SPROTT
ASSET MANAGEMENT

SPROTT PRECIOUS METALS WATCH

June 2017

THE CASE FOR INVESTING IN SILVER

As an asset class, precious metals have become a contemporary investment enigma. Despite market-leading performances during the past seventeen years, gold and silver still command surprisingly narrow constituencies in most investing circles. In past reports, we have outlined our investment thesis for gold. To us, gold remains a mandatory portfolio asset amid excessive debt levels and aggressive monetary debasement by global central banks. To investors sympathetic to the portfolio-diversification potential of precious metals, yet desirous of an asset with practical "real world" applications, we offer for consideration the unique fundamentals of silver. In this report, we explore the compelling investment utility of a portfolio commitment to silver.

Silver commands an established precious-metal pedigree, while simultaneously boasting a wide array of active economic functions. Indeed, leading industry-analyst GFMS estimates that over 55% of 2016 global silver supply (essentially mine production plus scrap recovery) directly supported industrial applications, most notably electronics (23% of global silver supply) and photovoltaic solar power (8%). Not only do silver's industrial applications expose silver generally to global economic growth, but certain segments of silver's industrial portfolio are growing at quite a healthy clip. Photovoltaic silver consumption, for example, increased 34% during 2016, on the back of a 49% increase in global solar panel installations. By contrast, GFMS estimates that a mere 8% of total 2016 global gold supply was dedicated to industrial uses.

Throughout the precious-metal bull market since 2000, silver has demonstrated the capacity to outperform gold both at the onset and towards the end of cyclical advances. By way of example, during the advance of the precious-metal sector during the first half of 2016, silver's trough-to-peak gain exceeded that of gold by a wide margin. From an intra-day low of $13.65 on 12/14/15, silver posted a blistering 54.87% increase to an intra-day high of $21.14 on 7/4/16, easily outpacing gold's 31.44% advance from a 12/3/15 low of $1,046.43 to a 7/6/16 high of $1,375.45. We would attribute the potential for silver to outperform gold during discreet cyclical advances to three unique fundamentals which distinguish silver from gold: accessibility, above-ground stocks and production characteristics.

ACCESSIBILITY

One of the characteristics of gold bullion which makes it an attractive reserve for central banks is its extremely high value-per-ounce. In essence, it is more efficient for central banks to hold physical reserves of gold than any other element, commodