elsewhere, higher prices did elicit growth in jewelry and silverware recycling, for example in the Middle East, East Asia and some western markets.

The scrapping of industrial products also grew last year, albeit quite modestly. Although recovery from electronic products rose there was little change in the recovery from spent ethylene oxide (EO) catalysts. However, the growth in these sectors was offset by a further (and largely expected) decline in photographic recycling. Losses were concentrated in liquids and the consumer film segment as initially high silver prices restrained the fall in supplies from old x-rays in several countries. Coin scrap also featured in some markets last year (this is allocated to scrap rather than disinvestment if it is obvious that it is primarily old circulating coins, in which case there had never been any earlier *in*vestment).

A brief comment is worthwhile on the rapidly growing field of photo voltaics. Given the newness of its offtake, the amount of old scrap from this source is understood to be limited. Also, as much of its process scrap is very low grade (and with silica prices high), effectively all of the silver contained is lost and dramatically higher silver prices would be required for this situation to alter.

GFMS estimate that **Japanese** scrap volumes fell by 8% in 2008 to 23.7 Moz (736 t), the lowest level since 1992. This indicates a sharp fall in the total amount of photographic scrap, one of the largest sources of scrap silver, although the decline relates primarily to losses from amateur photography. Supplies from silver-intensive old X-rays are estimated to have remained broadly flat as medical institutions continued to return

World Scrap Supply



Source: GFMS

them as scrap, having stored them for the required length of time. Electronic scrap volumes are also estimated to have remained stable year-on-year, as despite problems at a major refiners' smelter in the fourth quarter, other players were able to take up the shortfall.

Last year, recycling in the **United States** edged lower, falling by 1.5% to 48.9 Moz (1,520 t). Although the year-on-year fall was modest, the drop from the 2001 peak has been almost uninterrupted, with last year's total 24% below the volume processed eight years earlier.

The decline over this period has been almost entirely due to lower levels of photo recycling, principally due to a far smaller contribution from the consumer film sector. Partially offsetting this in 2008, the market saw higher levels of recovery from the jewelry sector, itself a response to the economic slump. (Jewelry was typically sold back to pawn brokers or retail jewelers, although they tended to discourage the selling back of silver, preferring instead to trade in higher value gold products.) Finally, the recovery of silver from spent EO catalysts is believed to have been little changed last year. Within the EO sector, there is usually a balance to strike, between running catalysts, with a gradually dwindling efficiency rate and implementing a shutdown (with revenue therefore curtailed), which would facilitate bringing on stream a new catalyst. Last year, it appears as though, with glycol prices remaining strong, change outs were delayed, at the expense of slightly lower yields

Supply from scrap in **India** fell by 14% to 13.8 Moz (430 t) last year. This may seem counter-intuitive, given that the rupee silver price reached a record high of Rps. 26,250/kg during the year, with the average price 15%

Table 4 - Supply of Silver from the Recycling of Old Scrap (million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Germany	16.1	16.7	16.8	16.7	19.0	19.2	17.6	14.1	13.4	13.6
UK & Ireland	11.5	10.9	11.1	13.6	13.0	12.4	11.6	10.9	11.2	10.9
Italy	3.4	3.4	3.5	3.6	3.6	3.3	4.3	5.1	5.2	5.1
France	4.0	3.5	3.9	3.9	4.1	3.8	4.1	4.5	4.3	4.5
Austria	1.7	1.6	2.0	1.9	1.5	1.6	1.3	1.3	1.2	1.2
Netherlands	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.1	1.1
Sweden	1.1	1.1	1.1	1.0	1.0	1.0	1.0	0.9	0.9	0.9
Belgium	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6
Denmark	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.5	0.5
Spain	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5
Czech & Slovak Republics	0.6	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Portugal	0.5	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Finland	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3
Norway	0.9	1.1	0.7	0.7	0.5	0.3	0.3	0.3	0.3	0.3
Switzerland	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Other Countries	1.2	1.1	1.1	1.2	1.1	1.1	1.0	1.0	1.0	1.0
Total Europe	**44.6**	**44.2**	**44.8**	**47.1**	**48.4**	**47.5**	**45.6**	**42.5**	**41.6**	**41.6**
North America										
United States	57.4	62.4	64.5	59.2	56.8	53.3	54.0	50.8	49.6	48.9
Mexico	2.3	1.5	1.4	1.5	1.8	1.9	2.1	2.3	2.7	3.1
Canada	1.6	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.6	1.7
Total North America	**61.3**	**65.4**	**67.3**	**62.2**	**60.1**	**56.7**	**57.5**	**54.5**	**53.9**	**53.6**
Latin America										
Brazil	1.8	1.5	1.6	1.0	1.2	1.0	1.0	1.0	1.0	1.0
Chile	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Argentina	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.8	0.6	0.5
Other Countries	0.9	0.8	0.8	0.8	0.8	0.8	0.9	1.1	1.0	1.0
Total Latin America	**3.7**	**3.4**	**3.5**	**2.8**	**3.0**	**2.8**	**3.1**	**3.4**	**3.2**	**3.0**
Middle East										
Saudi Arabia	7.5	2.3	0.8	7.2	0.7	1.3	1.6	1.8	1.9	1.9
Egypt	0.3	0.9	1.1	1.3	1.1	1.4	1.4	1.5	1.5	1.7
Turkey	1.4	1.3	1.3	1.4	1.7	1.5	1.3	1.1	1.0	1.1
Oman	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Countries	0.4	0.3	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.5
Total Middle East	**9.7**	**4.9**	**3.7**	**10.4**	**4.1**	**4.8**	**4.9**	**5.1**	**5.0**	**5.4**
Indian Sub-Continent										
India	6.7	6.4	6.4	6.8	9.5	10.4	16.1	22.5	16.1	13.8
Other Countries	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Total Indian Sub-Cont.	**7.0**	**6.8**	**6.9**	**7.2**	**9.9**	**10.9**	**16.6**	**23.1**	**16.6**	**14.4**
East Asia										
Japan	29.5	29.8	29.9	30.2	29.9	28.3	27.4	26.0	25.7	23.7
China	5.9	6.0	6.2	6.3	6.6	7.7	8.7	10.4	12.1	11.9
South Korea	5.3	5.3	5.5	5.8	6.1	6.3	6.4	6.7	6.8	6.7
Thailand	0.8	0.6	0.7	0.9	1.0	1.0	1.0	1.1	1.2	1.3
Taiwan	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.2	1.2
Singapore	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Hong Kong	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Indonesia	0.4	0.5	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4

Table 4 - Supply of Silver from the Recycling of Old Scrap (million ounces) © GFMS/The Silver Institute

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Vietnam	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Philippines	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Countries	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total East Asia	**44.1**	**44.5**	**44.9**	**45.8**	**46.3**	**46.2**	**46.4**	**47.4**	**49.1**	**46.8**
Africa										
Morocco	0.5	0.5	0.5	0.5	0.5	1.3	0.6	0.9	0.9	0.9
Other Countries	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Total Africa	**1.1**	**1.1**	**1.1**	**1.0**	**1.1**	**1.8**	**1.2**	**1.5**	**1.5**	**1.5**
Oceania										
Oceania	2.4	2.4	2.4	2.3	2.1	2.0	1.8	1.7	1.7	1.6
Total Oceania	**2.4**	**2.4**	**2.4**	**2.3**	**2.1**	**2.0**	**1.8**	**1.7**	**1.7**	**1.6**
CIS										
CIS	7.7	7.9	8.1	8.5	9.0	10.9	9.0	8.9	9.3	8.7
Total CIS	**7.7**	**7.9**	**8.1**	**8.5**	**9.0**	**10.9**	**9.0**	**8.9**	**9.3**	**8.7**
World Total	**181.6**	**180.7**	**182.7**	**187.5**	**184.0**	**183.7**	**186.0**	**188.0**	**181.9**	**176.6**

higher than in 2007. However, GFMS field research suggests that the quantity of 'loosely' available stocks of silver for scrapping has declined, not least of all because the overall Indian silver market has shrunk by more than half since the beginning of this decade. In addition to this, many silver items that came into the market from both rural and urban households were resold as antiques, often at a fair premium, rather than being scrapped. However this only partially explains why scrap volumes fell last year. Looking at what emerged on the demand side of the equation, the huge surge in investment (mainly concentrated in the second half of the year) suggests that consumers' expectations were that prices would go yet higher, which also "prevented" them from scrapping at the then prevalent rates.

For the fifth year in a row **European** scrap fell, if only by a tiny 0.2%, to 41.6 Moz (1,292 t) in 2008. This effective stability might surprise given lower photographic recycling, the largest part of scrap. The volumes obtained from photographic fluids, both x-ray and consumer, certainly fell significantly, reflecting the ongoing shift to digital. However, this was countered by stability or in some countries higher recovery from film, mainly old x-rays. Growth here was particularly strong at times of high silver prices as hospitals combed records to see what could be sold on to increasingly competitive collectors. In contrast, there was a rise in jewelry and silverware scrap, although this remained modest due to limited consumer returns, and also higher electronic scrap. There was little overall change for the remelt of old coins.

German scrap rose by just under 2% last year, largely as the drop in its main component, photographic scrap, was kept modest by a rise in recovery from film partly offsetting the drop in fluids recycling. There was also a slightly higher remelt of jewelry and a rise in supply from electronic scrap. The latter rose due to an increase in volumes collected and in refinery capacity together with stable yields. However, the scale of the gain from this source was limited by the ongoing and possibly growing grey market export of this waste. The final main element, the remelt of old coins, in contrast fell and this applies to both locally sourced and imported volumes.

UK recycling edged lower in 2008 due to a fall in the recycling of consumer film, as several retail outlets closed their silver halide processing facilities. In contrast, the recovery of silver from old medical x-rays continued to rise, albeit modestly, largely as a result of the ongoing conversion by UK-based hospitals to digital systems.

Italian scrap was essentially stable last year as losses in photographic scrap were matched by gains for jewelry and silverware. The scale of the increase for the latter was not great as this was largely restricted to the remelt from the trade, rather than the supply from individuals, and much of this did not start until late in the year. Photographic scrap is said to have fallen steeply in **France**, chiefly as a result of a heavy switch to digital technologies for x-rays, which led to a drop in recovery from fluids well into double-digits. Total scrap, however, rose slightly, mainly through a higher remelt of old coins.

6. Silver Bullion Trade

- ***The most significant event in the movement of bullion worldwide was the dramatic surge in Indian imports during the last five months of 2008.***

- ***For 2008 as a whole, total Indian bullion imports rose to a record high of 162.3 Moz (5,048 t), more than double the level recorded in 2007.***

- ***The majority's of India's second-half import demand was supplied by the United Kingdom, and that flow accounted for the bulk of the more than 220% rise in UK exports last year.***

- ***Official Chinese bullion exports fell to a four-year low in 2008, largely due to the impact of the scaled back VAT rebate program, the amendment dating from mid-2007.***

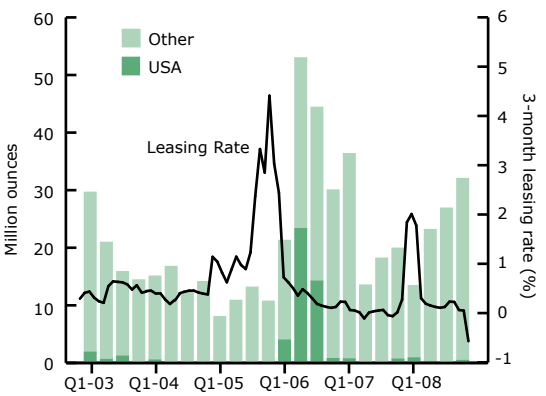
- ***In the United States, bullion imports slipped to a three-year low, largely due to lower deliveries from Canada, while US exports fell sharply, due to a notable drop in shipments to India.***

Europe

Europe is one of the world's main structural deficit areas for silver as the combined supply from its mine production (50.8 Moz or 1,579 t) and scrap (41.6 Moz or 1,292 t) is far smaller than its fabrication (173.8 Moz or 5,407 t); all figures for 2008. To plug this deficit, the continent imports substantial quantities of refined bullion, concentrates and doré plus significant volumes of recycling, some of which is low grade process scrap. The majority of inflows of refined metal enter via the United Kingdom, in reflection of the role that the London terminal market plays, or Switzerland, as a result of Zurich's status as a major bullion trading center. The location in that country of several of the world's largest refineries makes that the prime destination for Europe's imports of the above mentioned scrap and mine supply. Despite being a deficit area, exports can still be sizeable as a result of London and Zurich's role in supplying other countries with refined metal. Italy and Germany also have a significant bullion trade, although the majority of this just relates to intra-European transfers.

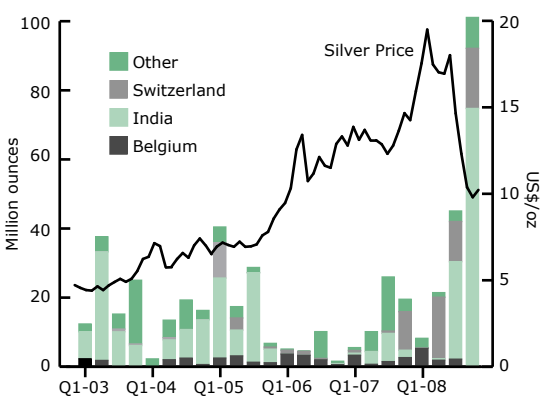
Perhaps the main story for bullion flows in 2008 was the explosion in **UK** exports to India. These (basis UK statistics) jumped by almost 700% to 116.8 Moz (3,633 t), the vast majority of which went by air. (This took total UK exports to 186.1 Moz or 5,788 t, up some 224% on 2007.) The transfers to India properly began in August and peaked in October and November, when over 36 Moz (1,100 t) were shipped each month. Volumes then fell rapidly to around 4 Moz (124 t) in January 2009 and zero in February. This underscores the strength of the boom in demand in India as the price fell in the second half of the year. The Indian statistics on UK receipts (available to end-November) show a far lower figure of just over 35 Moz (almost 1,100 t), but the requirements of that destination's silver consuming industries strongly suggest flows on the scale indicated by the UK statistics. The second major outflow from the United Kingdom was

UK Bullion Imports



Source: GFMS

UK Bullion Exports



Source: GFMS

the 45 Moz (1,400 t) shipped to Switzerland, volumes more than triple those in 2007. Only a minority of this, however, is thought to have actually arrived and been customs cleared in that destination. The other major change was there being zero shipments to Singapore after the export of 15.8 Moz (490 t) in 2007.

UK bullion imports fell a slight 5% last year to 90.3 Moz (2,809 t), chiefly as a result of the slump in receipts from Kazakhstan (which appear to have gone instead to Germany). Inflows from the largest origin, Russia, in contrast rose by 14% to 34.1 Moz (1,060 t), some of which could be the product of state sales. Much of the remaining inflows related to shipments from China and Hong Kong, which together rose by around 10%.

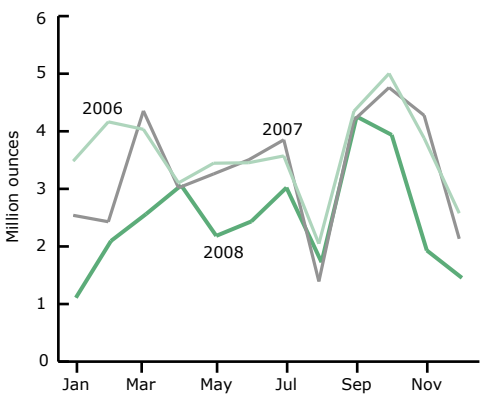
Swiss bullion exports are estimated to have risen notably last year, chiefly as a result of the surge in shipments to India, which are thought to have far exceeded the official Indian figure (to end-November) of just 8.4 Moz (260 t). This flow got underway in August last year, peaked in September-October and then dwindled as 2009 began, reflecting the changing fortunes of Indian demand. Bullion imports into Switzerland look to have risen very strongly in 2008. The tally of data by origin suggests a figure over 65 Moz (2,000 t) but trade comment suggests a far lower total. Much is said to have come from the United Kingdom late in the year and to have mainly been for stock replenishment after so much went to India in the immediately preceding months. Large volumes are also said to have come from Japan, reflecting weak local demand. Lastly, a sizeable amount is reported to have entered from Russia, which could again include some element of their ongoing, albeit lower, government sales.

Official bullion imports into **Italy** fell by 26% in 2008 to 29.8 Moz (926 t). The scale of the drop is not easy to explain as this fails to correspond to the 12% fall in the country's fabrication. There is no real help from unofficial inflows as these are thought to have remained slight and bullion exports actually rose last year. There was, however, some assistance to the country's metal balance from a small increase in imported scrap, and information from origin suggests the scale of the drop in bullion imports may have been somewhat overstated. Around three-quarters of this metal continued to come from Germany, with much of the remainder sourced from Switzerland. Within the year, inflows were at their weakest in the first quarter (down over 40% year-on-year) and at their most robust in the third (down 9%).

Germany's bullion imports rose by 8% in 2008 to 65.3 Moz (2,030 t) in gross weight terms. Receipts from other EU countries fell notably but inflows from Kazakhstan and Morocco grew substantially. The rising share of non-refined metal implied by this change of origin is reflected in the calculated volumes, which actually suggest a small drop in the fine weight of bullion imports. Bullion exports grew by 7% to 48.7 Moz (1,516 t) last year, with little more than 2 Moz (60 t) going to extra-European destinations.

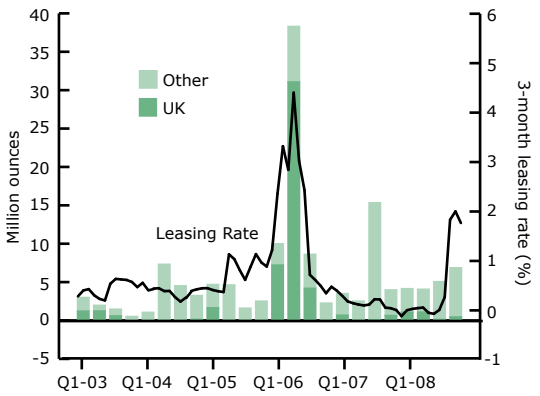
Exports from the **Commonwealth of Independent States** (CIS) appear to have fallen quite sharply last year. This was not due to any reduction in the quantity of 'surplus' mine production generated within the CIS as a whole, which in fact rose slightly, but instead reflected a substantial drop in those bullion shipments related to Russian government sales.

Official Italian Bullion Imports



Source: GFMS

US Bullion Exports



Source: GFMS

North America

US bullion imports fell last year by nearly 6% to 150.3 Moz (4,676 t), a three-year low. Deliveries from Mexico, which alone accounted for nearly 60% of total US imports in 2008, were effectively unchanged on the previous twelve months. (This situation is unlikely to be repeated this year, given the strike-related closure in Mexico during early 2009, which may see some third party doré, which might have normally been refined in Mexico, re-routed to other locations. This could therefore see lower Mexican deliveries to the United States this year.)

The decline in 2008 imports was instead the result of substantially lower deliveries from both Canada (down 20%) and Peru (21% lower). The drop in US imports from Canada was broadly in line with the fall in total Canadian exports last year, which may have been related to a sharp drop in the country's mine production. In contrast, the fall related to Peru simply represented a re-routing of the country's doré, in this instance in favor of Japan.

Turning to exports of bullion from the United States, these dropped sharply last year, by an estimated 22% (on the basis of the calculated quantities) to just 19.3 Moz (602 t), representing their lowest level since 2005. Exports to the United Kingdom remained at a trivial level (of just 3.0 Moz, or 94 t), while deliveries to India fell sharply (they had first emerged in 2007, with a total that year of 11.8 Moz, or 366 t). This was surprising, given the end-year surge in bullion exports, from a variety of destinations, to the Sub-continent. As a result, Canada emerged as the principal destination for US bullion, for the first time since 2005.

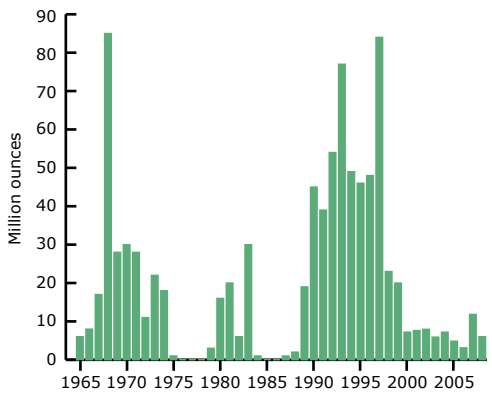
Middle East and Indian Sub-Continent

Last year, **Turkish** official bullion imports fell to their lowest level since 2001. The 21% decline was almost entirely due to a sharp rise in primary mine production. The overwhelming majority of this is refined domestically and then sold to local fabricators through the Istanbul Gold Exchange. As such, this material substituted for an increasing volume of new bullion (largely grain) imports in 2008. In fact, given that total Turkish silver fabrication was effectively unchanged last year, while primary mine supply rose by 39%, it is surprising that grain imports did not fall further, indicating a build-up of refined silver in Turkey. This may explain why, over the first quarter of this year, no grain was imported into Istanbul, with domestic offtake entirely serviced by local mine output.

Turning to **Egypt**, the country's bullion imports remained at a trivial level last year. Although the import duty was removed over a year ago, there was little incentive to import grain, for two main reasons. Firstly, both silver jewelry and silverware fabrication fell last year (total offtake dropped by over 6%) and, with scrap volumes edging higher (as a result of firmer local silver prices), there was little recourse to import bullion. Secondly, the local price remained at near parity to the international price, which therefore resulted in those importing grain being unable to recoup the cost of delivery from the local market.

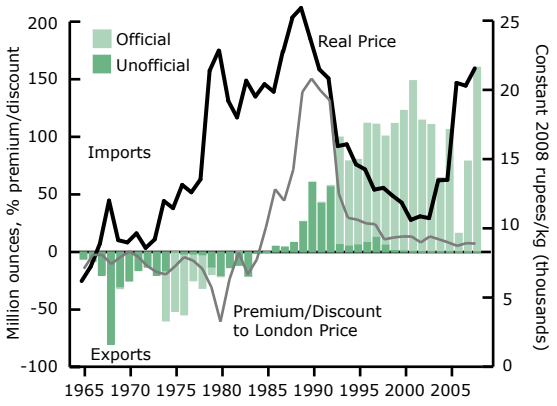
Last year it was surprising to see a muted reaction from the **United Arab Emirates** bullion import trade, given the surge in demand from the Indian Sub-continent in the second half of the year. Official bullion imports are estimated to have more than halved from the sharp rise

Dubai Bullion Imports



Source: GFMS

Net Indian Bullion Imports and Exports



Source: GFMS

in volumes recorded in 2007. Due to the urgency, with which bullion was required in India, while often being transacted through Dubai's financial institutions, silver was in fact shipped directly from London, Zurich or Hong Kong, rather than through Dubai. The largest declines in supply were recorded from Russia and China, while deliveries from Switzerland were up strongly.

2008 was a stellar year for **Indian** silver imports. GFMS estimate that shipments totaled 162.3 Moz (5,048 t), a rise of 103% to an all time record. To put this in historical perspective, last year's imports were all of 9% higher than the last record set in 2001. What makes 2008's outturn all the more remarkable is that imports in the first half were actually very modest by historical standards. By implication, shipments in the second half were spectacularly high (more on this below). It will come as no surprise to seasoned observers of the Indian market that the price was the main driver of both the pattern and level of imports last year. Having hit an all time high of Rps 26,250/kg (on July 15th), prices proceeded to fall precipitously, hitting a low of Rps 16,480 on November 21st. Needless to say, imports collapsed as prices hit record levels, and surged when they hit their lows in October and November.

Looking at total supply to the market last year, imports accounted for a staggering 87%, by contrast with the recent past when the sales of government stocks made a significant contribution. As in the past, recoveries from mine production as well as imported concentrates and scrap made up the balance, but remained relatively insignificant. Total silver supply to the market last year rose to a record 186.6 Moz (5,085 t).

Indian Bullion Imports

Moz	2004	2005	2006	2007	2008
OGL^	60.3	106.1	16.1	78.9	160.3
NRI^	0.1	0.1	0.1	0.0	0.0
SIL^	0.0	0.0	0.0	0.0	0.0
Replenishment**	4.0	3.1	1.0	1.2	2.0
Sub-total	64.4	109.3	17.2	80.0	162.3
Unofficial	0.0	0.0	0.0	0.0	0.0
Total Imports	**64.4**	**109.3**	**17.2**	**80.0**	**162.3**
Local Premium*	10%	7%	4%	6%	5%

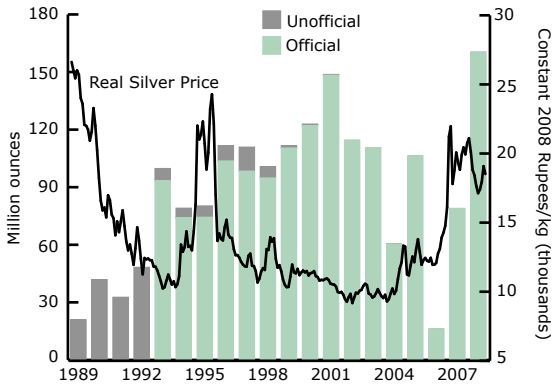
* percentage above London price at the official exchange rate (excluding all local duties and taxes)
** imports of silver bullion for manufacture and re-export
^ Open General Licence, Non-resident Indians, Special Import Licence

Source: GFMS

As already noted, the ferocious oscillations in the local price through the year were mirrored by tremendous fluctuations in monthly imports. For example, from January to July, imports averaged a meager 1.0 Moz (31 t) per month. Thereafter the figure rose by more than forty times between September and November, with average monthly imports over this time jumping to 42.4 Moz (1,318 t). Remarkably, 80% (127.1 Moz or 3,953 t) of total imports took place in these three months. Imports in August and December each were roughly around 13 Moz (400 t), marking the end of the significant surge in imports.

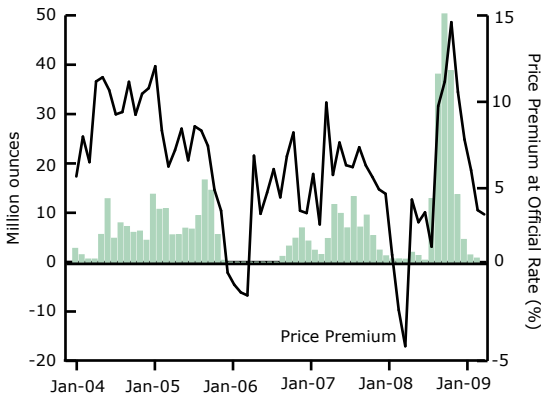
The main source of silver supply to India was London, and last year was exceptional in terms of the scale of the drawdown; as much as 70% of the total imports or 116.8 Moz (3,633 t) came from the United Kingdom (remarkably, silver shipments to India accounted for two-

Annual Indian Bullion Imports



Source: GFMS

Monthly Indian Bullion Imports



Source: GFMS

thirds of the United Kingdom's total silver exports). This stands in stark contrast to imports in 2001, the previous record year, when most silver originated in China.

Not surprisingly, the surge in Indian imports from September through to November had a noticeable impact on the dynamics of both the international and local bullion market. In the case of the former, leasing rates rose as stocks of unallocated metal in London fell. For example, the 1-month lease rate went from around zero at the start of September to well over 2% in October. Similarly, the 2 and 3-month rates also rose sharply at this time. In addition to this, the massive increase in demand for London silver resulted in substantial delays in the physical shipping of metal due to the logistical problems arising from handling such large quantities (at times it was taking up to 15 days for overseas suppliers to make delivery).

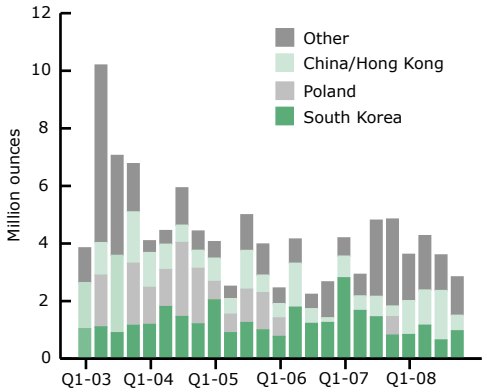
In terms of the local Indian market, these short term supply constraints, playing out against huge local demand, saw premiums rise dramatically (premiums on imports rose to 20-30 cents an ounce and at the trade level touched as high as 50 cents). One reflection of the tightness of supply was that importers resorted to shipping by air, which is relatively rare (and expensive). Remarkably, GFMS research from that time revealed that nearly all of the consignments from London were sent in this manner.

Turning to where the metal actually landed in India, our data suggests that well over 75% went to centers with little or no fabrication capacity, such as New Delhi and Ahmedabad. The latter still continues to be the first point of import for sales in Mumbai, due to the additional levy of 2% in Mumbai. This points to the fact that much of this silver was not destined for jewelry or industrial uses but rather investment. GFMS were able to identify around 10% of imports being shipped directly to 'natural' consumption centers such as Salem.

East Asia

Since the beginning of this decade, the **Chinese** silver market has witnessed a concerted period of deregulation. In recent years, the government has recognized the need to frequently adjust export quotas in line with the rapid increase in supply from mine production and further growth in silver recovered from domestic and imported base metal concentrates. This, in addition to a rise in

Thai Bullion Imports



Source: GFMS

the country's scrap supply, has seen the Chinese Ministry of Commerce (MOFCOM) lift export quotas from 128.6 Moz (4,000 t) in 2000 to the 154.3 Moz (4,800 t) quota legislated for last year. Indeed, after a recent review the Ministry has again updated their figure, with the official quota for 2009 set to rise to 164.0 Moz (5,100 t). According to official trade statistics, gross Chinese bullion exports reached 130.0 Moz (4,043 t) last year, a fall of almost 10% compared to 2007.

Regular readers of the *World Silver Survey* would be aware of the significant quantities of silver that have moved between the Chinese mainland and Hong Kong in recent years, in order to benefit from the VAT rebate program, only for that metal to again be unofficially returned to China for the process to then be repeated. This round-tripping has, in the past, both clouded and inflated Hong Kong's import statistics. However, since the reduction in the VAT rebate, from 17% to just 5% in mid-2007, this practice has been greatly reduced, increasing the transparency of the trade data. Nevertheless, a significant level of arbitrage-driven round-tripping does still occur, with the price differential between Hong Kong and the mainland acting as a catalyst for what has often materialized as unofficial trade. In 2008, GFMS estimate that the combined total of VAT rebate and currency arbitrage trading declined to less than 25.7 Moz (800 t).

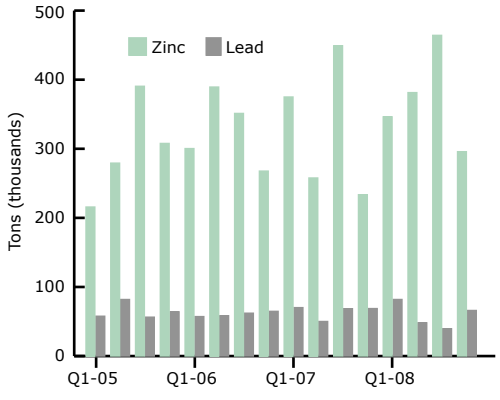
According to official trade statistics, the overwhelming bulk of Chinese silver exports were shipped via Hong Kong, with exports to this hub falling 19.9 Moz (619 t) to 99.1 Moz (3,082 t). However, direct exports to the United Kingdom, Thailand and Singapore all rose (in contrast

to 2007), with the former more than doubling to 10.0 Moz (310 t), while deliveries to India and Japan fell away sharply, each declining by more than 40%.

Official **Hong Kong** silver bullion imports fell by 28% last year to 91.8 Moz (2,854 t). These were overwhelmingly sourced from the Chinese mainland, which accounted for over 85% of the total, in spite of falling last year by 33% to 79.1 Moz (2,459 t). (The largest source outside China was South Korea at 4.0 Moz or 124 t, whose deliveries jumped by over 50%.) The significant decline in supply from mainland China last year was largely a first half phenomenon and can be explained by a significant short-lived surge in trade in 2007, due to the introduction of a lower VAT rebate on silver exports in July of that year, that saw Chinese traders take advantage of this opportunity, while it was still available, producing a sharp rise in exports. On the export front, these fell by 2% to 75.2 Moz (2,339 t) last year, with a surge in deliveries to Switzerland largely offsetting declines to the United Kingdom and India.

South Korean bullion imports increased sharply in 2008, by 23% to 5.1 Moz (158 t) on the back of a robust increase in deliveries from both Hong Kong and Kazakhstan, while exports posted a more modest increase of 11%, to 41.6 Moz (1,293 t). The strength of the electronics and industrial sectors, particularly during the first half of 2008, was the primary driver for the increase in imports in spite of a modest rise last year in the recovery from imported concentrates. Moreover, much of this material was already allocated to export contracts, with Japan being the largest recipient of this trade.

Korean Lead and Zinc Concentrate Imports



Source: WBMS

Historically, **Singapore** was a major conduit for the supply of silver to the region, in particular for Thailand and Indonesia. However, in recent years the importance of this market as a distribution point has been eroded as traders in these key markets have shifted to direct imports. Last year, official bullion imports into Singapore dropped by more than 25%, with notable declines from both China and South Korea, which together still made up over 80% of total imports. Moreover, much of last year's decline was a first half phenomenon, with imports to June weaker by almost 65% year-on-year.

GFMS estimate that **Thai** bullion imports declined by 5% in 2008 to 32.2 Moz (1,002 t). The modest fall reflected a weaker fabrication sector and a rise in the availability of domestic scrap supplies. Imports from China (often using Hong Kong as a conduit) continued to dominate supply for much of the year, though ultimately remained weaker by 7% at 21.0 Moz (654 t). It should be noted that GFMS do not solely base the Thai import series on official statistics, as purely relying on this source can often be misleading. This, coupled with the fact that significant volumes of silver are still entering the country unofficially (mostly through the north of the country), requires additional research and feedback from the trade. Turning to exports, these reportedly declined by almost 60%, with a near 40% drop in deliveries to Japan the chief architect of the decline.

Bullion imports into **Japan** surged by 38% in 2008, totalling 61.4 Moz (1,909 t). The increase is most likely due to the fact that 2007 saw heavy bullion de-stocking in response to high prices, thereby necessitating relatively greater imports in 2008, until, that is, the last quarter. On the outgoing side, exports almost tripled in 2008. GFMS data reveals sizeable amounts delivered to London in the last quarter, particularly in December, as traders found themselves awash with unwanted metal, driving local silver prices to a considerable discount to London. Large quantities of ingot were also sent to India, Hong Kong and Thailand in the October to December period.

7. Fabrication Demand

- ***Global fabrication slipped by just 0.9% in 2008, to 832.6 Moz (25,896 t), with sharply higher coins and medals offtake largely offsetting declines elsewhere.***

- ***Industrial demand fell by a surprisingly modest 1.4% last year to 447.2 Moz (13,910 t), as the rapid economic downturn produced a fourth quarter slump in nearly every key fabricating market, in the process wiping out the benefits of a strong first half.***

- ***The 3.2% drop in global jewelry offtake owed much to the weakness in both western markets and East Asia, which together outweighed growth in Indian fabrication.***

- ***A similar picture emerged in the silverware market, with gains in India overcome by lower fabrication elsewhere.***

- ***The use of silver in photographic applications recorded its most significant decline to-date, with the global total in 2008 falling to just 104.8 Moz (3,260 t).***

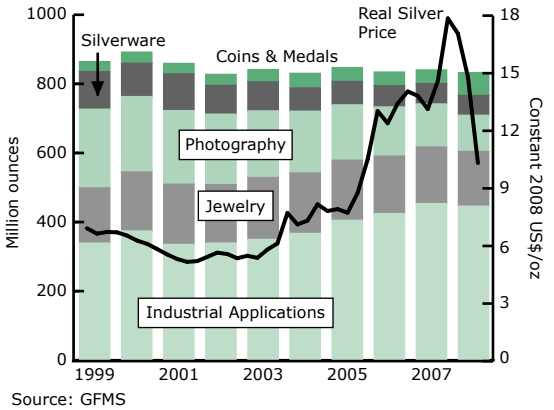
- ***In sharp contrast to all other areas of fabrication in 2008, coins and medals offtake climbed to a record high of 64.9 Moz (2,019 t), driven by strong investment-related acquisitions.***

Last year, world silver fabrication fell by just 0.9%, but in spite of the relatively modest drop, the global total still registered a four-year low. In fact, the performance would have been considerably less robust were it not for a surge in coins and medals fabrication. Excluding this segment from global fabrication would have seen the total fall to its lowest level since the mid-1990s.

In absolute terms, coins and medals demand remains quite modest, ranking a considerable distance behind the third placed category (of photography). However, last year this area not only surged to a record high but, more importantly, almost compensated for lower totals in all other areas of silver demand. It was largely for this reason that industrial offtake saw its share of total fabrication fall for the first time since 2001, albeit slightly, to a little under 54%. In terms of the sector's performance, the full year fall stood at just 1.4%, although the trend within 2008 was far from sedate. The first six months saw an impressive rate of increase, driven by (still) robust economic growth, but a rapid turnaround during the fourth quarter led to a sharp downturn, which overcame all of the first half gains.

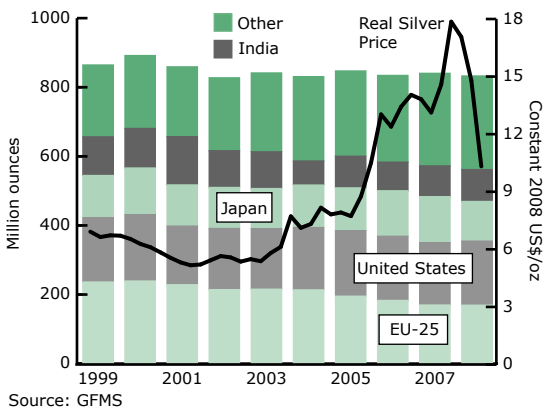
Elsewhere, the largest drop in 2008 was recorded in photography, where the pace of decline actually accelerated, as further gains by digital solutions were compounded by the rapid deterioration in the global economy. Perhaps surprisingly, in spite of silver prices rising by 12% in 2008, silver jewelry and silverware demand fell only a fraction. The modest scale of losses in both cases, owed much to healthy gains in India.

World Silver Fabrication (by category)



Source: GFMS

World Silver Fabrication (by region)



Source: GFMS

Industrial Applications

- ***Industrial demand in 2008 fell for the first time since 2001, easing 1.4% to 447.2 Moz (13,910 t), with most of the losses seen in the fourth quarter.***

- ***Weakness was apparent in most sectors of end use, although some, for example, photo voltaic cells, continued to show growth.***

- ***Performance by country varied quite widely, with US offtake up and Japanese demand down notably.***

Europe

Industrial fabrication in Europe fell by a slight 0.5% last year to 70.2 Moz (2,185 t). Much of the loss was due to Italy (and Spain), with demand in the other majors (Germany, France and the United Kingdom) all up slightly. The continent's losses cannot be blamed on electrical/electronics offtake as, for 2008 as a whole, this rose by 0.5%. Instead, the bulk of the drop was due to brazing alloys and solders demand, which fell by almost 4%.

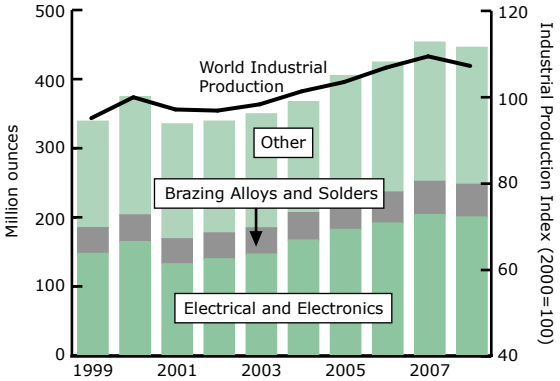
Within 2008, overall losses were concentrated in the fourth quarter, which one contact described as featuring "a buyers' strike", while the first half of 2008 saw notable gains. This highlights the importance of the abrupt slowdown in economic growth towards year-end. The way in which this translated into losses for silver was mainly the negative impact this had on the sales of both big-ticket consumer goods, such as domestic appliances or cars, and residential construction, all of which are large consumers of silver-bearing items such as circuit breakers. Not all segments, however, were weak, with end use in high voltage equipment reported as stable.

It would be wrong to blame too much of the second half slump on destocking. This would certainly be the case at the intermediate producer stage, if not at the final distributor level (such as retailers), as capital requirements essentially rule out stocks in excess of minimum work-in-progress needs. Silver's price spike in March was also clearly of limited importance as this coincided with double-digit growth in some areas of demand. Initially high prices did, however, add some impetus to thrifting and substitution efforts, although these are best seen as an ongoing process, with little of substance on these fronts having emerged last year.

Germany saw a rise last year for industrial fabrication of just under 1% to 27.5 Moz (857 t). This was mainly due to the rise of just over 1% for electrical/electronics demand to 21.7 Moz (673 t). This overall small change, however, masks big swings as the first half saw a double-digit rise in offtake and the second half a similarly sized decline as the economic slump took its toll on such sectors as the automotive and construction industries.

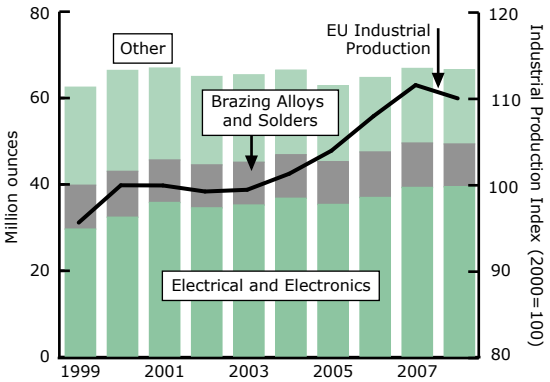
The data on the export of semi-manufactured items can be of limited use as this customs category includes other types of product, such as coin blanks or sheets for silverware. Nonetheless, in a German context, the bulk are thought to relate to electrical components, that being by some margin the largest area of fabrication. Furthermore, the trends shown for the majority of countries (most obviously higher exports to the EU-accession countries but a notable decline for southern Europe) mirror the experiences of those producing electrical semis. For the year as a whole, exports fell, if by only 0.5%, in gross weight terms, supporting industry comment that the domestic market fared a little better

Components of Industrial Applications



Source: GFMS, IMF

EU Industrial Fabrication



Source: GFMS, OECD

than exports. Unsurprisingly, the first half of the year was much stronger, with a year-on-year rise of 9%, while second half exports fell by 10%.

Germany's fabrication of brazing alloys in contrast slipped a fraction last year. Demand through to the late summer was reported to be up but weakness then became all too apparent from mid-November. There was little differentiation by sector of end use, with automotive and heating/ventilation end use suffering heavily towards year-year. The only sector to hold steady was large, usually government funded, infrastructure projects. The picture as regards the remaining categories of industrial fabrication was mixed. The production of silver salts for decorative plating was stable while the demand from silver catalysts (mainly used in the production of formaldehyde) and photo voltaic end use increased.

Italy's industrial demand fell a comparatively heavy 6% last year. The bulk of the drop was due to losses in the electrical/electronics arena, with the slump in end use by the automotive components industry (much of whose output is for export), the white goods sector and residential construction being highlighted. Higher imports of semi-manufactured items and changes at a corporate level are also understood to have trimmed fabrication.

Industrial fabrication in **France** inched up last year by 0.5%, with essentially all the gains due to an increase in electrical offtake. Even demand here, however, weakened notably in the fourth quarter, after decent first half growth, with usage in such areas as residential construction reported to have fallen significantly. Full year losses were also recorded for most areas in the miscellaneous industrial and decorative categories.

Last year, the use of silver in industrial applications edged higher in the **United Kingdom**. This was largely due to higher export demand. Although the annual total was little changed year-on-year, the rate of growth during 2008 was far from subdued, with offtake during the first three quarter up notably, although this was almost entirely offset by an end-year slump in fabrication.

EU Industrial Production

(Index, 2000 = 100)

2004	2005	2006	2007	2008
101.4	104.0	108.1	111.7	110.2

Source: OECD

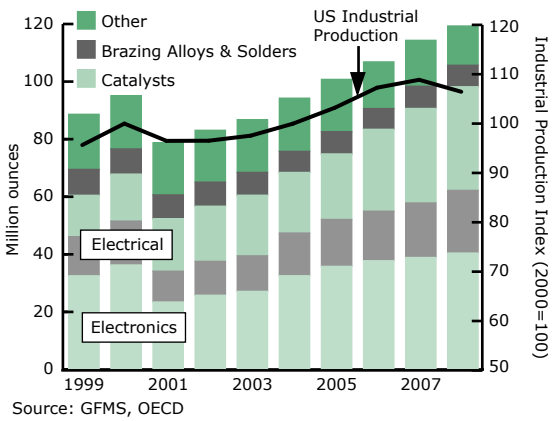
North America

Last year, silver industrial fabrication in the **United States** rose by over 4% to a record level of 119.1 Moz (3,706 t). Although this represented a new high for the sector, the rate of growth was far more modest than in recent years (during 2001-07, annual growth averaged 6.4%). In essence, this was due to a substantial downturn, which hit several key sectors, towards the end of 2008. Up until the end of the third quarter, the use of silver in industrial applications had been particularly robust, and in fact achieved a double-digit (year-on-year) percentage increase. The strength of this performance therefore conveys the extent to which fabrication fell during the fourth quarter (resulting in only a modest rise for the full year), although the weakness at this time could not prevent the full year total rising for the seventh year in succession.

Taking each sector in turn, the largest of these, electrical and electronics, is estimated to have risen by over 6% last year to a record total, principally due to growth in the electrical sector. During the first half of last year, in spite of sluggish auto sales, the supply of silver-bearing connectors was notably higher year-on-year, reflecting the greater use of electrical components per vehicle, for example, in inbuilt global positioning devices or parking systems (either in radar applications or rear view cameras). However, during the second half, the increasingly steep decline in auto sales emerged as the dominant factor, eroding much of the growth achieved during the first six months.

In contrast, the use of silver in the photo voltaic industry was insulated from the wider downturn, growing strongly in 2008. It is worth noting that, along with other areas

US Industrial Fabrication



Source: GFMS, OECD

Table 5 - World Silver Fabrication (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Germany	41.8	40.4	39.8	35.4	39.1	40.4	40.5	41.0	40.2	40.6
Italy	62.3	66.6	60.0	57.4	55.8	55.3	50.7	46.4	43.7	38.5
Belgium	37.5	35.3	32.1	30.8	29.3	27.6	26.2	28.7	27.3	25.5
UK & Ireland	39.8	42.0	45.2	42.5	43.4	51.6	42.8	32.6	25.1	23.4
France	26.9	29.2	29.2	27.7	26.3	13.0	12.5	12.7	13.2	13.5
Austria	1.2	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.2	9.0
Spain	7.5	6.7	5.5	5.2	4.8	6.3	5.6	5.0	4.5	4.3
Poland	3.7	3.9	3.4	3.2	3.8	4.3	4.7	4.8	4.4	4.2
Switzerland	11.1	9.0	3.5	3.4	3.0	3.1	3.3	3.1	3.1	3.1
Greece	4.1	3.3	3.0	2.8	2.9	2.9	2.9	2.8	2.6	2.7
Netherlands	2.8	1.9	1.8	2.1	1.9	2.5	2.2	2.0	2.0	2.1
Portugal	3.2	3.5	2.6	1.7	2.7	4.1	1.7	1.5	1.4	1.4
Norway	3.0	2.9	2.3	1.9	2.0	2.1	1.8	1.7	1.3	1.3
Sweden	1.4	1.3	1.0	1.0	1.2	1.2	1.2	1.2	1.1	1.1
Denmark	1.0	1.0	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.6
Czech & Slovak Republics	0.8	0.8	1.0	0.7	0.7	0.7	0.6	0.7	0.6	0.6
Romania	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Hungary	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Finland	0.7	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.3
Yugoslavia (former)	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Cyprus & Malta	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Other Countries	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Total Europe	**250.4**	**251.1**	**234.3**	**219.7**	**220.7**	**218.9**	**200.5**	**187.9**	**174.3**	**173.8**
North America										
United States	185.9	192.2	169.6	177.0	175.3	180.3	189.4	185.8	180.2	186.7
Mexico	21.7	17.3	17.1	18.1	20.2	21.9	22.3	18.9	18.5	17.5
Canada	3.9	3.3	2.9	3.1	2.5	3.5	4.0	5.7	8.0	12.5
Total North America	**211.5**	**212.8**	**189.5**	**198.2**	**198.1**	**205.8**	**215.7**	**210.4**	**206.7**	**216.7**
Latin America										
Brazil	7.7	6.8	6.6	6.4	6.6	7.3	7.5	4.7	7.2	6.9
Argentina	3.0	2.3	1.8	1.9	2.4	2.5	2.6	1.9	2.0	1.9
Peru	1.0	1.0	1.0	1.0	0.7	0.7	0.6	0.7	0.7	0.7
Colombia	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
Chile	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Ecuador	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.4
Other Countries	1.8	1.1	0.9	0.7	0.9	1.1	1.2	1.3	1.3	1.5
Total Latin America	**15.3**	**12.9**	**11.8**	**11.6**	**12.1**	**13.1**	**13.3**	**10.1**	**12.7**	**12.5**
Middle East										
Turkey	6.0	7.4	6.4	8.2	9.4	10.3	9.9	8.9	8.0	7.9
Israel	3.1	2.9	2.7	2.7	2.6	2.7	2.7	2.7	2.7	2.5
Egypt	2.0	2.0	1.8	1.6	1.8	2.0	1.8	1.7	1.7	1.6
Iran	1.4	1.4	1.5	1.4	1.5	1.5	1.6	1.6	1.6	1.5
Other Countries	1.8	1.9	1.8	1.8	1.8	1.9	2.0	2.0	2.0	2.0
Total Middle East	**14.3**	**15.7**	**14.2**	**15.6**	**17.1**	**18.4**	**18.0**	**16.8**	**16.0**	**15.7**
Indian Sub-Continent										
India	111.9	114.5	139.5	106.4	106.4	69.5	91.6	82.8	89.1	92.2
Bangladesh & Nepal	5.7	6.0	5.9	4.8	4.5	4.2	3.7	3.6	3.6	3.7
Sri Lanka	3.4	3.2	2.2	2.1	2.1	2.3	2.4	2.4	2.4	2.3
Total Indian Sub-Cont.	**121.0**	**123.6**	**147.6**	**113.3**	**113.1**	**76.1**	**97.7**	**88.8**	**95.1**	**98.2**

Table 5 - World Silver Fabrication (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
East Asia										
Japan	122.5	135.0	119.3	118.7	116.0	123.0	124.1	131.7	133.6	114.8
China	33.7	36.1	39.8	47.6	52.8	59.0	61.6	68.0	75.8	75.6
Thailand	30.9	30.9	32.9	32.6	36.6	37.0	37.0	37.0	36.7	33.5
South Korea	16.7	19.6	17.1	17.8	19.2	19.8	20.2	20.9	21.6	20.8
Taiwan	6.7	9.4	8.5	9.0	10.3	11.3	11.7	12.8	13.2	12.9
Indonesia	3.6	4.2	5.2	4.5	4.7	5.8	5.1	5.7	5.5	5.4
Hong Kong	3.9	4.4	3.2	3.4	3.2	3.4	3.5	3.8	4.0	4.0
Vietnam	0.7	0.7	0.7	0.8	0.9	1.0	1.0	1.1	1.2	1.3
Myanmar, Laos & Cambodia	0.9	0.8	0.9	1.0	1.0	0.9	0.9	0.8	0.8	0.8
Malaysia	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.6	0.6
Other Countries	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5
Total East Asia	**220.6**	**242.3**	**228.6**	**236.4**	**245.7**	**262.4**	**266.3**	**283.0**	**293.4**	**270.2**
Africa										
Morocco	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Tunisia	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.3	0.4	0.4
South Africa	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Algeria	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Libya	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Other Countries	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total Africa	**1.7**	**1.8**	**1.7**	**1.7**	**1.7**	**1.8**	**1.8**	**1.8**	**1.9**	**1.9**
Oceania										
Oceania	5.8	7.0	6.0	5.8	6.3	5.8	3.9	4.3	6.5	8.7
Total Oceania	**5.8**	**7.0**	**6.0**	**5.8**	**6.3**	**5.8**	**3.9**	**4.3**	**6.5**	**8.7**
CIS										
CIS	23.8	24.4	25.4	25.0	26.7	28.2	29.8	30.9	33.7	34.8
Total CIS	**23.8**	**24.4**	**25.4**	**25.0**	**26.7**	**28.2**	**29.8**	**30.9**	**33.7**	**34.8**
World Total	**864.4**	**891.7**	**859.1**	**827.3**	**841.3**	**830.4**	**847.1**	**834.1**	**840.3**	**832.6**

of demand, GFMS record fabrication at the first point of transformation of the silver, in this case, the point at which the silver paste is manufactured, as opposed to where the solar panel is assembled or installed. Last year, the growth in fabrication was largely export-oriented, with the European Union an important driver of this increase. This in turn reflected the growing availability of government-backed grants, which, in some cases, encouraged a significant take-up of photo voltaic technologies. In addition, recent years have seen the growth in this sector constrained by a lack of silica production but, in 2008, the introduction of new capacity removed this bottleneck, paving the way for a higher rate of expansion than would otherwise have been possible.

In contrast, the use of silver in multi-layer ceramic capacitors (MLCCs) is estimated to have fallen in 2008, as a fairly subdued first nine months gave way to an end-year decline. There appeared to be little change in the silver:palladium composition of the capacitor, which contained an average of 70:30, in favor of silver, in the context of capacitors consumed in the United States. In contrast, those delivered (from US manufacturers) into East Asia generally featured a far higher level of silver, often in excess of 90% (with palladium accounting for the balance). In terms of end-uses, demand from the defense industry continued to grow, which offset a relatively sluggish performance in the cell phone industry; although handset production grew last year, this was largely to the benefit of the base metal (copper:nickel) capacitor industry.

United States Industrial Production

(Index, 2000=100)

2004	2005	2006	2007	2008
100.0	103.2	107.3	108.9	106.5

Source: OECD

Table 6 - Silver Fabrication: Industrial Applications (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Germany	18.3	20.8	21.4	21.2	21.7	23.5	23.9	25.5	27.4	27.5
UK & Ireland	15.1	16.5	14.3	13.9	14.9	15.5	12.4	12.5	12.0	12.1
France	11.6	12.3	15.9	14.6	13.8	10.3	10.2	10.4	10.7	10.8
Italy	10.6	10.9	10.4	10.4	10.2	11.4	10.8	10.8	11.1	10.5
Switzerland	10.4	8.3	2.7	2.7	2.3	2.4	2.6	2.5	2.5	2.5
Spain	2.7	2.0	1.3	1.3	1.2	2.1	1.9	1.9	1.9	1.9
Netherlands	1.7	1.7	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6
Poland	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Austria	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.5
Norway	1.4	1.2	0.7	0.6	0.6	0.8	0.7	0.6	0.5	0.5
Sweden	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Czech & Slovak Republics	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Belgium	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Other Countries	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Total Europe	**75.0**	**76.6**	**71.1**	**69.0**	**69.0**	**70.5**	**66.9**	**68.5**	**70.6**	**70.2**
North America										
United States	88.6	95.1	78.7	83.1	86.8	94.2	100.8	106.8	114.1	119.1
Mexico	3.3	3.4	3.0	3.0	3.1	3.0	3.2	3.1	3.3	3.1
Canada	0.5	0.5	0.5	0.5	0.5	0.6	1.0	1.7	2.7	2.5
Total North America	**92.5**	**99.1**	**82.3**	**86.6**	**90.4**	**97.8**	**105.0**	**111.6**	**120.0**	**124.7**
Latin America										
Brazil	3.2	3.2	3.2	3.2	3.0	3.7	4.5	2.9	4.0	3.9
Argentina	1.0	0.8	0.6	0.6	0.6	0.6	0.9	1.0	1.1	1.0
Colombia	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ecuador	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total Latin America	**4.8**	**4.6**	**4.5**	**4.5**	**4.3**	**5.0**	**6.0**	**4.6**	**5.7**	**5.5**
Middle East										
Turkey	1.2	1.4	1.1	1.2	1.4	1.5	1.5	1.6	1.6	1.6
Israel	0.9	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Oman	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Egypt	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Middle East	**2.4**	**2.6**	**2.2**	**2.3**	**2.4**	**2.5**	**2.5**	**2.6**	**2.7**	**2.7**
Indian Sub-Continent										
India	37.9	46.1	50.8	44.4	44.4	33.9	53.7	54.2	63.9	65.0
Pakistan	0.6	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total Indian Sub-Cont.	**38.5**	**46.7**	**51.1**	**44.7**	**44.7**	**34.1**	**54.0**	**54.6**	**64.2**	**65.3**
East Asia										
Japan	60.8	72.1	55.4	59.1	60.4	73.7	84.1	89.5	90.9	80.2
China	20.9	21.9	22.3	25.6	27.6	30.1	31.8	35.1	39.1	39.2
South Korea	12.2	14.8	12.4	13.4	14.5	15.2	15.5	16.2	16.7	16.0
Taiwan	6.3	8.8	8.0	8.7	9.9	10.9	11.3	12.3	12.7	12.4
Hong Kong	3.3	3.9	2.7	3.0	2.9	3.1	3.2	3.4	3.6	3.6
Other Countries	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6
Total East Asia	**103.9**	**122.0**	**101.4**	**110.2**	**115.9**	**133.5**	**146.4**	**157.1**	**163.7**	**152.1**

Table 6 - Silver Fabrication: Industrial Applications (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Africa										
Morocco	0.2	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.3
South Africa	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total Africa	**0.6**	**0.6**	**0.5**	**0.5**	**0.5**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**
Oceania										
Oceania	2.4	2.5	2.1	2.1	2.2	2.2	2.0	2.1	2.1	2.1
Total Oceania	**2.4**	**2.5**	**2.1**	**2.1**	**2.2**	**2.2**	**2.0**	**2.1**	**2.1**	**2.1**
CIS										
CIS	18.8	19.6	20.1	19.3	20.3	20.9	21.6	22.9	23.9	23.9
Total CIS	**18.8**	**19.6**	**20.1**	**19.3**	**20.3**	**20.9**	**21.6**	**22.9**	**23.9**	**23.9**
World Total	**339.0**	**374.2**	**335.2**	**339.1**	**349.7**	**367.1**	**405.1**	**424.5**	**453.5**	**447.2**

Elsewhere, the use of silver in ethylene oxide (EO) catalysts is thought to have increased last year, due to the start-up of new plant capacity, partly in response to the high level of glycol prices, which prevailed at the time (in contrast to early 2009). As discussed in previous *World Silver Surveys*, not only has average plant size trended upwards in recent years, in terms of the absolute contained tonnage, but there has also been a shift towards a higher silver content per installation, which enhances a catalyst's efficiency. As such, it has now become commonplace for a single catalyst to consume 2 Moz (62 t) of silver.

Finally, the use of silver in solders and brazing alloys slipped back last year, due to a combination of the fourth quarter economic downturn and the level of import competition. The use of silver in brazing products (the consumption of silver in solders in the United States is trivial) is closely tied to the state of the housing and construction market (silver is used, for example, in air conditioning units) and the downturn in this sector last year accounted for much of the decline.

Turning to this year, the slump in industrial silver demand, which emerged during late 2008, continued into early 2009. The first two months were particularly weak as destocking, further down the supply chain, compounded the impact of a slowdown in the absolute level of demand. The decline was most acutely felt in the electrical and electronics, ethylene oxide and solders and brazing alloy sectors, with the photo voltaic industry recording only a modest drop during the first quarter. Manufacturers of silver-bearing products have therefore had to contend not only with far smaller orders, but an increasingly just-in-time focus, on the part of their customers, who, faced with an uncertain economic climate, have been deterred either from stock building or providing any guidance as to future orders.

India

GFMS estimate that total industrial silver fabrication in 2008 rose by a modest 2% to 65.0 Moz (2,022 t). Calling the direction of demand last year was made all the more difficult by the impact of often conflicting forces on different components of offtake in this sector. For example, lower prices did boost some price sensitive areas of industrial offtake later in the year, but record high prices in the first half choked off demand. Similarly, relatively robust economic growth during the first six months boosted demand for silver-bearing industrial products, while the sharp year-end downturn saw a rapid tapering off in consumption. Notably, after three consecutive years of total industrial demand being larger than combined silver demand from jewelry, silverware and physical investment, last year saw a reversal in this state of affairs, by a substantial margin.

Nonetheless, India's total industrial offtake on balance remains largely price insensitive, reflecting changes in industrial production more so than the price. As evidence, despite the 135% rise in the rupee silver price between 2000 and 2007, industrial demand's share of total fabrication grew from 35% to 64%. This outcome was mainly related to the fast pace of expansion in industrial production, which was a highlight of the country's healthy overall economic growth.

Indian Vehicle Production

(units, 000s)

2004	2005	2006	2007	2008
1,309	1,421	1,693	1,948	2,046

Source: Global Insight

In terms of the specifics of these 'authentic' industrial uses, electrical & electronics and brazing alloys & solders recorded relatively healthy growth rates of 8% and 10% respectively, although these performances were well under those seen in 2007 (of around 20%). The slowdown in growth was due in the main to a marked decline in the pace of expansion in manufacturing output, which fell to around 3% from the previous year's rate of over 9%. As for electrical & electronics use of silver, extensive construction and infrastructure developments, both in the public and private sectors, underpinned demand during 2008. The fabrication of silver contacts for the automobile sector, however, was curbed due to the fall in output growth to just 5% from 15% in 2007, according to data from Global Insight. A key issue contributing to growth in the 'authentic' category of industrial demand has been the shift to "Made in India" products. The substitution therefore in favor of locally fabricated, intermediate silver products has boosted the demand for raw silver. This appears to have been one of the reasons why growth rates in silver use have outstripped, for example, industrial growth rates.

Turning to the price sensitive areas of industrial demand, jari (gold/silver threads used in the weaving of saris) dropped by 14% last year to 5.1 Moz (160 t), mainly due to higher absolute gold and silver prices. This has encouraged the replacement of real jari with plastic and silver coated copper and silk threads due to the rising price differential. For example, while the former costs Rps 20-30,000/kg, imitation jari costs a meager Rps 1-2,000. In the current environment, the use of real jari in saris is generally limited to purchases for important occasions such as weddings, while elsewhere embroidered saris, which use plastic and chemical based threads, have become increasingly popular.

Silver foils, another price sensitive area of demand in India (used mainly in decorating food preparations, in chewing tobacco and even in some religious rituals),

Global Billings

(semi-conductor shipments per year, millions)

	World	Americas	Europe	Japan	Asia
2007	255.5	42.6	41.0	48.3	123.6
2008	255.3	39.0	39.6	49.3	127.4
Change	-0.2	-3.6	-1.4	1.0	3.8
Change %	-0.1%	-8%	-3%	2%	3%

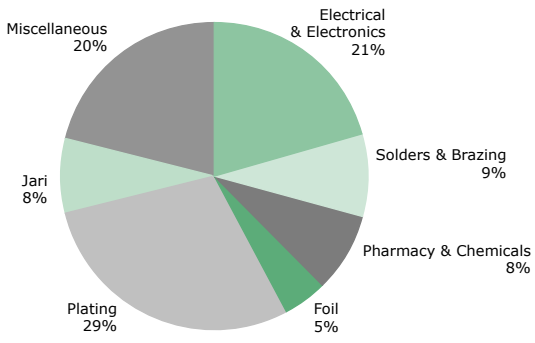
Source: SIA

surprisingly (given the sharp fall in price in the second half) registered a modest decline of 5%, with total use last year falling to around 3.1 Moz (95 t). Silver use in this category fell because, as fabricators have compromised on quality due to cost considerations, less of the metal has been used. The use of silver in pharmaceutical and ayurvedic medicines, although price sensitive, remained unchanged at 5.5 Moz (170 t) in 2008, as stricter laws applicable to health supplements prevented fabricators from using less of the metal.

Indian Fabrication

Source: GFMS

Indian Industrial Fabrication, 2008



Source: GFMS

Japanese Industrial Production

(Index, 2000=100)

2004	2005	2006	2007	2008
100.5	101.7	106.3	109.3	105.8

Source: OECD

Japanese Non-Photographic Nitrate & Contact Production

Million ounces

	2005	2006	2007	2008
non-photo nitrates	21.9	23.9	24.5	20.8
contacts	10.9	11.3	11.4	9.9

Source: GFMS

Elsewhere, GFMS estimates that the use of silver in plating rose by just 7% last year, to 19.0 Moz (590 t), compared to the 32% increase recorded in 2007. Most of the growth was due to higher usage in imitation jewelry, which benefited from higher gold prices, as well as increasing use of plated instead of sterling silverware.

East Asia

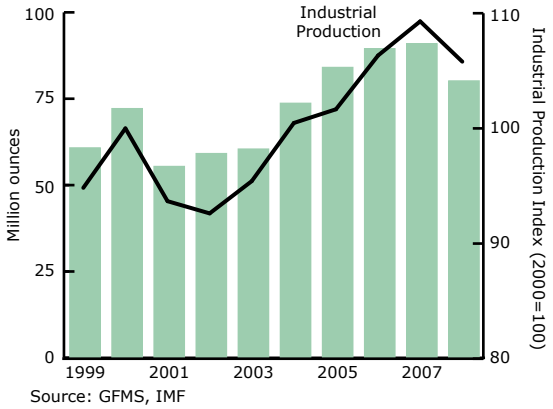
In 2008, GFMS estimate that **Japanese** industrial fabrication of silver declined sharply, by 12% to 80.2 Moz (2,493 t). The Japanese economy shrank at its fastest rate in 35 years in 2008, contracting by an annualized rate of 12.1% in the fourth quarter, and this provided the template for the direction of offtake in industrial demand applications. Indeed, last year would have recorded an increase had it not been for the collapse in demand that began in September, which dragged silver use in industrial applications down to its lowest level since 2004.

The non-photographic use of silver nitrate is estimated to have plummeted by around 15%, with the decline concentrated in the fourth quarter (which was true of most applications). The drop off in demand by makers of electronic applications, including cell phones, computers, automotive components, due to shrivelling consumer demand in light of the contracting global economy, was behind much of this decline. In addition, the industry has been facing increasing competition from lower labor and production cost countries, mainly Korea and China, and so low-end Japanese fabrication continues to move offshore. Declines in the last quarter of 2008, however, were dwarfed by what came in the first quarter of 2009. One major fabricator told GFMS that they had suffered a devastating 95% year-on-year decline in January orders.

The use of silver contacts is also estimated to have declined, by around 12%, to reach 9.90 Moz (308 t). Again, much of this drop is attributable to the sharp downturn in demand from the electronics industry towards the end of the year. Somewhat counter-intuitively, offtake from the automotive industry, the main end-user of contacts in Japan, hardly declined. This was due to the fact that vehicle makers did not move to cut production at the rate at which sales, both domestic and abroad, evaporated. Indeed, manufacturing of cars and light commercial vehicles (LCVs) only fell by 1% in 2008, according to Global Insight, despite several producers scrambling to idle plants in the fourth quarter.

Production of solders and brazing alloys, used mainly in the construction industry and in refrigeration units, fell by around 7%. The decline was mainly due to a slump in demand for refrigeration units, according to data from the Japan Refrigeration and Air Conditioning Industry Association (JRAIA). In contrast, the number of new building start-ups increased marginally, of both residential and commercial properties, according to the Ministry of Land, Infrastructure, Transport and Tourism (MLIT). The marginal increase in 2008 was, however, more a function of an abysmal 2007 than an indication of positive growth. 2007 was a particularly poor year for new construction, when stagnating wages, a weak economy, average house prices reaching a 15-year high, and the introduction of stricter rules for obtaining building permits combined to stifle demand. While many of these factors continued into 2008, the initial shock, particularly with regard to the new regulations, subsided somewhat to result in a

Japanese Industrial Fabrication



Source: GFMS, IMF

The Main Uses of Silver

Silver's unique properties include its strength, malleability and ductility, its electrical and thermal conductivity, its sensitivity to and high reflectance of light and, despite it being classed as a precious metal, its reactivity which is the basis for its use in catalysts and photography. This versatility means that there are few substitute metals in most applications, particularly in high-tech uses in which reliability, precision and safety are paramount.

Industrial

Silver is the best electrical and thermal conductor of all metals and is hence used in many electrical applications, particularly in conductors, switches, contacts and fuses. Contacts provide junctions between two conductors that can be separated and through which a current can flow, and account for the largest proportion of electrical demand. The most significant uses of silver in electronics are in the preparation of thick-film pastes, typically silver-palladium for use as silk-screened circuit paths, in multi-layer ceramic capacitors, in the manufacture of membrane switches, silvered film in electrically heated automobile windshields and in conductive adhesives. Silver used in the fabrication of photo voltaic (PV) cells is seen as an area of rapid growth in the short to medium term while lower retail prices have led to a surge in televisions using Plasma Display Panels (PDPs) which has boosted silver demand for these electronic products. Silver inks are also now used in smart cards and radio frequency identification (RFID) tags and this is regarded as an area of significant expansion. The ease of electro-deposition of silver from a double-alkali metal cyanide, such as potassium silver cyanide, or by using silver anodes accounts for its widespread use in coating. Silver solutions are made up of a cyanide, a carbonate, silver and a brightener. The silver is usually added as the single salt, silver cyanide, or the double salt, potassium silver cyanide. Various forms of silver are used as anodes and may be in the form of plates, bars, rods and grain. Silver is also used as a coating material for compact disks and digital video disks.

The unique optical reflectivity of silver, and its property of being virtually 100% reflective after polishing, allows it to be used both in mirrors, coatings on glass and in cellophane. Many batteries, both rechargeable and non-rechargeable, are manufactured with silver alloys as the cathode. Although expensive, silver cells have superior power-to-weight characteristics than their competitors. Silver, usually in the form of mesh screens but also as crystals, is used as a catalyst in numerous chemical reactions. For example, silver is used in formaldehyde catalysts for the manufacture of plastics and, to an even greater extent, in ethylene oxide catalysts for the petrochemical industry. Silver is employed as a bactericide and algicide in an ever increasing number of applications, including water purification systems, surface treatments and disinfectants. The joining of materials (called brazing if done at temperatures above 600º Celsius and soldering when below) is facilitated by silver's fluidity and strength. Silver brazing alloys are used widely in applications ranging from air-conditioning and refrigeration equipment to power distribution equipment in the electrical engineering sector. It is also used in the automobile and aerospace industries. Bearings electroplated with high purity silver have greater fatigue strength and load carrying capacity than any other type and are used in various high-tech and heavy-duty applications.

Photography

The photographic process is based on the presence of light-sensitive silver halide crystals, prepared by mixing a solution of soluble silver, usually silver nitrate, with a soluble alkali metal halide such as sodium chloride or potassium bromide. These grains are then suspended in the unexposed film. The effect of light on the silver halide disturbs the structure of this compound, rendering it selectively reducible to metallic silver by reducing agents called developers. The resulting negative image is converted to the positive by repeating the process under specific conditions. Photographic film is used in radiography, the graphic arts and in consumer photography. Photographic film manufacturers demand very high purity silver.

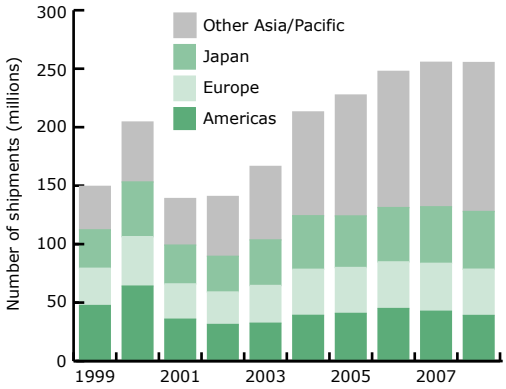
Jewelry and Silverware

Silver possesses working qualities similar to gold, enjoys greater reflectivity and can achieve the most brilliant polish of any metal. Consequently, the silversmith's objective has always been to enhance the play of light on silver's already bright surface. Pure silver (999 fineness) does not tarnish easily but to make it durable for jewelry, it is often alloyed with small quantities of copper. It is also widely used with base metals in gold alloys. Sterling silver, at a fineness of 925, has been the standard of silverware since the 14th century, particularly in the manufacture of "hollow-ware" and "flatware". Plated silverware usually has a coating of 20-30 microns, while jewelry plating is only 3-5 microns.

Coins

Historically, silver was more widely used in coinage than gold, being in greater supply and of less value, thus being practical for everyday payments. Most nations were on a silver standard until the late 19th century with silver coin forming the main circulating currency. But after the gold rushes, the silver standard increasingly gave way to gold. Silver was gradually phased out of regular coinage, although it is still used in some circulating coins and especially in American, Australian, Canada, Mexican and, more recently, Austrian bullion coins for investors.

Global Semi-conductor Billings



Source: SIA

fractional gain for 2008. However, this is still the lowest number of new housing starts for around 10 years, with the exception of 2007.

Countering the declining trend somewhat was the increase in offtake of silver for use in plasma display panels (PDPs), although this was not immune from a steep decline in the fourth quarter as well. One market feature that favors PDP makers over liquid crystal display (LCD) makers is consumers' appetite for large screen sizes, as plasma offers a price advantage over LCD TVs at larger dimensions. This may, however, turn out to be something of a temporary phenomenon, as LCD panels continue to catch up with their plasma counterparts in terms of price and size, and overtake on weight and power consumption considerations. Any gains, therefore, that PDPs may initially make are likely to eventually evaporate, although it proved sufficient to record an increase for 2008. The only other area of growth was in photo voltaics, where fabrication in solar panel cells is estimated to have risen strongly. Although no longer the world leader in installed PV capacity as it was in 2004, Japan still ranks at fifth place at the end of 2008, according to provisional figures from DisplayBank.

Looking forward, PVs look set to show strong growth for some years. The Japanese government has recently introduced a subsidy of 70,000 yen per kilowatt of solar panel equipment, although this has not proved as popular as had been hoped. Consumers are wary about making large investments in an uncertain economic environment, and would rather wait for costs to fall, as the government has forecast to happen, according to the Nippon Association of Consumer Specialists. An economic and fiscal advisory committee has said that Japan should aim to increase its solar capacity twentyfold by 2020 from 2005 levels, although this will not translate into commensurate growth for silver consumption in that area, as technological developments and thrifting will occur.

Chinese industrial demand is estimated to have remained effectively flat year-on-year in 2008, at 39.2 Moz (1,220 t), after having risen strongly (11%) in 2007. Notwithstanding this modest result, China remains as one of the world's largest uses of industrial silver, only trailing Japan, the United States and India and is expected in coming years to close the gap on the top three countries.

Turning to the actual uses of silver, 2008 saw both expansion in new applications and in some instances a modest decline in some more established markets. In the case of the former, photo voltaic cell production has continued to surge as demand for environmentally sensitive energy sources mount. In addition, RFID (Radio Frequency Identification) tags are now being produced domestically and, while this technology uses relatively low volumes of silver (less than 10 milligrams per tag), it is a segment that is expected to grow rapidly.

China's electronics and IT products sales have surged at an annual rate of almost 28% from 2001 to 2007, but slowed to "just" 12% last year amid the economic downturn. Sales in 2008 totaled 6.3 trillion yuan ($920 billion), with exports reaching $521.8 billion, or 36.5% of the country's total export value. Moreover, a significant proportion of exports, or more than 75% last year, continued to be telecommunication devices, computers and home audio and video products. China remains the world's largest production center for cell phone handsets with the mainland producing 750 million such devises last year. Meanwhile on the domestic front, a considerable slow down in end-user demand in the last few months of the year saw a marked decline in offtake for larger electrical and industrial products, encouraging the government to introduce an economic stimulus package whereby rural residents were given access to heavily reduced household products to boost the ailing export focused industries. In contrast, growth for small items like smart phones and MP3 players remained robust.

The Chinese auto industry outpaced the rest of the world last year recording a modest rise when most global markets were in steep decline. According to the China Association of Automobile Manufacturers (CAAM), the

Table 6a - Silver Fabrication: Electrical and Electronics (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	47.1	51.5	34.1	37.6	39.5	47.4	52.1	55.0	57.7	61.4
Japan	30.0	36.7	26.6	29.4	30.2	38.0	43.7	46.0	46.8	40.6
Germany	12.2	14.3	15.7	15.6	16.2	17.7	18.3	19.7	21.4	21.7
China	9.9	10.3	10.3	10.9	11.8	12.8	13.5	15.2	17.3	17.3
India	4.5	4.8	4.7	4.9	5.1	5.4	9.6	10.0	12.5	13.5
Taiwan	4.8	7.0	6.5	7.2	8.4	9.2	9.6	10.4	10.8	10.6
South Korea	6.6	8.2	7.2	7.6	8.4	8.8	9.0	9.5	9.8	9.3
France	6.8	7.3	11.0	9.9	9.5	8.1	8.0	8.2	8.5	8.6
UK & Ireland	6.0	6.6	5.6	5.5	5.9	6.1	4.5	4.4	4.5	4.7
Hong Kong	2.9	3.5	2.5	2.8	2.7	3.0	3.0	3.3	3.5	3.5
Italy	3.0	3.1	2.8	2.8	2.9	3.8	3.5	3.6	3.8	3.4
Mexico	1.9	2.1	1.8	1.8	1.9	1.8	2.1	2.0	2.1	2.1
Brazil	1.3	1.3	1.3	1.3	1.2	1.7	2.1	0.9	1.5	1.5
Turkey	0.8	0.9	0.7	0.8	1.0	1.0	1.0	1.0	1.1	1.1
Australia	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Netherlands	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Switzerland	7.5	5.3	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.5
Spain	1.0	0.3	0.0	0.0	0.0	0.3	0.3	0.3	0.4	0.3
Austria	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Countries	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
World Total	**147.7**	**164.8**	**132.7**	**140.0**	**146.7**	**167.1**	**182.5**	**191.7**	**203.8**	**201.7**

Table 6b - Silver Fabrication: Brazing Alloys and Solders (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
China	6.4	6.7	6.9	7.9	8.7	9.7	10.3	11.3	12.5	12.5
United States	9.0	8.7	8.3	8.4	7.9	7.3	7.7	7.2	7.7	7.3
India	1.6	1.8	1.8	1.9	2.1	2.2	4.2	4.3	5.2	5.7
Japan	4.2	4.4	3.5	3.3	3.3	3.7	3.8	3.9	4.0	3.7
Germany	3.0	3.2	2.8	3.0	3.1	3.2	3.2	3.4	3.6	3.5
Italy	2.0	2.1	2.0	2.1	2.0	2.0	2.1	2.3	2.4	2.3
UK & Ireland	2.8	2.8	2.7	2.5	2.8	3.0	2.9	3.1	2.4	2.3
Canada	0.3	0.3	0.3	0.3	0.3	0.4	0.8	1.5	2.4	2.3
South Korea	0.8	1.0	1.2	1.4	1.4	1.4	1.5	1.5	1.6	1.6
Switzerland	1.5	1.6	1.3	1.3	1.4	1.4	1.5	1.4	1.4	1.4
Taiwan	1.0	1.2	0.9	1.0	1.1	1.1	1.1	1.2	1.3	1.2
France	0.9	1.1	1.0	1.0	0.8	0.7	0.8	0.8	0.9	0.8
Brazil	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8
Spain	1.1	1.1	1.0	1.0	0.9	0.8	0.6	0.6	0.6	0.6
Australia	0.7	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6
Mexico	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Netherlands	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Israel	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
World Total	**37.3**	**38.6**	**36.1**	**37.4**	**38.0**	**39.3**	**42.8**	**44.9**	**48.3**	**47.4**

New Uses in Silver

In recent years, silver, along with other metals in the commodities complex, has experienced a surge in investor interest that has seen the price of the white metal reach new multi-year highs. Speculators have been pushing the price higher as its reputation as a precious metal and a store of wealth during uncertain economic times has come to the fore. However, it will be silver's industrial strength in future years that will ensure physical demand continues (well after investment demand subsides), with the metal expected to play a fundamental role in future industrial applications. The main growth areas in the last few years have largely been in health, electronics, and renewable energy sectors, all of which rely on the properties of the metal as a catalyst, biocide, and for storing or conducting electricity.

Silver has for centuries been highly regarded for its superior antibacterial nature but in recent years the use of silver as a biocide has been rapidly gaining momentum and is now used not only in the medical field, but is shifting over into mainstream society. Burns patients are now predominately treated with bandages impregnated with a silver sulfadiazine. Increasingly, wound dressings, operating gowns, and other wound care products incorporate a layer of silver for prevention of secondary infection. In addition, instruments like intravascular catheters or orthopedic implants are treated using similar nano-technology. Indeed, there are a few applications in the medical field where the use of silver cannot be beneficial. For example, paints and glass containing silver ions have been developed, as have polymers with retained anti-microbial effect that are being used to produce bench tops, handles, or furniture, to name just a few applications. Indeed, the use of silver in this form is almost limitless.

Silver used in mainstream consumer products are now being developed and trialed. In the household, washing machines and dryers that use anti-microbial silver and odor absorbing carbon nano-particles are now available, as are a significant range of garments that use silver ions in a similar application. In addition, bathroom fittings, hair dryers and food storage are just a few of the anti-microbia products that are now in production. Furthermore, for the school or office environment common items such as pens, paper, keyboards and even the computer mouse and telephones are now being offered using this anti-microbial protection technology and is seen an area of tremendous growth potential.

While demand for silver inks from traditional applications such as membrane switches and PCBs are likely to show robust growth in future years, a new group of "thick film" applications is being brought to the fore that are expected to boost revenue in the ink market. The most significant opportunity currently remains the development of the RFID (radio frequency identification) technology which is being taken up across countless industries as a means of tracking inventory as an alternative to bar codes. Each RFID application consists of a high data capacity tag, readers and a computer system. Tags are made up of a microchip and an antenna with the silver conductive ink used predominately on the tag antenna but also as a bond between the chip and the circuit board substrate. The use of silver per tag currently ranges from 6-10 milligrams per tag.

Progress is also being made on the development of silver used as a catalyst for diesel engine cars that replaces the more expensive option of platinum. By substituting platinum with silver, the cost of precious metals in the production of auto catalysts, which clean car exhaust fumes, would be cut by more than 90%. In addition, increased demand for silver as a bonding wire has increased as pressure to thrift mounts on the back of higher gold prices. A range of silver alloys are now in production and are expected to gain traction at the lower end of the electronics market.

Finally, silver used as biocide is also gaining momentum, particularly in the construction and marine industries where silver based biocide disinfectant represents a new generation of clean, safe, environmentally friendly biocides for the effective control of bacterial, viral and fungal infections, on hard surfaces and in water systems.

country's auto makers rolled out a total of 9.34 million vehicles last year, up 5.2% on 2007. This modest increase pales in contrast to the double-digit growth China has recorded in every other year this decade, with growth in 2006 and 2007 weighing in at 27% and 20% respectively. Despite the slight rise, demand for new components (mainly electrical and electronic) were weaker as inventory levels were run down in the latter stages of the year as end-user demand waned. China's prodigious growth in chemicals and petrochemicals also slowed considerably last year with mounting pressure on fabricators producing ethylene oxide (EO) catalysts.

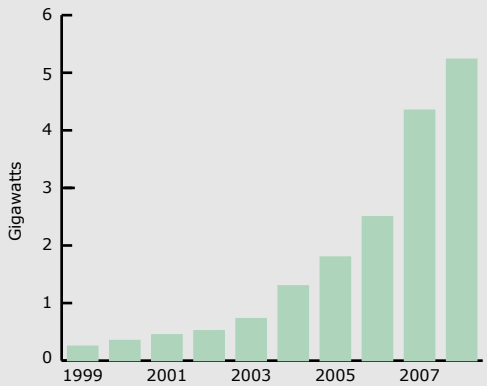
Indeed weaker global demand, coupled with increased competition (particularly from new facilities in the Middle East) limited growth prospects in this segment. Massive investment in infrastructure projects this decade has seen construction across the country grow at exponential levels. However, growth here in 2008 was muted (in comparison) after many major projects were finalized (in the main urban centers) prior to the Olympic Games in Beijing. To this end, GFMS estimate that fine silver used in brazing alloys and solders, used widely for maintenance and construction, increased by only 1% last year to 12.5 Moz (390 t).

Global Photo Voltaic Market

Photo voltaics, which directly convert sunlight into electricity, are by no means a new application, but growing environmental concerns have focused attention on renewable energy supplies. As a result, the photo voltaic industry has recently achieved tremendous growth, in the process becoming one of the success stories in the silver industrial market, given the significant use of silver in this sector. In essence, silver, in the form of silver paste is utilized in two discrete ways. Firstly, paste is added to silica on the front of the cell through screen printing, which gives the cell face its lattice effect: this allows electrical energy to be extracted from the cell. Secondly, to maximize efficiency, silver, in the form of two contact strips (along with aluminum), is added to the back to act as a mirror.

The industry's rise to prominence has largely been due to more widespread availability of government grants. (In this regard, Spain stood out in 2008, with a surge in expenditure in this field accounting for over 40% of total global installations; source: Displaybank.) Measured in terms of gigawatt (GW) production, ten years ago, this stood at just 0.25 GW (ibid). During the following nine years, growth in new capacity averaged over 40%, with new installations in 2008 totaling 5.6 GW (ibid). Last year's rate of increase touched 30%, with global silver consumption reaching an estimated 13.5 Moz (420 t). As impressive as this appears, further expansion had been constrained by a lack of silica production, although 2008 did see further capacity come onstream. That said, 2009 is expected to see a sharp slowdown in demand, not only as a result of the global recession, but also because there will be no repeat, in 2009 at least, of the level of government funding which spurred on demand last year. However, the downturn is expected to be shortlived, with the rate of growth in new capacity in 2010 expected to exceed 40% (ibid).

Photo Voltaic Production



Source: Photon International 2008, Displaybank

Industrial demand in **Hong Kong** remained largely unchanged last year reaching 3.6 Moz (113 t). While this result may suggest a degree of inaction across the market, this was in fact not the case. Indeed, for much of the year, fabrication and exports from Hong Kong continued to grow steadily due to strong intra-Asian trade (for electrical and electronic components) and sustained demand for finished goods in Europe and the United States. As economic conditioned deteriorated in the final months of 2008, so too did the rate of fabrication as the supply-chain moved into an environment of oversupply. The impact of the decline in consumer spending in the United States as a result of the financial crisis is evident by the value of exports from Hong Kong to the United States, which according to the Trade and Development Department fell by over 20% in 2008.

GFMS estimates that **South Korean** industrial uses of silver declined in 2008, falling for the first time in seven years hit 16.0 Moz (498 t), equivalent to a 4% year-on-year drop. Despite the modest decline, this still leaves the industrial category of demand almost 1.2 Moz (39 t) or 8% higher than recorded during the technology bubble in 2000. A stagnant domestic economy, coupled with significant weakness in several key export markets were the chief drivers of the decline.

Demand for silver-based products such as contacts and silver plating chemicals, which constitute the vast bulk of silver use in electronics and the main growth segment in recent years, was driven down by a marked decrease in end-user demand for products ranging from flat screen televisions, cell phones, to mobile gaming devices and MP3s. Indeed, the pull back in consumer discretionary spending globally left many South Korean fabricators with little option but to scale back production volumes in light of reduced orders across the entire supply-chain.

In a broader context, a weaker domestic outlook provided little expansion possibilities for contacts (and silver nitrate for use in mirror production) across the construction industry with GFMS estimating that demand for silver used in the form of brazing alloys fell by 2% to 1.6 Moz (48 t), while demand from the auto industry also fell away sharply, particularly in the second half of the year as sales of new cars plummeted.

GFMS estimate that **Taiwanese** industrial uses of silver declined last year for the first time since 2001, slipping 2% to 12.4 Moz (387 t). While silver used in "new"

Table 7 - Silver Fabrication: Photographic Use (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
EU-25	77.0	72.5	71.6	66.9	65.0	61.6	54.7	47.1	39.0	35.2
Other Countries	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Total Europe	**77.2**	**72.6**	**71.7**	**67.1**	**65.2**	**61.8**	**54.8**	**47.2**	**39.2**	**35.4**
North America										
United States	73.5	70.2	65.5	64.8	58.9	55.2	56.4	46.4	35.9	29.3
Mexico	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total North America	**76.4**	**70.2**	**65.5**	**64.8**	**58.9**	**55.2**	**56.4**	**46.4**	**35.9**	**29.3**
Latin America										
Brazil	3.2	2.4	2.3	2.1	2.2	2.2	1.4	0.0	1.4	1.3
Argentina	1.6	1.3	1.0	1.1	1.5	1.5	1.3	0.5	0.5	0.5
Total Latin America	**4.8**	**3.7**	**3.3**	**3.2**	**3.7**	**3.7**	**2.7**	**0.5**	**2.0**	**1.8**
Indian Sub-Continent										
India	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Sri Lanka	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total Indian Sub-Cont.	**0.7**	**0.7**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.4**	**0.4**
East Asia										
Japan	59.9	61.2	62.2	57.8	53.9	47.4	38.0	40.2	40.5	32.4
China	3.7	3.9	4.5	5.7	5.8	6.1	5.4	5.0	4.6	3.7
Total East Asia	**63.6**	**65.0**	**66.7**	**63.5**	**59.7**	**53.6**	**43.3**	**45.3**	**45.1**	**36.1**
Oceania										
Australia	1.7	2.7	2.4	2.3	2.1	1.5	0.1	0.1	0.1	0.1
Total Oceania	**1.7**	**2.7**	**2.4**	**2.3**	**2.1**	**1.5**	**0.1**	**0.1**	**0.1**	**0.1**
CIS										
CIS	3.4	3.2	3.1	3.0	2.8	2.7	2.6	2.4	2.1	1.8
Total CIS	**3.4**	**3.2**	**3.1**	**3.0**	**2.8**	**2.7**	**2.6**	**2.4**	**2.1**	**1.8**
World Total	**227.9**	**218.3**	**213.1**	**204.3**	**192.9**	**178.8**	**160.3**	**142.4**	**124.8**	**104.8**

technologies, such as photo voltaic cell production, continued to expand through a rise in exports, demand for the main uses of silver (conductors, switches, contacts and plating solutions) all suffered as a result of a second half slump in global offtake, due to the worsening economic environment.

There was a significant reduction in orders for electrical and electronic items, in particular from mainland China, the United States, and Europe, the leading markets for Taiwan's exports, where a lack of retail activity resulted in a considerable reduction in inventory of laptops, televisions and cell phones. Furthermore, nearly 25% of Taiwan's exports go to China and, with a clear trend emerging that Chinese fabricators are looking at sourcing more components locally rather than importing, this is likely to further exacerbate the decline in Taiwan's exports to the mainland and therefore its offtake in the future.

Photography

- ***Photographic offtake in 2008 saw an acceleration in its downtrend, again posting a double-digit percentage decline, bringing losses since 2000 to over 110 Moz (3,500 t).***

The use of silver in global photographic applications again fell last year, amidst a loss in nearly every region, while the industry saw its fourth consecutive year of double-digit percentage declines. More significant however, was that the 2008 drop marked the largest on record (in both percentage and volume terms), with fabrication falling by 16% to 104.8 Moz (3,260 t). The contribution of photography to total annual demand for silver in 2008 represented a mere 12%, down from over a quarter, or by 123 Moz (3,827 t) from the component's peak in 1999. Once again, the substitution gains made by digital

technology at the expense of traditional silver halide-based analog systems was the chief culprit. The greatest source of weakness continued to be collapsing demand for film. In reviewing data on color film sales, in both the consumer and professional segment (kindly provided by Photofinishing News), it is evident that, basis the substantial double-digit percentage losses in every key region, the downtrend has further to run. To note, the greatest declines last year came from western Europe and Japan, where sales fell by 31% and 30% respectively, vastly exceeding the total global decline of 20%. Elsewhere, sales of color negative paper were equally unimpressive, albeit falling by a more modest 10%.

Turning to the use of silver in the medical sector (the largest within photographic applications), demand proved comparatively resilient. Although the majority of hospitals in developed countries have made the migration to digital, this has been offset by demand for conventional technologies, specifically in key emerging markets, such as China and India. The use of halide-based technologies in the latter two countries has risen on the back of aging populations and the improving quality of healthcare. Resilience was also seen in the demand for silver in motion picture film, where the large investment made in the 1990s coupled with substantial fixed costs of replacement have acted to deter the move to digital. Similarly, the strains in financial markets last year provided further aid, as the credit crunch made financing such expansions increasingly difficult.

Fabrication in the **United States** slumped by over 18% to 29.3 Moz (912 t) in 2008, marking a cumulative decline of 60% or 44.2 Moz (1,373 t) since the peak in 1999. The percentage decline in global photography fared only marginally better, at a drop of 54% over the same period.

Film & Paper Consumption & Photographic Fabrication

	2004	2005	2006	2007	2008
Film**	2,828	2,292	1,809	1,441	1,152
Paper^	1,633	1,474	1,359	1,255	1,135
Fabrication*	179	160	142	125	105

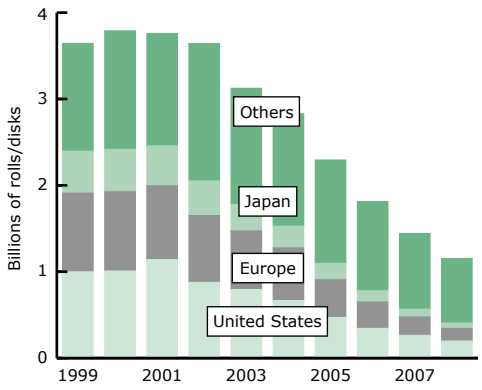
**Million of rolls, ^millions square meters, *Moz
Source: Photofinishing News Inc., GFMS

The steeper decline in US fabrication continued to be attributable in part to corporate decisions regarding the fabrication location of photographic products. The decline in tourism driven by the recession also played a role in dampening consumption, as household spending on travel and related purchases of cameras and photographic products was curtailed.

Photographic demand in **Europe** registered a fall of 10% last year to 35.4 Moz (1,100 t), with fabrication mirroring the secular declines elsewhere and again being predominantly driven by further inroads made by digital technology. The greatest losses were recorded in consumer and professional film as well as in color negative paper, although strength in medical applications did provide a bright spot. Ultimately however, the fading outlook on photography fuelled the ongoing trend by large fabricators to diversify production and expand into products that in some instances require no silver inputs and are entirely unrelated to photography.

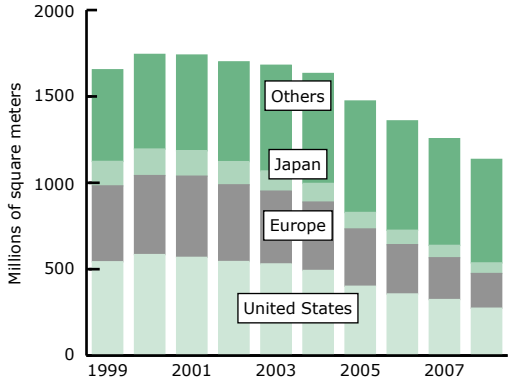
GFMS estimate that **Japanese** offtake of silver in photographic applications declined last year by an estimated 20% to reach 32.4 Moz (1,008 t), 48% below the peak level recorded in 2001. A decline from 2007 levels was by no means unexpected, for three main reasons. The first is that the increase seen in 2007 was something of an anomaly, caused by the actions of some

World Consumer Film Sales



Source: Photofinishing News Inc.

World Color Photographic Paper Consumption



Source: Photofinishing News Inc.

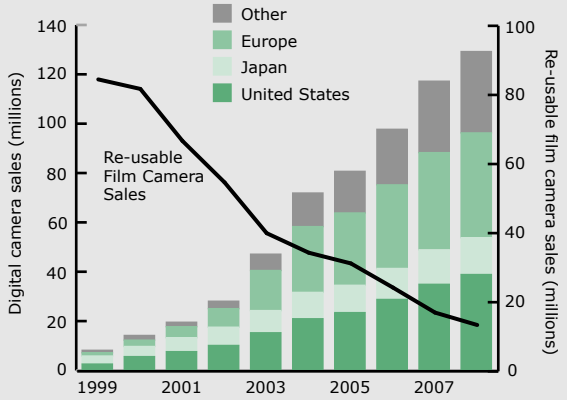
Digital Technology and the Photographic Market

Since peaking in 1999, the use of silver used in photographic applications has recorded an uninterrupted period of decline. GFMS' estimate of 104.8 Moz (3,260 t) last year was not only 16% weaker than in 2007 but represented a loss of 120 Moz (3,800 t) from the peak of nine years ago. The chief architect for such a rapid deterioration has been the penetration of digital technology across a myriad of applications, and most importantly, the migration away from analog cameras using silver halide film to digital cameras. According to industry consultants Photofinishing News, photographic film sales have plummeted almost 70% since the beginning of this decade, while the uptake of digital still cameras has risen from almost 11 million units to a remarkable 130 million units in 2008.

While sales of film containing silver halide have collapsed in recent years, the impact on the use of photographic paper (which also contains silver) has not been as significant, falling by approximately 35% since 2000. One major benefit of digital cameras is the almost zero cost to consumers off taking a photograph, encouraging greater end-user participation. This, coupled with the rapid uptake of electronic devices now sold with cameras (including most cell phones and PDAs), has generated a tremendous increase in the amount of images that are captured. However, this has not translated into higher demand for images printed as the vast majority of images are stored in electronic form and viewed and shared electronically. Furthermore, much of the printing is moving away from traditional retail photo kiosks (that utilize silver halide paper) to the home environment where low cost printers using ink jet technology are now widely available.

Importantly, the digital generation has not only impacted consumer photography but has also played a pivotal role in limiting the demand of silver used in other photo-related applications. In particular, the migration to digital technologies has had a notable impact in the medical arena (x-ray film), printing presses (computer-to-plate technology) and in the shift from film to digital in the motion picture industry.

Digital and Film Camera Sales



Digital camera sales include toy & entry level cameras
Source: Lyra Research Inc., Photofinishing News Inc.

producers who repatriated their overseas operations back to Japan, in light of shrinking global demand. There was no such indication in 2008 of similar activities taking place. The second reason, of which readers will be well aware, is the growing impact of digital photography. Data from Photofinishing News shows that sales of photographic paper, for both consumer and professional use, decreased by 14% year-on-year, while demand for 24 exposure film rolls slumped by 30%. The third reason behind the decline comes from the fact that a number of factory closures occurred, ostensibly as producers moved to align with the diminished size of the market, which may also have had a positive impact on year-end balance sheets. Added to this, manufacturers chose to run down inventory levels.

In contrast, offtake of silver in x-ray applications is estimated to have risen marginally. The overall increase was mainly due to the rise in exports to developing countries, which have yet to switch to digital medical imagery. There was also, however, some growth in the domestic market for x-rays. Although a relatively small component of the total x-ray universe in Japan, mammography x-rays are estimated to have shown the strongest year-on-year increase in 2008, having grown by 54% from the period April to September 2008, according to the Japan Industries Association of Radiological Systems (JIRA). It is an area that has seen continuous growth, in line with the rising number of breast cancer patients in Japan. This upward trend has been linked to increasingly westernized lifestyles and diet, according to the Japan Cancer Society. Indeed, the Japanese government has, in recent years, gone some way in addressing this problem, by developing incentive programs to encourage local authorities to purchase mammography equipment for their clinics. X-ray mammography is still often used over ultrasound and digital mammograms, as the former do not consistently detect early signs of cancer, while the latter have not been found to be any more effective than conventional x-ray mammograms. X-ray mammography still, therefore, carries a cost advantage over initial start up costs of digital equipment, despite the conveniences in storage and manipulation of the latter. In contrast, dental x-rays, one of the main x-ray sectors, are estimated to have declined, based on information from JIRA.

Turning to the graphic arts sector, silver offtake is estimated to have shown another year of decline as

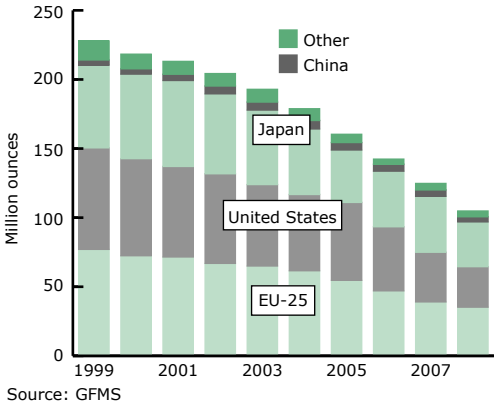
more producers made the transition into digital. Towards the end of the year, however, the rate of decline slowed abruptly, particularly amongst the smaller operators who had already shown strong aversion to committing significant capital costs to make the move to digital. Although this sector will, nonetheless, continue to fall, GFMS expects that a small yet enduring legacy of operations will carry on with the 'traditional' method. Those in the artistic rather than purely commercial side of the industry show signs of placing intrinsic value on the traditional process itself, thereby ensuring a constant, if niche, market.

Chinese photographic demand fell by 19% to 3.7 Moz (115 t) in 2008. As has been the case since the peak in 2004, the chief architect for the decline was the rapid uptake and penetration of digital cameras across the country at the expense of traditional analog products. This secular change, coupled with the closure of Kodak's Xiamen film and paper facility in 2007, saw China's demand for silver used in photographic applications slip to the lowest level since 1999.

The rapid advancement of China's economy and subsequent increase in disposable incomes has provided the platform for the explosive growth in amateur digital applications. However, in China's rural regions, analog products are still widely used as the penetration of digital technologies is taking place at a slower rate than in the urban centers. This is predominantly due to the lower earning capacity and the support network for digital cameras (printing stations, sales and service outlets, for example) not being as prevalent and as easy to access as they are for larger population centers. Nevertheless, this is expected to gradually change as wages rise and digital camera retail prices fall to more affordable levels. This, coupled with an increased exposure to personal computers and digital printing outlets, should see further shrinkage of the analog amateur market.

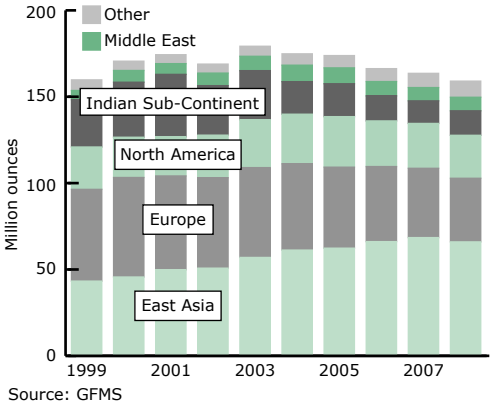
While film use in domestic applications may be on a declining trend, the demand for film in the commercial environment continued to be an area of expansion. Moreover, lithographic applications used widely in graphic arts and printing operations continued to be an area of development with many businesses continuing to adopt silver halide technology as the migration to digital is regarded as too costly. In addition, the Chinese motion picture industry has experienced a period of stellar growth since the government began relaxing its regulations in 2001, with box office receipts last year increasing by nearly a third to 4.215 billion yuan, narrowing the gap behind the largest global markets of the United States and India. However, while there has been massive penetration of new cinemas into new urban centers across the country, many new installations are choosing to move away from film projectors to the more affordable and user friendly digital projectors. Lastly, the production of x-ray film remains a significant component of photographic demand in China and one that should to continue to support offtake in future years. The rapid economic expansion and massive investment in infrastructure has seen explosive growth in dental and hospital services made available to a greater proportion of the Chinese population. While many of the new facilities, especially in city centers, are opting for the digitally based x-ray systems, those facilities that provide a more rudimentary service are likely to remain with the traditional silver halide film units as upgrading them would be cost prohibitive.

World Photographic Fabrication



Source: GFMS

World Jewelry Fabrication



Source: GFMS

Jewelry

• ***Jewelry fabrication fell for the fifth consecutive year in 2008, slipping 3% to 158.3 Moz (4,923 t).***

• ***Losses were greatest for Italy and Thailand as exports were hit by consumption declines in the major western markets. In contrast, fabrication in China, India and Russia rose last year.***

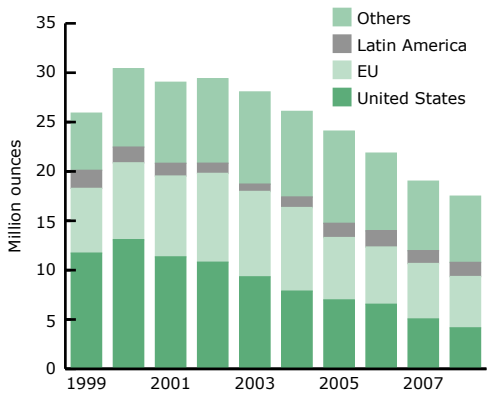
Europe

Jewelry demand fell by 8% to 36.7 Moz (1,142 t) in 2008 (its eighth consecutive annual drop). Much was due to Italy's losses as consumption at home and in many export markets fell, mainly as a result of the economic crisis.

Italian silver jewelry fabrication fell by 12% last year to 22.6 Moz (702 t). A double-digit decline might disappoint given frequent talk of substitution from gold to silver due to high metal prices and the economic slowdown. However, it should not be forgotten that Italy's gold jewelry demand fell a steeper 19% in 2008.

Much of silver's loss was due to lower exports, with customs figures showing a gross weight drop of 7% last year, although the fine weight looks to have fallen slightly more. Within 2008, the steepest drop was in the second quarter and the smallest in the third, strongly suggesting the silver price was critical. However, there is little to suggest purchases by consumers fluctuated strongly in this way and, instead, it was those by distributors that did, as stocks were run down in the first half and partially replenished later. Thus, while the price affected the timing of trade purchases, it was perhaps more the global economic crisis, together with ongoing structural changes, that hit fine weight consumption.

Official Italian Jewelry Exports*



Source: GFMS;* finished pieces only

Shipments to the US market, still Italy's number one, were down a hefty 18%. Little blame can be placed on market share loss as the top US origin, China/Hong Kong, saw a (gross weight) loss of 14%; the focus instead should be on the economic crisis and that trading down from gold was typically to high value, light pieces. Italian exports to the EU fell a less steep 7%. While true that EU consumption fared better than US sales, the drop in true exports to the EU was greater than 7% due to the probable inclusion of jewelry semis for finishing in the EU-accession countries and re-export elsewhere and also finished pieces bound for third countries, mainly Russia. Direct exports to Russia were stable, despite customs problems, but a boom in triangulation, chiefly via Turkey (whose take from Italy rose almost 30%), means total exports to Russia continued their strong growth. Exports to the rest of the Middle East also grew notably, as did those to Latin America while East Asia was only down 2%.

The latter statistic is again probably boosted by the inclusion of semis (mainly chain on spool). However, the trade balance as regards jewelry semis looks to have swung in favor of imports, thereby trimming Italy's true fabrication. Another complication last year was the surge in gold-filled exports, which are primarily gold by value and may therefore get classified as gold jewelry exports, even if in weight terms they are primarily silver.

The domestic market was notably weaker than exports last year. There were some benefits from people trading down from gold to silver but the latter still appears to enjoy little cachet among consumers (relative to other countries) and this explains Italians' willingness to switch to non-precious alternatives. The moribund state of its economy and market research suggesting Italian consumers to be the most pessimistic in Europe in turn help explain why all jewelry sales have been weak.

Silver jewelry fabrication in **Germany** in contrast rose a fraction last year to 3.9 Moz (122 t). Consumption in the home market (probably still the third largest globally) also rose somewhat, aided by the ongoing shift from 8-karat gold jewelry. Imports' market share looks to have held broadly steady, with the main switch to Thai or Chinese sourced pieces having been made several years ago. Apparent growth in re-exports has complicated the trade situation, although on balance it does appear that shipments of finished pieces fell somewhat while exports of jewelry semis showed greater strength.

Table 8 - Silver Fabrication: Jewelry and Silverware (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	51.4	55.5	49.4	46.9	45.3	43.4	39.5	35.2	32.2	27.7
Germany	9.8	9.1	8.7	7.9	7.7	7.3	6.8	6.8	6.5	6.2
Poland	2.9	3.0	2.5	2.3	2.9	3.1	3.4	3.6	3.2	3.1
Other Countries	21.2	20.1	17.8	16.3	15.9	14.7	13.6	13.1	11.8	11.7
Total Europe	**85.2**	**87.7**	**78.4**	**73.3**	**71.8**	**68.4**	**63.4**	**58.7**	**53.8**	**48.7**
North America										
United States	13.1	13.4	13.0	13.7	15.1	15.4	15.7	15.0	14.2	13.2
Mexico	15.1	13.2	12.9	14.0	15.6	16.2	16.4	14.0	13.6	13.0
Canada	1.9	1.8	1.5	1.5	1.7	1.6	1.4	1.2	1.1	1.0
Total North America	**30.1**	**28.4**	**27.4**	**29.3**	**32.4**	**33.2**	**33.5**	**30.1**	**28.9**	**27.1**
Latin America										
Total Latin America	**5.7**	**4.5**	**4.1**	**3.9**	**4.0**	**4.3**	**4.6**	**5.0**	**5.0**	**5.1**
Middle East										
Turkey	4.7	6.0	5.3	6.8	7.9	8.7	8.3	7.2	6.2	6.2
Other Countries	7.0	7.1	6.7	6.4	6.6	7.0	7.0	6.9	6.9	6.6
Total Middle East	**11.8**	**13.0**	**11.9**	**13.2**	**14.5**	**15.7**	**15.3**	**14.0**	**13.1**	**12.8**
Indian Sub-Continent										
India	73.6	68.0	88.4	61.7	61.7	35.4	37.6	28.2	24.9	26.9
Bangladesh & Nepal	5.7	6.0	5.9	4.8	4.5	4.2	3.7	3.6	3.6	3.7
Other Countries	2.4	2.3	1.7	1.7	1.7	1.9	1.9	1.9	1.9	1.9
Total Indian Sub-Cont.	**81.7**	**76.3**	**96.1**	**68.2**	**67.9**	**41.5**	**43.3**	**33.8**	**30.5**	**32.5**
East Asia										
Thailand	30.8	30.8	32.7	32.3	36.2	36.9	36.8	36.8	36.5	33.3
China	6.9	9.1	11.5	14.3	17.1	20.5	22.6	26.2	29.5	29.8
South Korea	4.5	4.9	4.6	4.5	4.6	4.7	4.7	4.8	4.9	4.8
Indonesia	3.1	3.7	4.7	4.0	4.1	5.2	4.5	5.1	4.8	4.8
Other Countries	5.2	5.1	5.1	5.1	5.1	5.4	5.8	5.7	5.9	5.8
Total East Asia	**50.5**	**53.6**	**58.6**	**60.1**	**67.2**	**72.7**	**74.4**	**78.6**	**81.6**	**78.6**
Africa										
Total Africa	**1.1**	**1.2**	**1.1**	**1.1**	**1.2**	**1.2**	**1.2**	**1.2**	**1.3**	**1.3**
Oceania										
Total Oceania	**0.8**	**0.8**	**0.7**	**0.8**	**0.7**	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**
CIS										
Russia	0.8	0.9	1.4	1.8	2.6	3.6	4.5	4.6	6.6	8.0
Other Countries	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8
Total CIS	**1.3**	**1.5**	**2.0**	**2.4**	**3.3**	**4.3**	**5.2**	**5.4**	**7.4**	**8.8**
World Total	**268.3**	**267.0**	**280.4**	**252.4**	**263.1**	**242.1**	**241.6**	**227.5**	**222.3**	**215.6**

Jewelry & Silverware

Three years ago, GFMS, for the first time, reported jewelry and silverware on an individual basis. For comparative purposes, the combined table will remain a feature of the *World Silver Survey*, as shown above.

In terms of the two individual components, both have generally experienced falling demand in recent years. Jewelry, the second largest area of global fabrication, has seen its share of the world total ease back, from a high point in 2003 of 21% to 19% last year. The fall for silverware this decade has been more dramatic. Although in 2008 the sector posted just a 2% drop, last year's total was only a little over half of the volume achieved as recently as 2001. In addition, last year silverware was overtaken by coins and medals offtake, with the latter therefore becoming the fourth largest sector of world silver fabrication.

French jewelry fabrication dipped by 5% to 1.6 Moz (49 t) in 2008. Consumption cannot be blamed as this grew a fraction, with sales by piece up 1% and by value up 5% according to Société 5. Instead, it appears that imports took market share. The trade data states that imports grew in gross weight terms by 33% but an analysis by value, a review of data by origin and industry responses all point to a rise of just a few percent. As with Germany, matters look to have been confused by intra-EU transfers.

UK jewelry fabrication fell noticeably last year, in spite of there being further substitution at the retail level, at the expense of gold. In contrast to the United States, this has centered on sterling silver (as opposed to, for example, rolled gold), although this is increasingly being supplied from overseas. That said, the slump in the UK economy in 2008 affected local consumption, to the detriment of both locally produced and imported merchandise.

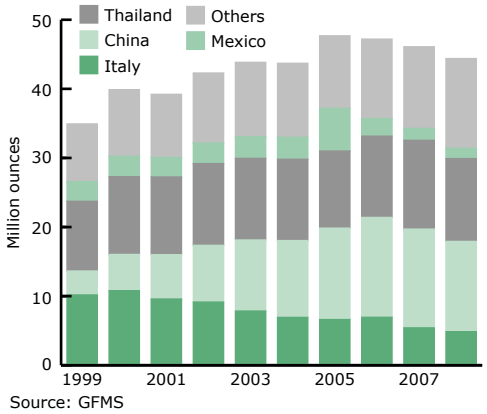
In 2008, silver jewelry fabrication in **Russia** continued its rapid growth, increasing by 21% last year, from 2.3 Moz (72 t) to 2.8 Moz (87 t). Rising gold prices and a decline in incomes on the back of the deepening economic crisis in the second half of 2008 appear to have moved many more consumers into the less expensive substitute to gold – the silver jewelry category.

North America

Last year in the **United States**, both silver jewelry fabrication and consumption declined, although the fall in domestic retail purchases was not as pronounced as for jewelry offtake, due to only a modest fall in finished silver jewelry imports. The drop in silver jewelry consumption last year was not surprising, given the economic downturn, but the scale of the decline is thought to be quite modest, compared to, for example, GFMS' estimate of a 30% fall in US gold jewelry sales. This is not to suggest that there has been a step change, on the part of consumers, in favor of silver. Instead, it reflected a growing strategy, by many retailers, to shift away from gold, due to its high absolute price, which has produced higher retail prices, against a backdrop of an increasingly price conscious consumer.

The shift away from gold has been a feature of the retail market for a number of years (towards lighter weight and gemset products) but in 2008, as gold prices continued to rise, a shift emerged to the benefit of lower karat gold.

US Silver Jewelry Imports



Source: GFMS

However, for those retailers who decided not to migrate from 14 to 10-karat, silver emerged as a more acceptable alternative. The increasing use of silver, however, took many forms, including: pure sterling silver jewelry; the combination of distinct gold and silver pieces (such as a silver necklace with a gold pendent); silver bonded with gold, typically in a 90:10 (silver:gold) form, to produce a "golden sandwich" and silver clad with gold. In addition last year, high end independent retailers replaced some of their gold lines with branded sterling silver, a strategy designed to have minimal impact on their corporate image, in a way that would not have been possible with a shift to either lower karat gold or generic silver.

Mexican jewelry fabrication dropped by 3% last year to 11.8 Moz (368 t). The decline was entirely due to a fall in exports, although we believe that official data, showing a reduction in volume of 33%, exaggerates the decline, unrecorded trade sliding by much less. In contrast, silver jewelry sales into the domestic market held up well in 2008 due to some substitution away from expensive gold. Silver has tended to be a more affordable metal for both manufacturers to produce and for consumers to purchase. In the latter case too, growing insecurity has also hit demand for gold, with silver proving a less risky-to-wear alternative. Gold designs are often being reproduced in the white metal and sales of these modern pieces have grown, while traditionally-styled and heavier silver articles have lost ground.

Middle East

Middle East jewelry fabrication edged higher in 2008, due to slightly firmer **Turkish** offtake. This brought

Consumer Trends and Jewelry Consumption

A key theme to jewelry sales last year was substitution from gold to silver as consumers traded down in a time of crisis. That appears clear from gold having suffered a 10% drop in global consumption in 2008 while silver witnessed a mere 3% slip. However, gold saw a far greater rise in the annual average price (+25%) than silver (+12%) and the above consumption figures include countries, most obviously India, where the price is the overwhelming driver, with fashion only having a minimal impact. Nonetheless, clear differences emerged last year in the industrialized world (which accounts for a clear majority of silver jewelry sales). The drop in US gold consumption was around five times greater than silver's small drop while France and Germany managed slight gains for silver in contrast to near 10% losses in gold. The UK market saw a relatively large fall in its silver jewelry consumption but this was around half its 26% drop for gold.

We now need to assess the contribution from other, economic factors. Price still had an impact, with gold pushing up to levels that lifted it over key retail price points. This was critical in the US market where it was arguably the trade that pushed silver more than consumers actively demanded it. The price also looks to have had a bearing on the timing of distributors' purchases within the year. However, prices explain little of the above variations between countries. The state of national economies no doubt had a role to play in that regard, as implied by UK and US consumption for both metals being weaker than French or German sales.

In the room left for consumer taste, a key issue is the relative status of silver in each market. An important example here is Italy as its silver jewelry sales fell almost as heavily as the 15% drop in gold jewelry consumption. Many industry respondents there have frequently stated that silver enjoys relatively little by way of precious connotations and as such consumers whose drop in spending power prohibited the purchase of gold jewelry look to have shown a greater willingness to adopt non-precious alternatives, such as branded and stone-set steel or high design costume jewelry.

The opposite was the case in the German and UK markets as consumers happily ditched 8 and 9-karat gold for silver, while French consumers' ongoing disdain for low karat gold kept them away from that less expensive option. The United States saw a version of this as many major mid and upper-tier retailers were reluctant to introduce low karat gold for fear consumers would never revert to 14 or 18-karat pieces but were happy to stock high design or branded silver. At the lower end of the US market, an affinity for gold remains but price points rule the day, and this has led to a boom for pieces that are mainly silver (and therefore below threshold price points) but have a gold accent to maintain a link to that metal. This largely explains the boom in sales of gold-filled, articles with a karatable gold layer bonded to a silver core (a phenomenon also seen in Australia). Had all these markets been more 'Italian', it is highly likely that the drop in global silver jewelry demand would have been much greater.

It is also worth remembering that silver jewelry continued to be affected by ongoing structural changes (such as a swing to lighter weight or gemset items), which are largely driven by changing tastes and are continuing to whittle away the fine weight. In France, for instance, sales by piece of plain silver rose by around 0.5% whereas gemset rose by 2% (figures courtesy of Société 5). In many markets, in particular Japan, branded jewelry continues to win market share, again trimming the expenditure on metal. It was, however, of note that the absolute price that gold achieved was sufficient to tip some brands into a move for the first time ever into silver.

On a narrower style front, there does seem to have been a swing to the discrete from the demonstrative, as befits a more sober consumer mood. This looks to have killed the market's brief flirtation with a move to yellow gold, assisting all the white metals. However, there has also been rising interest in 'fun' pieces aimed at making people smile in the face of adversity but these only work if it is obvious they are costume jewelry, therefore being negative even for silver.

Illustrations of Recent Trends

Left: matt silver pendent by Better Silver. Below: sterling silver pendant, from the Tiffany Keys collection.

Right: Fiorelli sterling silver ring with cubic zirconia, by Gecko.

to an end three successive years of declining output, itself the result of rising import competition, which had driven an increasing amount of capacity offshore. Last year, the rise in Turkish output was due to two factors. Firstly, large manufacturers successfully diversified into higher-end products, which mass produced imports have struggled to compete with, and secondly, at the margin, exports to the United States of silver bonded to gold (see the US text for more details) increased notably last year.

Increasing import competition of better quality goods (which were often based on gold designs, set with cubic zirconia and rhodium plated) affected **Egyptian** production, which contracted by 6%. However, in contrast to Turkey, there was little sign of a move to higher-end local fabrication, with manufacturers instead choosing to supplement their own product with imported merchandise.

Indian Sub-Continent

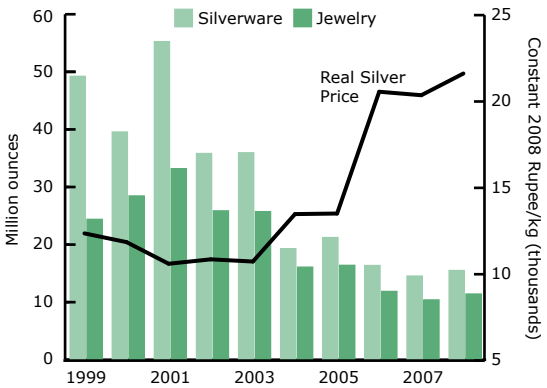
Indian jewelry fabrication rose by 10% to 11.4 Moz (355 t) last year, the first significant increase since 2001 (barring 2005, when it saw only a negligible rise of 2%). Having said this, the record level of bullion imports last year (for more on imports see Chapter 6) might have suggested an even greater increase in jewelry offtake but this was not the case; the surge in imports was almost entirely due to rising investment demand (see Chapter 3 for more on this). GFMS analysis of the trade data did, however, point to the fact that something in the order of 10% of total imports were delivered directly to jewelry and silverware fabrication centers.

Much of the rise in jewelry in 2008 was driven by the fast growing modern silver jewelry segment, although there was also some growth in the traditional sector too. The youth and urban markets are key to growth in silver jewelry in future in GFMS' view, and this tends to favor lighter weight, more design intensive items. Unlike traditional silver and gold jewelry, these are not usually sold basis the weight and the retail price largely depends on the design and the quality of gems and manufacturing.

Turning to the traditional jewelry market, there was modest growth last year, primarily as a result of lower prices in the second half; the average rupee silver price in the second half was a full 12% lower than in the first half and this proved sufficient to precipitate a noticeable rise in demand. Working against this were high prices in the first half as well as the secular downtrend, as detailed below, that has been in evidence since the start of the new millennium.

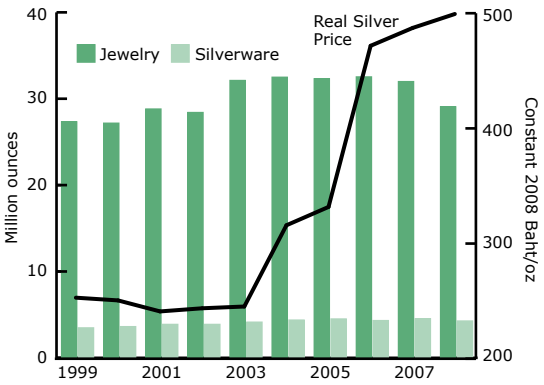
The difficulty facing the traditional market is that non-price factors continue to adversely affect offtake. Firstly, as GFMS have written about extensively in the past, silver jewelry has suffered from severe underkarating, even more than in gold, which is one of the major reasons for waning demand. Given that traditional silver jewelry is mainly seen as an investment vehicle, any underkarating is highly detrimental to offtake (it is no coincidence that investment in coin and bar has risen so sharply while at the same time traditional jewelry offtake has stagnated). Secondly, unlike in gold, there are no 'customary compulsions' attached to silver. For example, a wedding without gold is unthinkable while this is not true for silver (silverware and coins are still popular gifts at weddings but not absolutely essential). Lastly, increasing urbanization has seen a shift away from traditional attire which is often accompanied by heavy silver jewelry.

Indian Jewelry and Silverware Fabrication



Source: GFMS

Thai Jewelry and Silverware Fabrication



Source: GFMS

Table 8a - Silver Fabrication: Jewelry (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	34.0	38.9	37.2	36.7	35.7	34.2	31.5	28.2	25.8	22.6
Germany	4.1	3.6	3.7	3.3	3.6	3.7	3.8	3.8	3.9	3.9
Poland	2.8	2.9	2.4	2.2	2.8	3.0	3.3	3.5	3.2	3.0
France	2.5	2.6	2.5	2.4	2.4	2.0	1.5	1.6	1.7	1.6
Greece	1.2	1.0	1.0	0.9	1.0	1.0	1.1	1.1	1.0	1.2
Spain	1.4	1.4	1.4	1.5	1.7	1.4	1.4	1.3	1.1	1.1
Portugal	1.9	1.9	1.6	1.4	1.5	1.4	1.2	1.1	1.0	1.1
UK & Ireland	2.7	2.8	2.5	1.8	1.2	1.2	1.0	1.0	0.5	0.4
Sweden	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.3
Denmark	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Switzerland	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Cyprus & Malta	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Norway	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Finland	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Austria	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Other Countries	0.7	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.7
Total Europe	**53.1**	**57.6**	**54.3**	**52.4**	**52.0**	**50.0**	**46.9**	**43.4**	**40.1**	**36.7**
North America										
United States	10.8	11.2	10.9	11.8	13.4	13.8	14.1	13.5	12.9	12.0
Mexico	12.1	10.5	10.4	11.5	13.0	13.6	14.0	12.0	12.2	11.8
Canada	1.6	1.6	1.3	1.3	1.4	1.4	1.2	1.0	0.9	0.8
Total North America	**24.5**	**23.3**	**22.6**	**24.6**	**27.7**	**28.7**	**29.3**	**26.4**	**26.0**	**24.6**
Latin America										
Brazil	1.2	1.0	1.0	1.0	1.2	1.3	1.4	1.5	1.5	1.5
Peru	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.4
Argentina	0.3	0.2	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3
Colombia	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ecuador	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Other Countries	1.6	0.9	0.7	0.6	0.7	0.9	1.1	1.2	1.2	1.4
Total Latin America	**3.9**	**3.0**	**2.7**	**2.5**	**2.8**	**3.1**	**3.4**	**3.7**	**3.7**	**4.0**
Middle East										
Turkey	1.9	3.2	3.0	4.1	5.0	6.0	5.7	4.8	4.1	4.2
Egypt	1.5	1.5	1.3	1.2	1.4	1.5	1.4	1.3	1.4	1.3
Saudi Arabia	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Israel	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Other Countries	1.0	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Total Middle East	**5.4**	**6.8**	**6.2**	**7.3**	**8.3**	**9.5**	**9.2**	**8.3**	**7.7**	**7.8**
Indian Sub-Continent										
India	24.4	28.4	33.2	25.9	25.7	16.1	16.4	11.9	10.4	11.4
Bangladesh & Nepal	1.9	2.4	2.2	2.0	1.9	1.9	1.8	1.7	1.8	1.9
Other Countries	1.1	1.0	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Total Indian Sub-Cont.	**27.4**	**31.8**	**36.2**	**28.7**	**28.4**	**18.8**	**19.0**	**14.5**	**13.1**	**14.2**
East Asia										
Thailand	27.3	27.2	28.8	28.4	32.1	32.5	32.3	32.5	32.0	29.1
China	5.3	7.0	8.8	11.0	13.1	15.6	17.4	20.2	22.9	23.6
Indonesia	2.7	3.2	4.1	3.3	3.5	4.5	3.7	4.4	4.2	4.2
South Korea	3.7	4.0	3.8	3.8	3.9	4.0	3.9	4.0	4.2	4.1

Table 8a - Silver Fabrication: Jewelry (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Japan	1.7	1.7	1.6	1.6	1.5	1.8	2.0	1.9	2.1	2.0
Vietnam	0.6	0.6	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.2
Myanmar, Laos & Cambodia	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6	0.6	0.6
Malaysia	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Taiwan	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Hong Kong	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3
Other Countries	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Total East Asia	**43.3**	**45.6**	**49.8**	**50.8**	**57.0**	**61.2**	**62.3**	**66.1**	**68.5**	**66.0**
Africa										
Morocco	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Tunisia	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Algeria	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other Countries	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Total Africa	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**0.9**	**1.0**	**1.0**
Oceania										
Australia	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
Other Countries	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Oceania	**0.7**	**0.8**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**
CIS										
Russia	0.3	0.3	0.5	0.6	0.9	1.3	1.6	1.6	2.3	2.8
Other Countries	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Total CIS	**0.7**	**0.7**	**0.9**	**1.1**	**1.4**	**1.8**	**2.1**	**2.2**	**2.9**	**3.4**
World Total	**159.8**	**170.6**	**174.3**	**168.9**	**179.2**	**174.9**	**173.8**	**166.3**	**163.5**	**158.3**

One last comment is apposite. Our research suggests that both segments benefited modestly last year from record high gold prices. Many traditional and even modern designs in gold are now being reproduced in silver and then plated with gold due to the latter's high absolute price. As we note in *Gold Survey 2009*, there was a significant rise in the production of gold plating salts in 2008 to service this growing market.

East Asia

Thailand's number one ranking remained in tact in 2008 despite a hefty 9% decline in jewelry fabrication to 29.1 Moz (904 t). In fact the gap at the top widened after Italian fabrication slipped by a further 12%, losing almost 3.2 Moz (100 t) while China's offtake continued to grow, albeit at a more modest pace, on the back of stronger domestic sales. In contrast, Thailand's fabrication is predominantly built around the export trade with consumption of silver jewelry in domestic markets largely driven by the tourist trade and to a lesser extent branded items sold from department stores aimed at the youth demographic.

Readers of previous *World Silver Surveys* will be aware that Thailand's jewelry industry is dominated by small family run silversmith operations, each employing only a handful of skilled tradesman. In the last few years however, the higher silver price environment has resulted in a significant rise in the cost of inventory carry for these businesses and severely hampered management of their cash flow. On a recent research visit to Thailand it was apparent that many small businesses have ceased to operate, as a result of the price strain, coupled with pressure to reduce margins from the contracting client, and rising production costs (mostly labor). Moreover, those smaller fabricators wishing to export directly were also restricted by the strength of the Thai baht for much of 2008, as labor costs are calculated and charged in US dollars, leaving the fabricator to absorb much of the currency exposure.

In terms of jewelry styles, pressure to reduce precious metal content in designs continued in 2008, with average weights falling to 5-8 grams per piece (weights for the US market were slightly higher). In addition, a rise

in rhodium plated higher end stone-set (mostly cubic zirconia) designs, perhaps an indication of migration from white gold to silver, was also a feature. In terms of fashion trends, burnished or antique styles proved popular amongst wholesalers as did colored stones (marcasite and amethyst, for example). As an aside, the US government ban on jadeite and rubies originating from Burma, as a protest against their human rights record, became mandatory in October, with this ruling having a significant effect on US-bound exports.

Looking to exports markets, the first half of 2008 was surprisingly robust. Silver jewelry demand appeared to receive some benefit from price-led substitution from gold to silver, particularly in Europe and the United States. However, as economic conditions in these western markets deteriorated in the second half of the year, a marked decline in orders resulted. Bangkok based exporters reported a modest pre-Christmas sales period (generally delivered in September) before experiencing a complete stagnation of demand late in the fourth quarter as wholesalers were reluctant to commit to northern hemisphere spring orders as the financial environment worsened. Furthermore, these conditions have carried over into 2009 resulting in Thai silver jewelry fabrication volumes to date being well down on the corresponding period last year.

Chinese silver jewelry fabrication continued its growth, albeit at a lower rate of 3% in 2008 to 23.6 Moz (733 t). This gain has resulted in China overtaking Italy to become the world's second largest silver jewelry producer behind Thailand.

Looking back, last year's higher offtake figure was almost exclusively driven by the increase in domestic market consumption. Despite higher prices in the first half of 2008, demand for silver jewelry was down only marginally year-on-year over the same period. This is largely because margins charged by fabricators and retailers were high enough to absorb most of the increase in metal prices, with relatively little passed on to final consumers. Over the course of the year, silver continued to benefit from the popularity of 'white' jewelry among the youth demographic, who were attracted not only by the design of jewelry but also by the low retail-price point. In order to meet demand from these fashion conscious young consumers, local jewelry fabricators made efforts to copy 18-karat "K gold" designs, for example, by adding low cost colored stones and using rhodium to enhance the luster. Among the whole range of products, earrings and necklaces dominated retail sales as consumers purchase these fashion items for daily wear, often to match a piece of clothing or entire outfit. In addition, the increased promotion of branded jewelry as well as opening of silver jewelry specific shops also boosted demand.

While domestic consumption registered modest gains, those fabricators focused on the export trade suffered last year. Higher and volatile prices, coupled with a continued revaluation of Chinese yuan diminished jewelry offtake in the first two quarters. Moreover, the slowdown in the global economy in the second half of the year also left demand from key western markets weaker. For example, shipments to the United States dropped by 4% in 2008.

After two successive years of growth, demand for silver in jewelry fabrication in **South Korea** slipped just over 2% to 4.1 Moz (127 t). Weakness across the export trade was the chief driver for the decline. Once the backbone of the industry, exports again fell, with official customs statistics indicating an almost 20% reduction in gross weight exports last year, led lower by substantive falls to the United States and Japan. Domestically, silver jewelry received some benefit from price-led substitution from gold as a weaker economic performance (South Korea's economy grew only 2.5% last year) encouraged consumers to migrate to the more affordable alternative. Local fabricators picked up on the trend and produced a wider range of stone-set jewelry based on previously popular 14 and 18-karat gold designs.

Jewelry demand in **Indonesia** was slightly weaker in 2008, slipping less than 1% to 4.2 Moz (129 t). Domestically, sales of silver jewelry made some inroads partly as a result of migration away from gold due to the yellow metals elevated prices last year. However apart from the youth demographic, who predominately purchase low-end fashion jewelry, silver is not widely worn for adornment outside large urban areas, and is still regarded a relatively small market. Moreover, competition from non-precious metal options (titanium or stainless steel for example), also aimed at this age bracket, has limited silver's growth potential. Instead, Indonesia relies heavily on the export trade which last year remained fragile, driven lower by higher prices and a slowdown in end-user demand.

Table 8b - Silver Fabrication: Silverware (including the use of scrap - million ounces)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	17.4	16.6	12.2	10.1	9.6	9.1	8.0	7.1	6.4	5.2
Germany	5.7	5.5	5.0	4.5	4.1	3.5	3.0	2.9	2.7	2.3
Greece	2.9	2.3	2.1	1.9	1.9	1.9	1.8	1.7	1.6	1.5
Norway	1.3	1.4	1.3	1.1	1.1	1.0	0.9	0.9	0.6	0.7
Sweden	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.4
Denmark	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Other Countries	3.8	3.3	2.7	2.5	2.3	2.1	2.0	1.8	1.6	1.6
Total Europe	**32.1**	**30.1**	**24.1**	**20.9**	**19.8**	**18.5**	**16.5**	**15.2**	**13.7**	**11.9**
North America										
United States	2.3	2.2	2.1	1.9	1.8	1.6	1.5	1.4	1.4	1.2
Mexico	3.0	2.6	2.4	2.5	2.7	2.6	2.5	2.0	1.4	1.2
Canada	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1
Total North America	**5.6**	**5.1**	**4.8**	**4.7**	**4.7**	**4.5**	**4.3**	**3.6**	**2.9**	**2.5**
Latin America										
Colombia	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Peru	0.6	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.2
Other Countries	0.8	0.7	0.6	0.6	0.5	0.6	0.7	0.7	0.7	0.7
Total Latin America	**1.8**	**1.6**	**1.4**	**1.4**	**1.2**	**1.2**	**1.2**	**1.3**	**1.3**	**1.2**
Middle East										
Turkey	2.8	2.7	2.3	2.7	2.9	2.8	2.6	2.4	2.1	1.9
Israel	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.2
Egypt	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Other Countries	1.6	1.6	1.7	1.5	1.6	1.7	1.7	1.7	1.7	1.7
Total Middle East	**6.4**	**6.2**	**5.7**	**5.9**	**6.2**	**6.2**	**6.1**	**5.8**	**5.4**	**5.0**
Indian Sub-Continent										
India	49.2	39.5	55.2	35.8	35.9	19.3	21.2	16.4	14.5	15.5
Bangladesh & Nepal	3.8	3.6	3.7	2.8	2.6	2.3	1.9	1.9	1.9	1.8
Other Countries	1.3	1.2	0.9	1.0	1.0	1.0	1.1	1.1	1.0	1.0
Total Indian Sub-Cont.	**54.4**	**44.4**	**59.9**	**39.6**	**39.5**	**22.6**	**24.2**	**19.3**	**17.4**	**18.4**
East Asia										
China	1.6	2.1	2.7	3.3	3.9	4.8	5.2	6.1	6.5	6.3
Thailand	3.5	3.6	3.9	3.9	4.1	4.4	4.5	4.3	4.5	4.3
South Korea	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.7	0.7	0.7
Indonesia	0.4	0.5	0.6	0.7	0.7	0.8	0.8	0.7	0.6	0.6
Other Countries	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Total East Asia	**7.2**	**8.0**	**8.8**	**9.3**	**10.2**	**11.4**	**12.0**	**12.5**	**13.2**	**12.6**
Africa										
Africa	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Total Africa	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Oceania										
Oceania	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Oceania	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
CIS										
Russia	0.5	0.6	0.9	1.2	1.7	2.4	2.9	3.0	4.3	5.2
Other Countries	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total CIS	**0.7**	**0.8**	**1.1**	**1.3**	**1.9**	**2.5**	**3.1**	**3.2**	**4.5**	**5.4**
World Total	**108.6**	**96.4**	**106.1**	**83.5**	**83.9**	**67.3**	**67.8**	**61.2**	**58.8**	**57.3**

Silverware

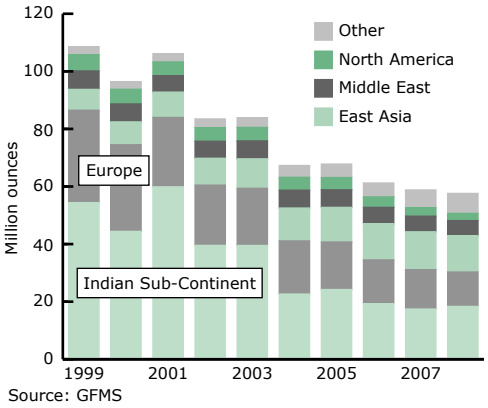
• Demand fell a perhaps surprisingly modest 2% in 2008 to 57.3 Moz (1,783 t) as the impact on output in many countries, especially Italy, of secular trends, silver prices and the economic crisis was countered by a rise in India, largely due to stock replenishment, and Russia's consumption-led gains.

The 13% drop in European offtake was largely due to secular trends although the March price spike and the economic slump also featured. While the fall was mainly due to Italy, most countries saw losses. **Germany**, for example, suffered a 15% drop, partly as output is being undermined by relocation to lower labor cost countries.

The 20% drop in **Italy's** offtake was mainly due to local market losses, although exports also fell notably. Fabrication was at its weakest just after the March price spike but was said to have been almost busy in October with its lower prices. However, that may well have been more due to distributor stock changes, rather than swings in consumer purchases. Quietness in March-June in the local market is in itself indicative of the strength of secular trends as this used to be the busy time for traditional products, mainly gifts for weddings and first communions, whose sales are now dieing out. However, more modern products, such as light photoframes, had a hard year too. These trends help explain the notable export losses to other European countries. The fact that total exports held up better than local sales is partly due to shipments to Italy's largest market, the United States, being only down a few percent. This was chiefly due to much being comprised of Judaica whose purchase, being for religious reasons, is fairly resilient. Italy's second largest destination, Russia, also boomed thanks to the fondness of its newly rich for silverware.

In **Russia**, silverware fabrication continued to grow, experiencing a 21% increase in 2008, to an eight-year high of 5.2 Moz (162 t). Much of this was driven by the growing revival of an old cultural tradition, which considers the possession of fine silverware to be a sign of wealth and success. Therefore, the top-end of the market continued to perform notably better than the mass market, enjoying strong demand for silver tableware and cutlery as well as one-off, tailor-made final pieces, serving the needs of the wealthy. Silverware imports also increased by an impressive 32% last year to

World Silverware Fabrication



Source: GFMS

1.8 Moz (55 t), with significant flows of items from Europe (particularly Italy and France). In contrast, silverware exports remained weak, chiefly due to uncompetitive tax rates and complicated custom control systems.

North America

The 10% fall in **US** silverware fabrication represented the steepest decline this decade. In past *World Silver Surveys* we have discussed the structural decline in this sector, with the acquisition of cutlery or dinner sets increasingly dominated by either plated or steel products, such that sterling silver has become increasingly marginalized. Last year was therefore no exception, although the rate of decline accelerated. This outcome was perhaps to be expected, given the economic downturn, but also growing import competition. Silverware fabrication in **Mexico** dropped by 16% in 2008. The outcome would have been much worse had it not been for a temporary recovery in demand when local prices dipped at times to below 4,000 pesos per kilogram during September to November.

Middle East

Turkish silverware fabrication fell for the fifth year in succession. The continued weakness was largely due to a further increase in local silver prices (due to a combination of rising dollar prices and a sharp fall in the Turkish lira). The associated rise in retail price points elicited a price elastic response from consumers, a trend which was exacerbated by the deterioration in the Turkish economy (which emerged towards year-end). **Israeli** silverware fabrication fell notably last year. This was largely the result of consumers curtailing or postponing purchases, which, in the case of demand for Judaica (which represents a large share of the country's

production), saw buying restricted to the most essential items. The situation was compounded by weaker exports, notably to the all important US market.

Indian Sub-Continent

Indian silverware fabrication rose by 7% to 15.5 Moz (482 t) last year, although the total remained less than half of the volume of five years ago.

At first sight the increase in demand might appear surprising, not least of all because of higher annual average silver prices, which were up by a hefty 15% in 2008. However, the rise in offtake last year was entirely a second half phenomenon and was itself in response to the notable price weakness that emerged during the September to November period. The fall in prices encouraged purchases at both the retail level, in the form of higher consumption, as well as from further up the supply chain, in the form of inventory building.

In terms of the actual composition of demand last year, popular items included bells and plates, weighing anything from just 50 grams to over 50 kilograms and which are used, for example, in religious rituals. Those used in prayers are often bought by temples, which themselves are funded by wealthy trusts. GFMS' research trips to the retail trade indicated that large orders are often placed by these trusts, for example, to make the deity's feet in silver for a new temple.

In spite of these occasional pockets of demand and the full year rise in offtake achieved last year, the underlying trend remained challenging for three main reasons. Firstly, and in particular, underkarating continued to affect the industry, which in turn adversely affected consumer confidence. In India, retail margins on silverware are, at best, slim (the average markup is just 2 rupees per gram), which creates a reliance on maintaining a high turnover in order to generate a meaningful profit. As local silver prices have risen relentlessly this decade (from the turn of this millennium the rupee silver price has increased by 170%), the associated fall in consumption has impacted turnover accordingly. As a result, the trade sought to obtain some relief by "economizing" on the purity of the contained metal. Secondly, silverware has been traditionally regarded as an investment vehicle, especially amongst the rural community, but here again the generally poor quality of workmanship has worked to its disadvantage, with a marked shift seen in favor of coins and bars (see Chapter 3 for more on this). Thirdly, silverware, as a product category, suffered from growing competition from non-precious metal products, such as china crockery, which, during a time of elevated silver prices, appear to offer a greater perceived value.

East Asia

In **Thailand**, silverware fabrication fell by 6% to 4.3 Moz (133 t). This weakness was largely due to a sharp decline in exports, with official trade data indicating a large fall in deliveries to the key markets of the United States, the United Kingdom and mainland Europe. Domestically, sales were more robust (particularly at the lower end of the market), with this tourist driven trade achieving a similar or slightly higher volumes than in 2007. Household items like candle stick holders, photo frames, and tableware remained the mainstay of sales while traditional ceremonial bowls, swords, and belt buckles were reported as also selling well among tourist visitors wishing to purchase souvenirs.

Silverware demand in **China** in 2008 fell by a modest 4% to 6.3 Moz (196 t). Despite this drop, China remained the second largest fabricator behind India in this segment of the market. Lower offtake was a product of weaker local consumption, coupled with a decline in demand from major export markets. On the basis of official customs data, gross exports of silverware from mainland China to Hong Kong, its key export market, and from where products are re-directed to various global markets, fell considerably in 2008.

Looking at the domestic market, following a period of rapid expansion, local silverware demand edged lower in 2008. One major reason for such a fall was the slowdown in the Chinese economy. For the past few years, consumption of silverware has been boosted by the rapid increase in disposable income. However, the Chinese economy stumbled in the second half of 2008, with GDP growth shrinking to 6.8% in the last quarter of 2008, the lowest level in seven years. This helps to explain why a range of smaller and more affordable products, such as photo frames and figurines, remained popular gift giving choices. In contrast, demand for more delicate and ornate pieces such as chop sticks and tableware (serviette rings and bowls), which were typically bought by the wealthy, fell due to the cut in luxury goods expenditure. Finally, silver cutlery and heavier pieces, such as serving trays, remained weak in 2008.

8. Appendices

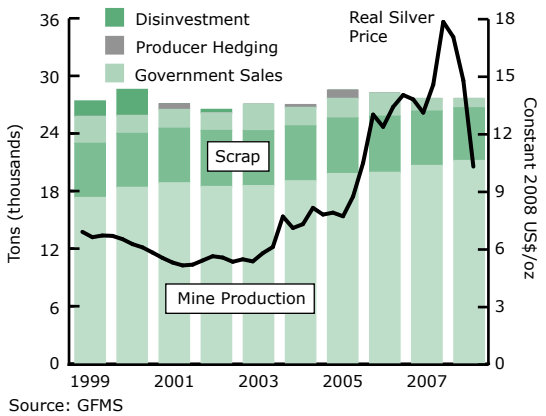
Contents

Appendix 1

Table 1 - World Silver Supply and Demand (tons) © GFMS / The Silver Institute

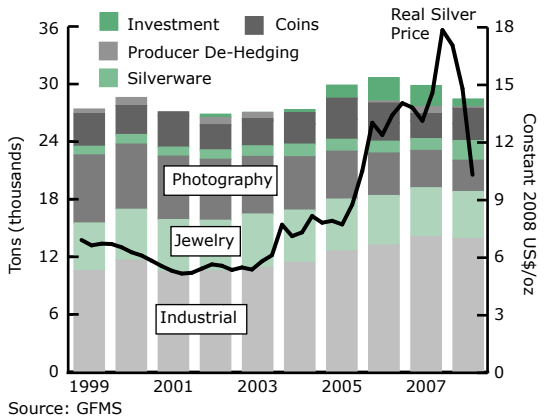
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Supply										
Mine Production	17,322	18,381	18,856	18,472	18,557	19,068	19,817	19,945	20,660	21,179
Net Government Sales	2,808	1,874	1,961	1,841	2,759	1,924	2,051	2,433	1,314	961
Old Silver Scrap	5,647	5,621	5,684	5,830	5,721	5,713	5,786	5,849	5,659	5,494
Producer Hedging	-	-	587	-	-	299	859	-	-	-
Implied Net Disinvestment	1,607	2,710	-	361	-	-	-	-	-	-
Total Supply	**27,384**	**28,586**	**27,087**	**26,505**	**27,038**	**27,004**	**28,512**	**28,227**	**27,634**	**27,633**
Demand										
Fabrication										
Industrial Applications	10,545	11,640	10,425	10,548	10,876	11,418	12,599	13,204	14,105	13,910
Photography	7,087	6,790	6,628	6,353	5,999	5,562	4,987	4,428	3,881	3,260
Jewelry	4,970	5,306	5,422	5,253	5,574	5,438	5,407	5,171	5,086	4,923
Silverware	3,376	2,999	3,299	2,596	2,610	2,093	2,109	1,905	1,828	1,783
Coins & Medals	907	999	948	983	1,110	1,318	1,246	1,237	1,235	2,019
Total Fabrication	26,885	27,734	26,721	25,733	26,169	25,830	26,348	25,945	26,136	25,896
Producer De-Hedging	499	852	-	772	651	-	-	211	731	175
Implied Net Investment	-	-	365	-	218	1,174	2,164	2,071	767	1,562
Total Demand	**27,384**	**28,586**	**27,087**	**26,505**	**27,038**	**27,004**	**28,512**	**28,227**	**27,634**	**27,633**
Silver Price (London US$/oz)	5.220	4.951	4.370	4.599	4.879	6.658	7.312	11.549	13.384	14.989

World Silver Supply



Source: GFMS

World Silver Demand



Source: GFMS

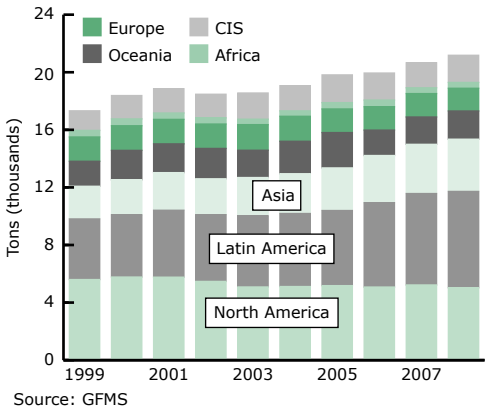
Table 3 - World Silver Mine Production (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Poland	1,115	1,140	1,183	1,211	1,376	1,362	1,261	1,258	1,231	1,209
Sweden	275	294	275	293	307	291	284	266	294	263
Portugal	27	21	23	19	22	25	24	20	28	41
Greece	40	31	62	75	4	0	0	25	36	32
Macedonia	24	24	17	14	5	3	7	11	11	12
Bulgaria	21	18	24	25	22	19	21	18	14	11
Ireland	10	17	9	8	9	7	6	4	4	4
Spain	118	115	55	13	2	0	5	2	2	2
Serbia and Montenegro	6	6	4	4	1	1	1	2	2	2
Italy	4	2	2	2	2	0	3	3	1	1
Czech Republic	8	7	8	0	0	0	0	0	0	0
Romania	39	34	38	32	29	28	27	13	4	0
Total Europe	**1,687**	**1,711**	**1,700**	**1,695**	**1,779**	**1,736**	**1,640**	**1,623**	**1,626**	**1,579**
North America										
Mexico	2,483	2,621	2,760	2,747	2,569	2,569	2,894	2,970	3,135	3,241
United States	1,950	1,980	1,740	1,350	1,240	1,250	1,220	1,140	1,260	1,120
Canada	1,166	1,174	1,265	1,373	1,276	1,295	1,063	969	829	670
Total North America	**5,600**	**5,775**	**5,765**	**5,470**	**5,085**	**5,114**	**5,177**	**5,079**	**5,225**	**5,032**
Latin America										
Peru	2,231	2,438	2,674	2,762	2,921	3,060	3,191	3,456	3,501	3,681
Chile	1,381	1,242	1,349	1,210	1,312	1,360	1,379	1,602	1,929	1,396
Bolivia	424	462	381	462	491	434	399	472	525	1,114
Argentina	102	102	176	126	138	145	156	192	220	309
Guatemala	0	0	0	0	0	0	10	50	88	100
Honduras	49	53	50	56	54	50	56	58	56	60
Brazil	7	7	7	7	7	8	9	10	11	11
Colombia	8	8	7	7	10	9	7	8	10	9
Uruguay	0	0	0	0	0	0	3	3	3	2
Nicaragua	3	3	3	2	2	3	2	2	2	2
Other Countries	6	3	3	3	3	4	4	4	4	4
Total Latin America	**4,211**	**4,318**	**4,649**	**4,636**	**4,938**	**5,073**	**5,218**	**5,857**	**6,350**	**6,689**
Asia										
China	1,494	1,596	1,729	1,646	1,828	1,967	2,083	2,342	2,452	2,574
Turkey	108	109	114	114	113	126	162	187	235	313
Indonesia	271	312	374	332	297	266	308	246	268	248
India	60	56	54	67	91	105	112	194	192	222
Iran	79	83	82	82	82	84	94	100	90	98
Papua New Guinea	59	73	69	64	63	54	47	51	44	52
Mongolia	33	32	37	35	34	37	38	38	38	37
North Korea	26	22	19	20	25	25	25	29	29	29
Thailand	5	5	6	22	18	16	20	17	13	13
Philippines	18	23	34	9	10	9	19	24	28	13
Japan	99	109	85	85	83	54	32	34	14	12
Saudi Arabia	11	9	10	10	17	15	14	10	9	8
Dem. Rep. of Laos	0	0	0	0	1	3	6	6	4	7
Other Countries	7	3	2	6	2	3	3	3	2	3
Total Asia	**2,269**	**2,433**	**2,613**	**2,494**	**2,665**	**2,764**	**2,961**	**3,280**	**3,419**	**3,629**

Table 3 - World Silver Mine Production (tons)

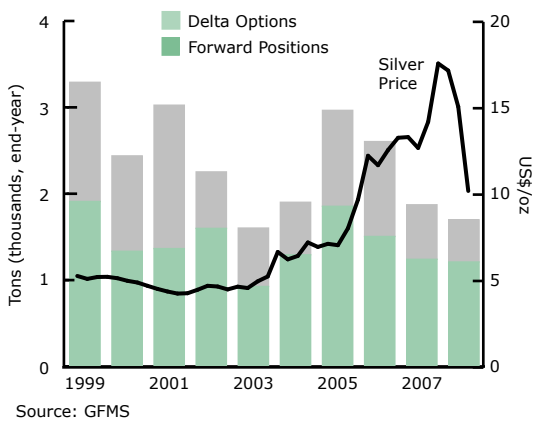
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Africa										
Morocco	278	289	283	263	193	209	231	237	212	243
South Africa	152	144	110	113	87	71	88	87	77	84
Dem. Rep. of the Congo	1	1	1	3	36	34	54	68	70	34
Zambia	5	5	5	6	6	8	10	11	12	12
Tanzania	2	3	7	7	8	13	13	13	12	12
Namibia	0	17	19	20	29	27	30	35	8	8
Botswana	5	4	4	4	4	4	4	4	3	3
Mali	1	2	2	3	2	2	2	3	3	2
Ghana	2	2	2	2	2	1	2	2	2	2
Zimbabwe	6	5	4	4	4	4	4	3	3	2
Other Countries	6	6	6	5	5	4	3	2	2	2
Total Africa	**458**	**477**	**443**	**429**	**378**	**377**	**440**	**464**	**403**	**405**
Oceania										
Australia	1,709	2,024	1,970	2,077	1,864	2,222	2,407	1,728	1,879	1,926
New Zealand	24	23	27	29	30	30	46	35	19	32
Fiji	2	1	2	2	1	2	1	1	0	0
Total Oceania	**1,736**	**2,048**	**1,999**	**2,108**	**1,895**	**2,254**	**2,454**	**1,764**	**1,898**	**1,959**
CIS										
Russia	617	628	650	699	918	941	1,010	972	910	1,124
Kazakhstan	642	890	940	849	802	703	812	796	706	629
Uzbekistan	64	62	53	49	53	60	64	63	78	78
Armenia	33	35	38	39	41	40	37	38	36	43
Kyrgyzstan	1	1	1	1	1	1	1	6	6	10
Tajikistan	3	4	4	4	4	4	4	3	3	3
Total CIS	**1,360**	**1,620**	**1,686**	**1,641**	**1,818**	**1,749**	**1,928**	**1,878**	**1,739**	**1,886**
World Total	**17,322**	**18,381**	**18,856**	**18,472**	**18,557**	**19,068**	**19,817**	**19,945**	**20,660**	**21,179**

World Silver Mine Production



Source: GFMS

Silver Producer Hedging: Outstanding Positions



Source: GFMS

Table 2 - Silver Fabrication: Coins and Medals Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	333	418	384	476	452	483	517	548	497	780
Canada	44	30	27	32	10	40	51	89	133	281
Austria	10	8	10	13	13	15	18	17	17	260
Germany	218	273	251	187	301	301	303	272	195	215
Australia	29	31	23	20	40	40	32	43	109	182
China	71	38	47	65	72	72	57	50	81	88
Mexico	11	20	35	34	47	85	81	58	51	43
Spain	46	55	55	47	34	70	54	46	38	34
Other Countries	145	127	115	109	141	212	134	116	114	136
World Total	**907**	**999**	**948**	**983**	**1,110**	**1,318**	**1,246**	**1,237**	**1,235**	**2,019**

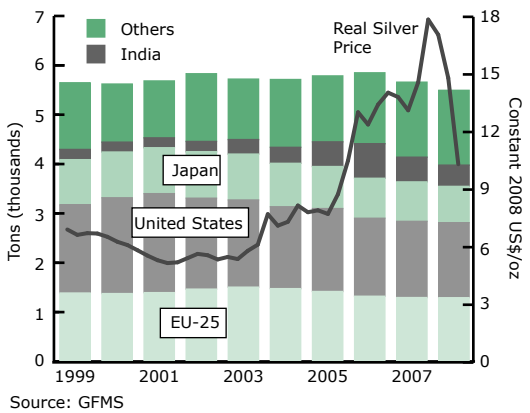
Table 4 - Supply of Silver from the Recycling of Old Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Germany	500	520	523	520	592	598	546	439	417	424
UK & Ireland	358	338	346	423	404	386	360	340	348	340
Italy	105	105	110	113	112	104	133	160	161	160
France	124	110	122	120	126	118	127	139	135	141
Austria	52	50	62	58	48	50	40	40	38	36
Netherlands	40	45	42	44	44	45	42	40	35	34
Sweden	34	33	33	32	32	32	31	29	28	27
Belgium	20	20	21	20	20	20	20	20	20	19
Denmark	19	18	18	17	17	17	16	16	16	15
Spain	12	13	13	13	14	14	13	13	12	14
Czech & Slovak Republics	19	19	14	13	13	14	14	14	14	13
Portugal	14	14	13	14	14	14	13	13	13	12
Finland	15	13	13	12	13	12	12	11	11	10
Norway	29	33	21	21	14	10	9	9	8	9
Switzerland	10	10	10	10	10	10	10	8	8	8
Other Countries	36	35	34	36	34	34	32	31	32	31
Total Europe	**1,387**	**1,376**	**1,395**	**1,466**	**1,506**	**1,476**	**1,418**	**1,322**	**1,295**	**1,292**
North America										
United States	1,785	1,941	2,005	1,842	1,766	1,659	1,680	1,580	1,544	1,520
Mexico	71	48	44	48	55	60	64	72	84	95
Canada	50	45	45	44	47	44	46	44	50	52
Total North America	**1,906**	**2,034**	**2,094**	**1,934**	**1,868**	**1,763**	**1,790**	**1,696**	**1,678**	**1,667**
Latin America										
Brazil	55	48	50	32	36	32	32	32	32	32
Argentina	20	20	23	20	20	20	20	24	20	16
Chile	13	12	12	12	12	12	14	16	16	16
Other Countries	27	25	24	24	25	24	29	33	30	30
Total Latin America	**115**	**105**	**109**	**88**	**93**	**88**	**95**	**105**	**98**	**94**
Middle East										
Saudi Arabia	232	70	24	224	23	40	50	56	58	59

Table 4 - Supply of Silver from the Recycling of Old Scrap (tons)

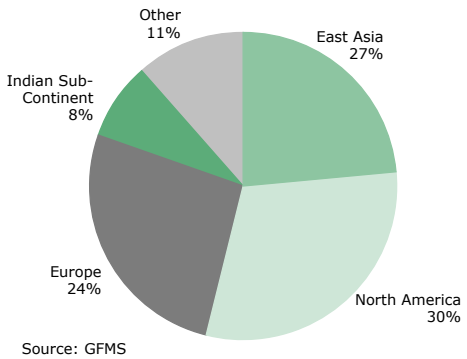
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Egypt	10	28	35	40	35	42	43	46	48	52
Turkey	43	40	39	44	52	47	41	35	30	35
Oman	5	5	5	5	5	5	5	6	6	6
Other Countries	11	10	11	11	11	15	13	15	16	16
Total Middle East	**301**	**153**	**114**	**324**	**126**	**149**	**152**	**158**	**157**	**167**
Indian Sub-Continent										
India	207	200	200	210	294	324	500	700	500	430
Other Countries	11	13	15	15	15	15	16	17	17	17
Total Indian Sub-Cont.	**218**	**213**	**215**	**225**	**309**	**339**	**516**	**717**	**517**	**447**
East Asia										
Japan	917	927	931	940	930	880	852	810	800	736
China	182	187	192	196	206	240	270	324	377	370
South Korea	164	164	170	180	190	195	198	208	211	209
Thailand	24	20	21	28	30	32	31	35	37	40
Taiwan	28	28	28	27	30	31	32	34	36	37
Singapore	12	12	12	13	13	14	14	16	16	15
Hong Kong	11	11	11	12	12	13	13	14	14	14
Indonesia	13	15	13	10	10	11	11	12	12	12
Vietnam	12	11	10	9	10	10	11	11	12	12
Philippines	7	7	6	6	6	6	6	6	6	6
Other Counties	3	3	3	4	4	4	4	5	5	5
Total East Asia	**1,372**	**1,384**	**1,398**	**1,425**	**1,441**	**1,436**	**1,443**	**1,476**	**1,527**	**1,456**
Africa										
Morocco	16	16	16	16	16	40	19	29	28	29
Other Countries	17	18	17	17	17	17	17	18	18	18
Total Africa	**33**	**34**	**33**	**33**	**33**	**57**	**36**	**47**	**46**	**47**
Oceania										
Oceania	75	76	74	73	65	64	55	53	52	51
Total Oceania	**75**	**76**	**74**	**73**	**65**	**64**	**55**	**53**	**52**	**51**
CIS										
CIS	240	245	252	263	280	340	280	276	288	272
Total CIS	**240**	**245**	**252**	**263**	**280**	**340**	**280**	**276**	**288**	**272**
World Total	**5,647**	**5,621**	**5,684**	**5,830**	**5,721**	**5,713**	**5,786**	**5,849**	**5,659**	**5,494**

World Silver Scrap Supply



Source: GFMS

World Scrap Supply, 2008



Source: GFMS

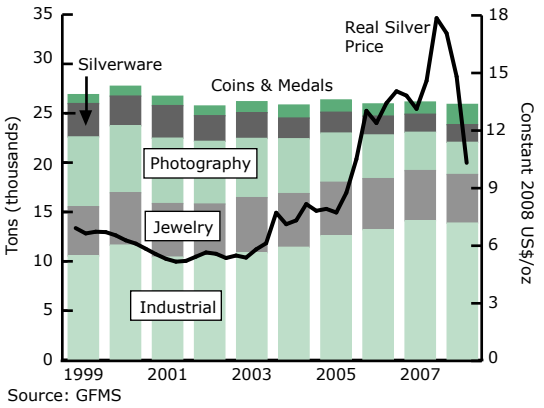
Table 5 - World Silver Fabrication Including the Use of Scrap (tons) © GFMS / The Silver Institute

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	1,938	2,072	1,867	1,784	1,734	1,720	1,575	1,442	1,358	1,198
Germany	1,301	1,256	1,237	1,102	1,216	1,257	1,260	1,275	1,249	1,264
Belgium	1,167	1,098	999	958	910	858	814	894	850	792
UK & Ireland	1,238	1,307	1,406	1,323	1,350	1,604	1,330	1,013	780	729
France	837	910	909	862	819	404	389	396	410	421
Austria	38	33	34	37	37	40	40	38	38	280
Spain	234	210	171	161	148	198	175	156	141	132
Poland	117	120	107	100	120	134	145	149	135	132
Switzerland	344	281	108	106	94	96	101	97	97	97
Greece	126	104	94	87	90	90	90	86	82	84
Netherlands	88	60	57	64	60	79	69	63	63	64
Portugal	100	107	80	53	82	127	54	45	43	42
Norway	94	89	71	60	62	65	56	52	40	40
Sweden	42	41	31	33	37	38	38	37	35	34
Denmark	31	32	28	24	22	21	21	21	21	20
Czech & Slovak Republics	24	25	31	21	22	21	20	20	20	19
Romania	13	13	12	12	12	12	12	12	12	12
Hungary	14	15	13	13	13	13	12	12	12	11
Finland	21	17	14	14	13	12	12	13	10	10
Yugoslavia (former)	5	5	7	7	7	8	8	9	9	10
Cyprus & Malta	12	12	10	10	9	9	9	9	9	9
Other Countries	5	5	4	4	4	5	5	5	5	5
Total Europe	**7,787**	**7,810**	**7,288**	**6,834**	**6,863**	**6,810**	**6,236**	**5,845**	**5,421**	**5,407**
North America										
United States	5,783	5,977	5,275	5,505	5,454	5,608	5,891	5,778	5,604	5,807
Mexico	675	537	530	564	629	682	693	587	576	545
Canada	121	104	90	96	78	109	126	178	250	388
Total North America	**6,579**	**6,618**	**5,895**	**6,164**	**6,160**	**6,400**	**6,710**	**6,543**	**6,431**	**6,740**
Latin America										
Brazil	238	210	204	198	204	227	232	145	223	215
Argentina	93	73	56	58	74	78	80	60	64	60
Peru	32	30	32	32	23	21	19	22	21	23
Colombia	27	24	22	22	22	22	21	21	21	19
Chile	14	13	13	13	13	13	13	13	13	13
Ecuador	17	17	14	14	12	12	10	12	12	12
Other Countries	56	35	27	23	27	34	38	42	41	47
Total Latin America	**477**	**402**	**368**	**360**	**376**	**408**	**414**	**315**	**395**	**388**
Middle East										
Turkey	187	230	200	254	294	321	309	276	247	247
Israel	97	91	83	83	81	83	85	85	84	79
Egypt	63	64	55	49	57	62	55	52	53	50
Iran	43	45	48	43	45	47	50	49	49	48
Other Countries	56	60	57	56	56	59	61	62	63	64
Total Middle East	**445**	**490**	**442**	**486**	**532**	**572**	**561**	**524**	**496**	**487**
Indian Sub-Continent										
India	3,479	3,560	4,339	3,309	3,310	2,163	2,850	2,575	2,770	2,868
Bangladesh & Nepal	178	187	185	150	140	132	116	113	113	114
Other Countries	105	98	67	66	66	71	73	74	75	72
Total Indian Sub-Cont.	**3,762**	**3,845**	**4,591**	**3,525**	**3,516**	**2,366**	**3,039**	**2,762**	**2,958**	**3,055**

Table 5 - World Silver Fabrication Including the Use of Scrap (tons)

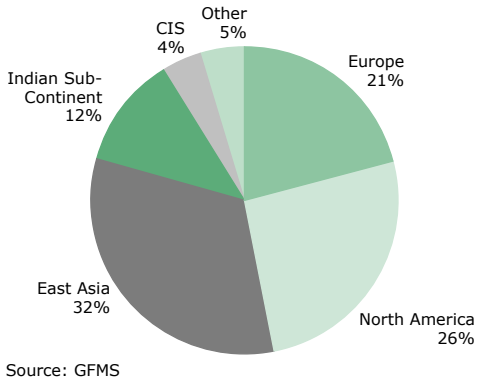
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
East Asia										
Japan	3,809	4,200	3,711	3,693	3,607	3,826	3,860	4,097	4,155	3,572
China	1,049	1,122	1,238	1,479	1,641	1,835	1,917	2,116	2,358	2,351
Thailand	962	962	1,022	1,014	1,138	1,151	1,150	1,150	1,140	1,041
South Korea	519	611	531	555	596	617	628	651	671	647
Taiwan	210	293	263	279	319	351	364	397	410	402
Indonesia	113	132	161	139	146	181	159	178	170	168
Hong Kong	120	138	100	105	99	107	110	118	125	124
Vietnam	22	22	23	26	28	30	32	35	37	39
Myanmar, Laos & Cambodia	28	26	28	30	32	28	28	26	26	26
Malaysia	15	18	18	20	21	22	21	20	20	20
Other Countries	12	13	14	14	15	14	15	14	14	14
Total East Asia	**6,861**	**7,536**	**7,110**	**7,353**	**7,641**	**8,161**	**8,283**	**8,803**	**9,127**	**8,405**
Africa										
Morocco	17	18	19	18	18	19	19	19	20	19
Tunisia	10	10	10	10	11	11	11	10	11	11
South Africa	8	8	7	7	8	8	8	8	8	8
Algeria	6	6	6	5	6	6	6	6	6	6
Libya	4	4	4	4	4	4	4	4	5	5
Other Countries	8	8	8	8	8	9	9	9	9	10
Total Africa	**53**	**54**	**53**	**52**	**54**	**57**	**58**	**57**	**59**	**60**
Oceania										
Australia	180	218	184	180	193	178	121	133	200	271
New Zealand	1	1	1	1	1	1	1	1	1	1
Total Oceania	**181**	**219**	**186**	**181**	**195**	**179**	**122**	**134**	**201**	**272**
CIS										
CIS	741	760	789	777	832	879	926	963	1,048	1,082
Total CIS	**741**	**760**	**789**	**777**	**832**	**879**	**926**	**963**	**1,048**	**1,082**
World Total	**26,885**	**27,734**	**26,721**	**25,733**	**26,169**	**25,830**	**26,348**	**25,945**	**26,136**	**25,896**

World Silver Fabrication



Source: GFMS

World Silver Fabrication, 2008



Source: GFMS

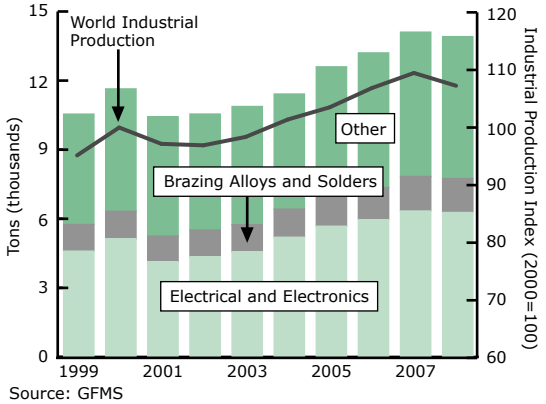
Table 6 - Silver Fabrication: Industrial Applications Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Germany	571	647	665	659	675	730	744	794	851	857
UK & Ireland	469	512	444	433	464	483	385	388	372	378
France	362	384	496	455	430	320	317	322	334	336
Italy	331	339	322	322	316	355	334	336	346	325
Switzerland	322	259	85	84	72	76	81	77	77	76
Spain	83	62	40	40	38	65	60	58	59	58
Netherlands	52	52	48	48	47	48	49	49	49	49
Poland	23	23	22	21	21	22	22	23	24	25
Austria	17	17	17	17	17	17	17	17	17	17
Norway	45	37	23	20	19	26	22	17	16	15
Sweden	11	11	10	10	10	10	10	10	11	11
Czech & Slovak Republics	16	8	11	9	9	8	8	9	9	9
Belgium	10	10	8	8	8	8	8	8	8	8
Other Countries	23	23	21	21	22	22	22	23	24	24
Total Europe	**2,334**	**2,384**	**2,211**	**2,146**	**2,146**	**2,191**	**2,081**	**2,131**	**2,196**	**2,185**
North America										
United States	2,757	2,958	2,449	2,584	2,699	2,931	3,134	3,323	3,548	3,706
Mexico	103	107	94	93	96	93	101	95	102	98
Canada	17	17	16	16	16	19	31	53	83	77
Total North America	**2,877**	**3,082**	**2,559**	**2,693**	**2,811**	**3,043**	**3,266**	**3,471**	**3,733**	**3,880**
Latin America										
Brazil	98	98	98	98	94	115	139	91	124	121
Argentina	30	25	20	20	20	20	28	32	34	32
Colombia	7	6	6	6	6	6	5	5	5	5
Ecuador	2	2	2	2	2	2	2	2	2	2
Other Countries	12	12	13	13	12	12	12	12	12	12
Total Latin America	**149**	**143**	**139**	**139**	**134**	**155**	**186**	**142**	**177**	**172**
Middle East										
Turkey	38	44	35	39	44	45	47	48	50	51
Israel	30	30	26	24	24	24	25	26	26	25
Egypt	4	4	4	3	3	3	3	3	3	3
Other Countries	4	4	4	4	4	4	4	4	4	4
Total Middle East	**75**	**82**	**68**	**70**	**74**	**77**	**79**	**81**	**83**	**83**
Indian Sub-Continent										
India	1,180	1,435	1,579	1,381	1,382	1,053	1,670	1,687	1,986	2,022
Pakistan	18	16	10	8	8	9	9	10	10	10
Total Indian Sub-Cont.	**1,198**	**1,451**	**1,589**	**1,389**	**1,390**	**1,062**	**1,679**	**1,697**	**1,996**	**2,032**
East Asia										
Japan	1,890	2,244	1,723	1,839	1,879	2,292	2,614	2,783	2,827	2,493
China	651	681	693	795	859	936	990	1,093	1,217	1,220
South Korea	379	459	387	416	452	472	481	503	518	498
Taiwan	196	274	250	270	309	339	351	381	394	387
Hong Kong	101	121	85	93	90	97	99	107	113	113
Indonesia	16	16	14	15	17	19	19	19	20	19
Total East Asia	**3,233**	**3,795**	**3,152**	**3,427**	**3,606**	**4,154**	**4,555**	**4,886**	**5,090**	**4,730**

Table 6 - Silver Fabrication: Industrial Applications Including the Use of Scrap (tons)

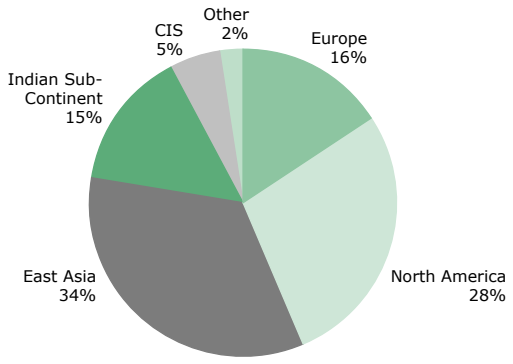
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Africa										
Morocco	7	8	8	8	8	8	8	9	9	8
South Africa	5	5	4	4	4	4	4	4	4	4
Other Countries	5	5	5	5	5	6	6	6	7	7
Total Africa	**17**	**18**	**17**	**17**	**17**	**18**	**19**	**19**	**20**	**20**
Oceania										
Australia	76	77	65	66	68	69	63	65	66	65
Total Oceania	**76**	**77**	**65**	**66**	**68**	**69**	**63**	**65**	**66**	**65**
CIS										
CIS	586	609	624	600	630	650	672	712	744	744
Total CIS	**586**	**609**	**624**	**600**	**630**	**650**	**672**	**712**	**744**	**744**
World Total	**10,545**	**11,640**	**10,425**	**10,548**	**10,876**	**11,418**	**12,599**	**13,204**	**14,105**	**13,910**

Components of Industrial Demand



Source: GFMS

World Silver Industrial Fabrication, 2008



Source: GFMS

Table 6a - Silver Fabrication: Electrical and Electronics Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	1,464	1,603	1,062	1,168	1,228	1,474	1,622	1,710	1,796	1,909
Japan	933	1,140	828	913	940	1,181	1,360	1,432	1,457	1,264
Germany	380	445	488	484	503	551	569	613	665	674
China	308	320	320	340	368	397	420	474	537	539
India	140	150	145	151	159	167	300	312	390	420
Taiwan	150	216	203	223	260	287	298	324	336	329
South Korea	206	255	224	236	260	275	280	296	303	290
France	210	228	342	309	297	252	248	254	264	269
UK & Ireland	185	206	175	172	183	190	141	138	139	145
Hong Kong	90	110	77	87	85	92	94	101	108	108
Italy	92	95	86	87	90	118	108	112	119	106
Mexico	60	64	56	56	58	56	64	61	65	64
Brazil	40	40	40	40	38	52	66	27	48	46
Turkey	24	28	22	25	30	31	31	32	33	34
Australia	18	19	18	20	21	21	22	23	23	22
Netherlands	18	18	16	16	16	16	17	17	17	17
Switzerland	232	165	12	12	14	14	13	13	13	15
Spain	30	9	0	0	0	10	10	10	11	11
Austria	7	7	7	7	7	7	7	7	7	7
Other Countries	8	8	7	7	7	7	7	7	7	7
World Total	**4,595**	**5,125**	**4,128**	**4,354**	**4,564**	**5,199**	**5,678**	**5,962**	**6,338**	**6,274**

Table 6b - Silver Fabrication: Brazing Alloys and Solders Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
China	198	208	215	247	270	301	320	351	388	390
United States	280	272	258	260	247	228	240	224	240	228
India	50	55	57	60	64	67	130	134	161	177
Japan	131	137	109	104	104	116	119	122	123	114
Germany	94	101	88	95	97	100	98	105	112	108
Italy	62	65	63	64	63	64	65	72	76	73
UK & Ireland	87	88	83	79	86	92	90	95	76	72
Canada	10	10	9	9	9	12	24	46	76	70
South Korea	26	31	38	42	44	45	47	48	50	48
Switzerland	48	50	41	40	42	42	48	44	44	42
Taiwan	32	37	29	31	33	35	36	39	40	39
France	29	33	32	32	25	22	25	26	27	26
Brazil	23	23	23	23	22	23	25	26	26	25
Spain	33	33	30	30	28	25	20	20	20	20
Australia	23	24	20	19	20	20	16	17	17	17
Mexico	20	20	17	16	17	16	16	15	16	15
Netherlands	8	8	7	7	7	8	7	7	7	7
Israel	3	3	2	2	2	2	2	2	2	2
Other Countries	3	3	3	3	3	3	3	3	3	3
World Total	**1,159**	**1,201**	**1,124**	**1,162**	**1,182**	**1,221**	**1,331**	**1,395**	**1,502**	**1,474**

Table 7 - Silver Fabrication: Photographic Use Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
EU-25	2,396	2,254	2,226	2,081	2,023	1,916	1,700	1,463	1,214	1,096
Other Countries	6	6	5	5	5	5	5	5	4	4
Total Europe	**2,402**	**2,260**	**2,231**	**2,086**	**2,028**	**1,921**	**1,705**	**1,468**	**1,219**	**1,100**
North America										
United States	2,285	2,185	2,037	2,017	1,832	1,716	1,753	1,442	1,117	912
Mexico	91	0	0	0	0	0	0	0	0	0
Total North America	**2,376**	**2,185**	**2,037**	**2,017**	**1,832**	**1,716**	**1,753**	**1,442**	**1,117**	**912**
Latin America										
Brazil	100	76	70	64	68	68	43	0	45	40
Argentina	49	40	32	34	48	48	40	16	16	16
Total Latin America	**149**	**116**	**102**	**98**	**116**	**116**	**83**	**16**	**61**	**56**
Indian Sub-Continent										
India	10	10	10	10	10	10	10	10	9	9
Sri Lanka	12	12	4	4	4	4	4	4	4	2
Total Indian Sub-Cont.	**22**	**22**	**14**	**14**	**14**	**14**	**14**	**14**	**13**	**11**
East Asia										
Japan	1,864	1,902	1,935	1,799	1,677	1,476	1,180	1,251	1,260	1,008
China	114	120	140	176	180	190	167	157	143	115
Taiwan	1	0	0	0	0	0	0	0	0	0
Total East Asia	**1,979**	**2,022**	**2,075**	**1,975**	**1,857**	**1,666**	**1,348**	**1,408**	**1,403**	**1,123**
Oceania										
Australia	52	85	74	71	64	47	4	4	4	3
Total Oceania	**52**	**85**	**74**	**71**	**64**	**47**	**4**	**4**	**4**	**3**
CIS										
CIS	107	100	95	92	88	83	80	76	64	56
Total CIS	**107**	**100**	**95**	**92**	**88**	**83**	**80**	**76**	**64**	**56**
World Total	**7,087**	**6,790**	**6,628**	**6,353**	**5,999**	**5,562**	**4,987**	**4,428**	**3,881**	**3,260**

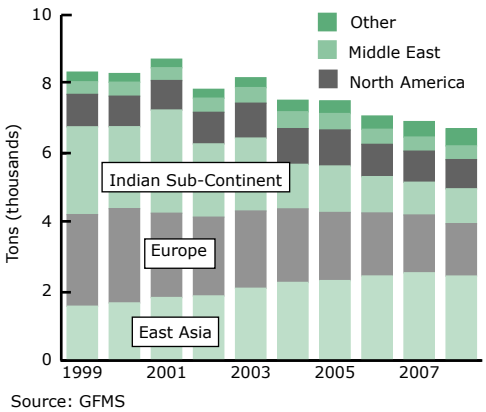
Table 8 - Silver Fabrication: Jewelry and Silverware Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	1,598	1,725	1,537	1,457	1,408	1,348	1,230	1,096	1,001	863
Germany	304	284	271	245	240	226	213	210	203	193
Poland	89	92	78	71	91	95	105	111	101	95
Greece	126	104	94	87	90	90	90	86	82	84
France	85	88	85	84	81	69	55	57	59	57
Spain	105	93	76	74	76	63	61	52	44	41
Portugal	66	66	55	49	52	48	42	38	36	39
Norway	47	51	46	40	42	37	32	34	25	26
UK & Ireland	98	100	90	68	50	48	43	41	26	23
Sweden	30	29	20	22	26	27	27	26	24	22
Denmark	28	29	25	21	19	18	18	18	18	17
Switzerland	10	10	10	10	10	10	10	10	10	10
Cyprus & Malta	12	12	10	10	9	9	9	9	9	9
Finland	18	14	11	11	10	9	9	10	7	7
Austria	11	8	7	7	7	7	5	4	4	4
Other Countries	24	23	23	23	22	23	22	23	23	24
Total Europe	**2,651**	**2,728**	**2,439**	**2,279**	**2,235**	**2,128**	**1,971**	**1,824**	**1,672**	**1,514**
North America										
United States	408	416	405	428	471	479	487	465	442	410
Mexico	470	410	401	437	486	504	511	434	423	404
Canada	60	57	47	48	52	50	44	36	34	30
Total North America	**938**	**883**	**853**	**913**	**1,009**	**1,033**	**1,042**	**935**	**899**	**844**
Latin America										
Brazil	40	36	36	36	42	44	50	54	54	54
Peru	30	28	29	29	20	18	16	19	18	20
Colombia	20	18	16	16	16	16	16	16	16	14
Argentina	14	8	4	4	6	10	12	12	14	12
Ecuador	15	15	12	12	10	10	8	10	10	10
Other Countries	59	37	29	25	30	37	41	45	44	50
Total Latin America	**178**	**142**	**126**	**122**	**124**	**135**	**143**	**156**	**155**	**159**
Middle East										
Turkey	147	186	164	211	245	272	258	224	194	192
Israel	66	59	55	57	56	57	58	58	56	52
Egypt	58	60	51	46	53	58	52	48	50	46
Saudi Arabia & Yemen	18	20	18	18	18	19	21	21	22	22
Other Countries	77	81	83	77	79	83	86	86	87	86
Total Middle East	**366**	**405**	**371**	**410**	**452**	**489**	**476**	**437**	**408**	**398**
Indian Sub-Continent										
India	2,289	2,115	2,750	1,918	1,918	1,100	1,170	878	775	837
Bangladesh & Nepal	178	187	185	150	140	132	116	113	113	114
Other Countries	75	70	53	54	54	58	60	60	61	61
Total Indian Sub-Cont.	**2,542**	**2,372**	**2,988**	**2,122**	**2,112**	**1,290**	**1,346**	**1,051**	**949**	**1,012**
East Asia										
Thailand	958	957	1,017	1,004	1,127	1,147	1,145	1,146	1,136	1,037
China	214	283	358	443	530	637	702	816	917	928
South Korea	140	152	144	139	144	145	147	149	153	149
Indonesia	97	116	147	124	129	162	140	159	151	149

Table 8 - Silver Fabrication: Jewelry and Silverware Including the Use of Scrap (tons)

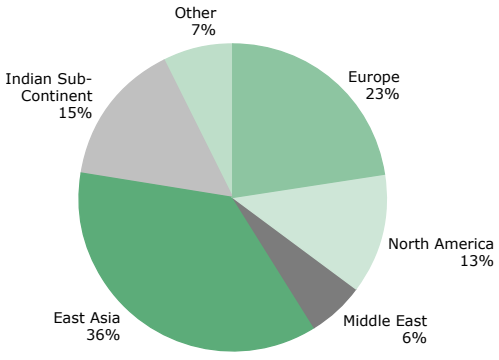
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Japan	55	54	53	52	49	56	64	61	65	62
Vietnam	22	22	23	26	28	30	32	35	37	39
Myanmar, Laos & Cambodia	28	26	28	30	32	28	28	26	26	26
Malaysia	15	17	18	20	21	22	21	20	20	20
Taiwan	13	13	10	9	10	12	13	12	12	12
Hong Kong	19	17	15	12	10	10	10	11	11	11
Other Countries	9	10	11	11	11	11	11	11	11	11
Total East Asia	**1,571**	**1,667**	**1,823**	**1,869**	**2,091**	**2,260**	**2,313**	**2,446**	**2,539**	**2,444**
Africa										
Morocco	10	10	11	11	10	11	11	11	11	11
Tunisia	9	9	9	9	10	10	10	9	10	10
Algeria	5	5	5	4	5	5	5	5	5	5
Other Countries	11	12	11	11	12	13	13	13	13	14
Total Africa	**35**	**36**	**36**	**35**	**37**	**39**	**39**	**37**	**39**	**40**
Oceania										
Australia	23	24	22	23	22	23	22	21	21	20
Other Countries	1	1	1	1	1	1	1	1	1	1
Total Oceania	**24**	**25**	**23**	**24**	**23**	**24**	**23**	**22**	**22**	**21**
CIS										
Russia	24	29	44	56	81	113	139	144	206	250
Other Countries	17	18	19	20	21	22	23	23	25	25
Total CIS	**41**	**47**	**63**	**76**	**102**	**135**	**162**	**167**	**231**	**274**
World Total	**8,346**	**8,305**	**8,721**	**7,849**	**8,184**	**7,532**	**7,516**	**7,076**	**6,915**	**6,706**

World Jewelry & Silverware Fabrication



Source: GFMS

World Jewelry & Silverware Fabrication, 2008



Source: GFMS

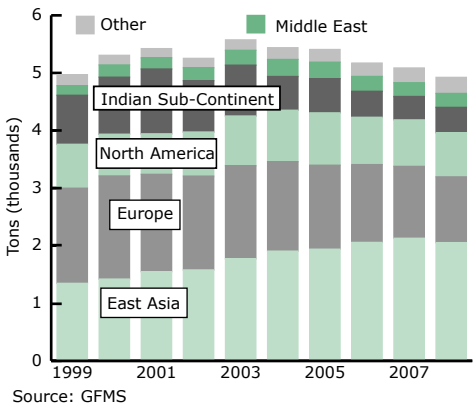
Table 8a - Silver Fabrication: Jewelry Including the Use of Scrap (tons)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	1,058	1,210	1,157	1,142	1,110	1,065	980	876	802	702
Germany	126	112	114	104	113	116	118	119	120	122
Poland	86	89	75	68	88	92	102	108	98	92
France	78	80	77	76	74	62	48	50	52	49
Greece	36	32	30	28	30	32	34	33	32	36
Spain	45	45	42	46	52	42	44	40	35	35
Portugal	59	59	49	44	47	43	37	34	32	33
UK & Ireland	85	87	77	56	38	36	32	30	16	14
Sweden	14	13	9	10	12	12	12	12	11	10
Denmark	12	13	11	10	9	8	8	8	8	8
Switzerland	7	7	7	7	7	7	7	7	7	7
Cyprus & Malta	9	8	7	7	6	7	7	7	6	6
Norway	7	8	7	6	6	6	5	5	5	4
Finland	5	4	3	3	3	3	3	3	2	2
Austria	4	4	3	3	3	3	2	1	1	1
Other Countries	21	20	20	20	19	20	19	20	20	21
Total Europe	**1,652**	**1,791**	**1,690**	**1,629**	**1,617**	**1,554**	**1,458**	**1,351**	**1,248**	**1,142**
North America										
United States	336	348	340	368	416	428	440	420	400	372
Mexico	376	328	325	358	403	423	434	372	380	368
Canada	51	49	39	40	44	42	36	30	28	26
Total North America	**763**	**725**	**704**	**766**	**863**	**893**	**910**	**822**	**808**	**766**
Latin America										
Brazil	36	32	32	32	38	40	45	48	48	48
Peru	12	12	13	13	10	9	8	11	10	13
Argentina	8	5	3	3	4	7	7	8	9	8
Colombia	6	6	6	6	6	6	6	6	6	6
Ecuador	8	8	7	7	6	6	5	6	6	6
Other Countries	51	29	22	17	23	29	34	37	36	42
Total Latin America	**121**	**93**	**83**	**78**	**87**	**97**	**105**	**116**	**115**	**123**
Middle East										
Turkey	59	101	92	129	154	185	176	150	127	132
Egypt	46	47	40	36	44	48	43	41	43	40
Saudi Arabia & Yemen	14	16	15	15	15	16	17	18	18	18
Israel	15	14	13	13	13	13	14	13	14	14
Other Countries	32	34	34	33	33	34	36	37	37	37
Total Middle East	**167**	**212**	**193**	**226**	**258**	**296**	**286**	**258**	**239**	**242**
Indian Sub-Continent										
India	758	885	1,032	804	800	500	510	369	323	355
Bangladesh & Nepal	59	74	69	63	58	60	56	54	55	58
Other Countries	34	32	24	24	24	26	27	27	28	29
Total Indian Sub-Cont.	**851**	**990**	**1,125**	**891**	**883**	**586**	**593**	**451**	**406**	**441**
East Asia										
Thailand	850	845	896	884	999	1,011	1,005	1,012	995	904
China	165	218	275	341	408	486	540	627	713	733
Indonesia	84	99	128	103	108	139	117	137	131	129
South Korea	115	126	118	117	121	123	122	126	130	127
Japan	53	52	51	50	48	55	63	60	64	61

Table 8a - Silver Fabrication: Jewelry Including the Use of Scrap (tons)

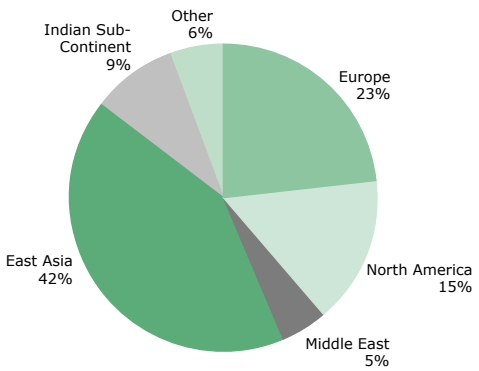
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Vietnam	20	20	21	24	26	27	29	33	34	37
Myanmar, Laos & Cambodia	19	18	20	21	23	20	20	19	19	19
Malaysia	14	16	17	18	19	20	19	19	18	19
Taiwan	8	8	6	6	7	8	9	9	9	8
Hong Kong	12	11	10	8	7	7	7	8	8	8
Other Countries	6	7	8	8	8	8	8	8	8	8
Total East Asia	**1,346**	**1,420**	**1,549**	**1,579**	**1,772**	**1,905**	**1,939**	**2,057**	**2,129**	**2,053**
Africa										
Morocco	8	8	9	8	8	8	8	8	9	8
Tunisia	6	7	6	6	7	7	7	6	7	7
Algeria	4	4	3	3	3	4	4	3	3	3
Other Countries	9	9	9	9	10	10	10	10	10	11
Total Africa	**27**	**28**	**27**	**27**	**28**	**29**	**29**	**28**	**30**	**30**
Oceania										
Australia	22	23	21	22	21	21	21	20	20	19
Other Countries	1	1	1	1	1	1	1	1	1	1
Total Oceania	**22**	**24**	**22**	**23**	**22**	**22**	**22**	**21**	**21**	**20**
CIS										
Russia	9	10	16	20	28	39	49	50	72	87
Other Countries	13	13	14	15	16	16	17	17	18	18
Total CIS	**21**	**23**	**29**	**34**	**44**	**56**	**65**	**67**	**91**	**106**
World Total	**4,970**	**5,306**	**5,422**	**5,253**	**5,574**	**5,438**	**5,407**	**5,171**	**5,086**	**4,923**

World Jewelry Fabrication



Source: GFMS

World Jewelry Fabrication, 2008

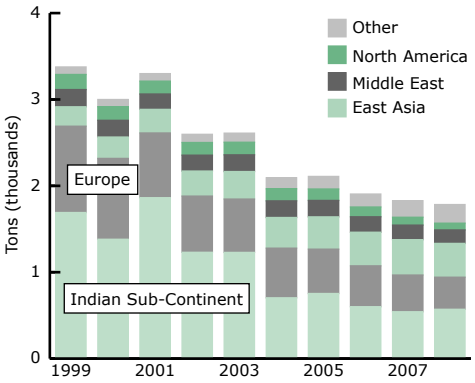


Source: GFMS

Table 8b - Silver Fabrication: Silverware Including the Use of Scrap (tons)

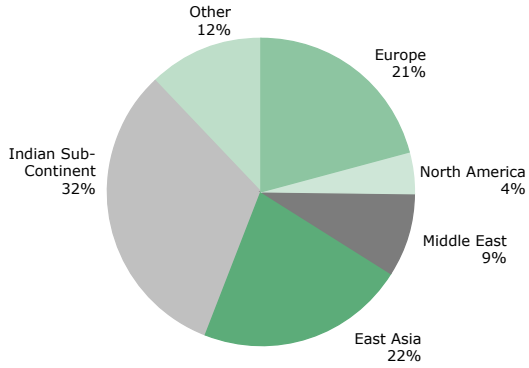
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Europe										
Italy	540	515	380	315	298	283	250	220	199	160
Germany	178	172	157	142	128	110	95	91	83	71
Greece	90	72	64	59	60	58	56	53	50	48
Norway	40	44	39	34	35	31	27	29	20	21
Sweden	17	16	11	12	14	15	15	14	12	12
Spain	60	48	34	28	24	21	17	12	9	6
Other Countries	75	70	64	61	58	56	54	54	51	53
Total Europe	**999**	**936**	**749**	**650**	**617**	**574**	**513**	**473**	**425**	**371**
North America										
United States	72	68	65	60	55	51	47	45	42	38
Mexico	94	82	76	79	83	81	77	62	43	36
Canada	9	8	8	8	8	8	8	6	6	4
Total North America	**175**	**158**	**149**	**147**	**146**	**140**	**132**	**113**	**91**	**78**
Latin America										
Colombia	14	12	10	10	10	10	10	10	10	8
Peru	18	16	16	16	10	9	8	8	8	7
Other Countries	25	21	17	17	17	19	21	22	23	22
Total Latin America	**57**	**49**	**43**	**43**	**37**	**38**	**39**	**40**	**41**	**36**
Middle East										
Turkey	87	85	72	83	91	87	82	74	67	60
Israel	51	46	42	44	43	44	45	45	42	38
Egypt	12	13	11	10	10	10	9	8	7	6
Saudi Arabia & Yemen	4	4	4	3	3	4	4	3	4	4
Other Countries	45	47	50	44	46	48	50	49	49	48
Total Middle East	**199**	**194**	**178**	**184**	**193**	**193**	**190**	**179**	**169**	**156**
Indian Sub-Continent										
India	1,531	1,230	1,718	1,114	1,118	600	660	509	452	482
Bangladesh & Nepal	119	113	116	87	82	72	60	59	58	57
Other Countries	41	39	29	30	30	32	33	33	33	32
Total Indian Sub-Cont.	**1,691**	**1,381**	**1,863**	**1,231**	**1,229**	**704**	**753**	**601**	**542**	**571**
East Asia										
China	49	65	83	102	122	151	162	189	204	196
Thailand	108	112	121	121	129	136	140	134	141	133
South Korea	25	26	26	22	23	22	25	23	23	22
Indonesia	13	17	19	21	21	23	23	21	20	20
Other Countries	29	27	26	24	24	23	24	22	22	21
Total East Asia	**225**	**247**	**273**	**290**	**319**	**355**	**374**	**389**	**410**	**391**
Africa										
Africa	9	9	9	9	9	9	9	9	10	9
Total Africa	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**10**	**9**
Oceania										
Oceania	2	2	1	1	1	1	1	1	1	1
Total Oceania	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
CIS										
Russia	16	19	29	36	53	73	91	93	134	162
Other Countries	4	5	5	5	5	6	6	6	6	6
Total CIS	**20**	**23**	**34**	**41**	**58**	**79**	**96**	**99**	**141**	**169**
World total	**3,376**	**2,999**	**3,299**	**2,596**	**2,610**	**2,093**	**2,109**	**1,905**	**1,828**	**1,783**

World Silverware Fabrication



Source: GFMS

World Silverware Fabrication, 2008



Source: GFMS

Appendix 2

Nominal Silver Prices in Various Currencies

Prices are calculated from the London price and the average exchange rate for the year.
In the case of India, the price shown is the one actually quoted in the Mumbai market.

	London US$/oz	India Rupee/kg	Thai Baht/oz	Japan Yen/10g	Korea Won/10g	China Yuan/kg	Eurozone* Euro/kg	Mexico Peso/oz
1975	4.426	1,160	90.19	422	689	N/a	179	0.06
1976	4.353	1,217	88.81	415	677	N/a	180	0.07
1977	4.633	1,120	94.52	400	721	N/a	177	0.10
1978	5.422	1,393	110.26	367	844	N/a	179	0.12
1979	11.068	1,896	225.99	780	1,722	N/a	333	0.25
1980	20.984	2,783	429.67	1,530	4,098	1,011	628	0.48
1981	10.487	2,650	228.83	744	2,296	575	390	0.26
1982	7.922	2,675	182.21	634	1,862	482	316	0.45
1983	11.430	3,435	262.89	873	2,851	726	479	1.37
1984	8.145	3,514	192.53	622	2,111	608	382	1.37
1985	6.132	3,880	166.54	470	1,715	579	296	1.58
1986	5.465	4,105	143.71	296	1,549	607	195	3.34
1987	7.016	5,124	180.46	326	1,855	840	208	9.67
1988	6.532	6,231	165.23	269	1,536	782	189	14.85
1989	5.500	6,803	141.36	244	1,187	666	170	13.54
1990	4.832	6,779	123.62	225	1,099	743	129	13.59
1991	4.057	6,993	103.51	176	956	694	111	12.24
1992	3.946	7,580	100.24	161	991	700	101	12.21
1993	4.313	6,163	109.20	154	1,113	799	117	13.44
1994	5.285	6,846	132.92	174	1,365	1,465	141	17.84
1995	5.197	6,864	129.49	157	1,289	1,395	122	33.36
1996	5.199	7,291	131.77	182	1,345	1,390	128	39.51
1997	4.897	7,009	153.60	191	1,498	1,305	139	38.78
1998	5.544	8,016	229.30	233	2,498	1,476	160	50.65
1999	5.220	8,022	197.38	191	1,995	1,389	158	49.90
2000	4.951	8,002	198.61	172	1,800	1,318	172	46.82
2001	4.370	7,420	194.15	171	1,814	1,163	157	40.82
2002	4.599	7,934	197.57	185	1,850	1,224	156	44.41
2003	4.879	8,138	202.39	182	1,869	1,298	139	52.64
2004	6.658	10,606	267.79	232	2,452	1,772	172	75.14
2005	7.312	11,083	294.07	259	2,407	1,926	189	79.68
2006	11.549	17,843	437.51	432	3,545	2,958	296	125.88
2007	13.384	18,794	461.98	507	3,999	3,273	314	146.26
2008	14.989	21,620	499.34	502	5,311	3,355	325	166.82

* From 1975-1998, the DM/kg price is expressed in Euro/kg at the official conversion rate of 1.95583

Appendix 3

Real Silver Prices in Various Currencies (CPI deflated - constant 2008 money terms)

Prices are calculated from the London price and the average exchange rate for the year.
In the case of India, the price shown is the one actually quoted in the Mumbai market.

	London US$/oz	India* Rupee/kg	Thai Baht/oz	Japan Yen/10g	Korea Won/10g	China Yuan/kg	Eurozone** Euro/kg	Mexico Peso/oz
1975	17.702	11,597	433.18	770	5,938	N/a	405	133.99
1976	16.467	13,169	409.53	692	5,066	N/a	391	140.47
1977	16.459	11,192	405.08	617	4,894	N/a	369	169.59
1978	17.892	13,578	437.84	543	5,004	N/a	365	170.41
1979	32.826	17,393	816.62	1,112	8,637	N/a	651	294.86
1980	54.828	22,921	1297.02	2,024	15,968	N/a	1,164	445.22
1981	24.839	19,301	613.12	938	7,373	N/a	680	185.78
1982	17.675	18,054	463.80	779	5,578	N/a	524	203.17
1983	24.708	20,726	645.15	1,052	8,258	N/a	769	309.37
1984	16.877	19,574	468.43	733	5,975	N/a	598	186.09
1985	12.270	20,474	395.56	543	4,740	N/a	454	135.94
1986	10.735	19,921	335.18	340	4,165	2,262	299	154.92
1987	13.285	22,858	410.62	374	4,842	2,919	318	193.28
1988	11.893	25,295	362.19	307	3,742	2,289	286	138.60
1989	9.552	26,014	294.10	272	2,736	1,648	250	105.30
1990	7.962	23,788	242.75	243	2,333	1,784	184	83.45
1991	6.413	21,550	192.24	184	1,857	1,610	156	61.30
1992	6.055	20,896	178.89	165	1,809	1,526	136	52.94
1993	6.428	15,973	188.54	157	1,941	1,521	150	53.07
1994	7.677	16,100	218.38	175	2,241	2,244	176	65.86
1995	7.343	14,645	201.07	159	2,024	1,829	150	91.24
1996	7.137	14,274	193.34	183	2,013	1,681	155	80.42
1997	6.569	12,805	213.42	189	2,147	1,536	166	65.43
1998	7.323	12,933	294.80	230	3,330	1,751	189	73.72
1999	6.747	12,365	253.00	189	2,638	1,672	184	62.30
2000	6.191	11,859	250.64	171	2,328	1,582	199	53.38
2001	5.313	10,606	241.07	171	2,254	1,390	177	43.76
2002	5.505	10,863	243.80	188	2,237	1,474	175	45.32
2003	5.710	10,735	245.33	184	2,183	1,546	153	51.38
2004	7.589	13,482	315.87	235	2,765	2,031	187	70.06
2005	8.061	13,514	331.79	263	2,642	2,168	201	71.45
2006	12.335	20,564	471.73	438	3,807	3,282	310	108.92
2007	13.897	20,363	487.26	514	4,187	3,467	322	121.72
2008	14.989	21,620	499.34	502	5,311	3,355	325	166.82

* From 1975-1998, the DM/kg price is expressed in Euro/kg at the official conversion rate of 1.95583

Appendix 4

Silver Prices in US$ per ounce

	London Silver Market - Spot			Comex Spot Settlement		
	High	Low	Average	High	Low	Average
1983	14.6680	8.3700	11.4301	14.7150	8.4000	11.4340
1984	10.1100	6.2200	8.1446	10.0640	6.2950	8.1585
1985	6.7500	5.4500	6.1319	6.8350	5.5250	6.1459
1986	6.3100	4.8530	5.4645	6.2850	4.8540	5.4653
1987	10.9250	5.3600	7.0156	9.6600	5.3790	7.0198
1988	7.8215	6.0500	6.5324	7.8270	5.9980	6.5335
1989	6.2100	5.0450	5.4999	6.1940	5.0300	5.4931
1990	5.3560	3.9500	4.8316	5.3320	3.9370	4.8174
1991	4.5710	3.5475	4.0566	4.5450	3.5080	4.0355
1992	4.3350	3.6475	3.9464	4.3180	3.6400	3.9334
1993	5.4200	3.5600	4.3130	5.4430	3.5230	4.3026
1994	5.7475	4.6400	5.2851	5.7810	4.5730	5.2808
1995	6.0375	4.4160	5.1971	6.1020	4.3750	5.1850
1996	5.8275	4.7100	5.1995	5.8190	4.6760	5.1783
1997	6.2675	4.2235	4.8972	6.3070	4.1550	4.8716
1998	7.8100	4.6900	5.5442	7.2600	4.6180	5.4894
1999	5.7900	4.8800	5.2198	5.7600	4.8720	5.2184
2000	5.4475	4.5700	4.9514	5.5470	4.5630	4.9691
2001	4.8200	4.0500	4.3696	4.8570	4.0280	4.3594
2002	5.0975	4.2350	4.5990	5.1250	4.2230	4.6007
2003	5.9650	4.3700	4.8787	5.9930	4.3460	4.8958
2004	8.2900	5.4950	6.6578	8.2110	5.5140	6.6871
2005	9.2250	6.3900	7.3115	9.0000	6.4270	7.3223
2006	14.9400	8.3300	11.5492	14.8460	8.8090	11.5398
2007	15.8200	11.6700	13.3835	15.4990	11.4650	13.3762
2008	20.9200	8.8800	14.9891	20.6850	8.7900	14.9617

US Prices in 2008

Comex Settlement

US$ per ounce	High	Low	Average
January	16.948	15.167	16.052
February	19.808	16.303	17.656
March	20.685	16.805	19.158
April	18.305	16.502	17.478
May	18.241	16.121	17.012
June	17.620	16.463	17.012
July	19.175	17.246	18.067
August	17.481	12.801	14.478
September	13.458	10.462	12.224
October	12.720	8.790	10.296
November	10.455	8.800	9.783
December	11.389	9.350	10.335

Leasing Rates in 2008

Monthly Averages

Average	3-month	6-month	12-month
January	-0.13%	0.01%	0.12%
February	-0.01%	0.25%	0.37%
March	0.02%	0.23%	0.40%
April	0.03%	0.27%	0.45%
May	0.04%	0.18%	0.37%
June	-0.06%	0.17%	0.39%
July	-0.08%	0.14%	0.22%
August	0.00%	0.18%	0.21%
September	0.26%	0.46%	0.44%
October	1.83%	1.70%	1.56%
November	2.00%	2.19%	2.23%
December	1.77%	1.95%	2.05%

Appendix 5

Leading Primary Silver Mines

Rank	Mine Name	Country	Company	2007 Moz	2008 Moz
1	Cannington [1]	Australia	BHP Billiton	37.47	34.56
2	Fresnillo	Mexico	Fresnillo plc	33.52	33.78
3	Dukat	Russia	OJSC Polymetal	10.80	12.50
4	Uchucchacua	Peru	Compañia de Minas Buenaventura SA	9.87	11.42
5	Arcata	Peru	Hochschild Mining	6.55	9.03
6	Greens Creek [2]	United States	Hecla Mining Co	8.65	7.23
7	Imiter	Morocco	Société Métallurgique d'Imiter	5.41	6.25
8	Alamo Dorado	Mexico	Pan American Silver Corp	3.81	6.12
9	Pallancata	Peru	Hochschild Mining	0.70	4.19
10	La Colorada	Mexico	Pan American Silver Corp	3.96	3.91
11	Huaron	Peru	Pan American Silver Corp	3.83	3.63
12	Lunnoye	Russia	OJSC Polymetal	3.30	3.40
13	Ying [3]	China	Silvercorp Metals Inc	3.35	3.41
14	Tayahua [4]	Mexico	Grupo Carso	3.31	3.29
15	Rochester	United States	Coeur d'Alene Mines	4.61	3.03

1 reported payable metal in concentrate; 2 2008 estimate; 3 Reported Sales ; 4 Estimate

Silver Mine Production by Source Metal

(million ounces)

	2005	2006	2007	2008
Primary				
Mexico	45.6	46.7	53.6	57.1
Peru	31.2	33.9	30.4	37.4
Australia	48.7	30.7	37.5	35.4
Other	66.6	66.6	72.5	61.3
Total	**192.1**	**177.9**	**194.1**	**191.2**
Gold				
Mexico	12.9	13.6	14.6	18.5
Chile	12.7	10.1	8.0	12.3
Peru	9.9	10.7	8.9	9.1
Other	22.7	27.8	29.1	36.7
Total	**58.1**	**62.3**	**60.7**	**76.7**
Copper				
Poland	40.0	39.9	39.1	38.4
Chile	28.7	32.9	37.6	27.7
Kazakhstan	20.5	21.6	19.0	16.7
Other	79.0	76.2	75.7	76.8
Total	**168.1**	**170.6**	**171.3**	**159.6**
Lead/Zinc				
China	46.1	54.4	56.6	60.3
Peru	45.3	48.8	56.2	53.7
Bolivia	11.1	13.0	14.4	30.6
Other	113.0	111.0	107.6	105.3
Total	**215.5**	**227.2**	**234.9**	**249.9**
Other	**3.2**	**3.2**	**3.3**	**3.6**
World Total	**637.1**	**641.3**	**664.2**	**680.9**

Silver Mine Production by Main Region and Source Metal

(million ounces)

	2005	2006	2007	2008
North America				
primary	76.8	71.1	75.0	70.9
lead/zinc	48.1	49.6	49.5	42.0
copper	21.3	19.2	18.6	20.1
gold	18.7	21.9	23.3	26.8
other	1.6	1.6	1.6	2.0
Total	**166.5**	**163.3**	**168.0**	**161.8**
Central & South America				
primary	36.3	45.5	50.2	48.4
lead/zinc	58.4	63.8	72.7	86.7
copper	45.9	51.6	55.6	46.8
gold	27.1	27.3	25.6	33.2
other	0.0	0.0	0.0	0.0
Total	**167.7**	**188.3**	**204.2**	**215.1**
Asia & CIS				
primary	24.4	24.6	25.9	30.2
lead/zinc	68.8	77.9	78.8	83.9
copper	53.0	51.5	49.9	47.5
gold	9.3	10.2	9.6	14.1
other	1.6	1.6	1.6	1.6
Total	**157.2**	**165.8**	**165.8**	**177.3**
Rest of the World				
primary	54.5	36.7	42.9	41.7
lead/zinc	40.2	35.9	33.8	37.3
copper	47.9	48.4	47.3	45.1
gold	3.1	2.9	2.2	2.6
other	0.0	0.0	0.0	0.0
Total	**145.7**	**123.8**	**126.3**	**126.7**
World Total	**637.1**	**641.3**	**664.2**	**680.9**

Appendix 6

Comex Futures and Options Turnover and Open Interest, and London Bullion Market (LBM) Turnover

	Comex Number of Contracts				LBM Clearing Turnover[3]		
	Futures		Options				
	Turnover[1]	Open Interest[2]	Turnover[1]	Open Interest[2]	Ounces transferred (millions)	Value (US$bn)	Number of transfers
Jan-07	364,565	114,336	78,136	108,348	98.8	1.3	374
Feb	589,332	124,697	92,508	93,293	108.1	1.5	415
Mar	479,896	110,549	102,602	111,361	112.0	1.5	484
Apr	625,023	111,447	83,688	97,112	105.7	1.5	446
May	417,343	112,563	97,046	112,531	137.5	1.8	446
Jun	680,612	116,705	113,928	102,239	112.4	1.5	503
Jul	404,108	118,550	89,292	110,666	114.9	1.5	449
Aug	784,089	107,421	112,162	100,045	120.8	1.5	458
Sep	469,459	117,643	114,353	118,368	108.1	1.4	497
Oct	581,062	136,393	121,618	137,871	106.4	1.5	496
Nov	1,018,495	135,914	168,372	111,673	129.0	1.9	533
Dec	393,243	152,888	83,800	122,385	119.1	1.7	439
Jan-08	719,308	185,540	144,326	138,861	117.6	1.9	529
Feb	989,601	166,678	188,881	133,766	132.4	2.3	517
Mar	881,776	146,632	188,396	133,766	154.7	3.0	676
Apr	912,952	123,841	203,904	161,621	119.2	2.1	500
May	580,959	124,655	144,284	173,114	121.2	2.1	490
Jun	859,976	126,221	149,030	147,127	119.5	2.0	480
Jul	722,663	131,599	121,652	160,277	105.5	1.9	481
Aug	953,123	115,590	170,257	140,182	149.8	2.2	625
Sep	792,072	103,812	160,396	144,595	143.7	1.7	576
Oct	594,307	93,779	122,010	162,706	136.2	1.4	569
Nov	578,009	84,202	62,344	88,404	107.6	1.1	446
Dec	332,437	85,923	45,402	91,237	102.1	1.1	343

1 Monthly total; 2 Month-end; 3 Daily average; Source: LBMA, Comex

Silver ETF Holdings

(Moz, end-period)		iShares Silver Trust	ETF Securities	ZKB	Total	Value US$ Bn*
2007	Q2	136.26	1.55	2.60	140.41	1.76
	Q3	143.54	2.56	5.11	151.21	2.06
	Q4	**150.80	12.35	9.14	172.29	2.57
2008	Q1	179.37	10.62	14.36	204.35	3.68
	Q2	192.98	11.02	21.55	225.56	3.98
	Q3	220.30	13.59	27.25	261.14	3.38
	Q4	218.40	14.23	32.72	265.35	2.86
2009	Q1	266.75	17.06	45.07	328.89	4.31

*Using the London price

**Due to an erroneous transaction in the last trading day of 2007, we have used the first observation in 2008 as a proxy

Source: Respective issuers, GFMS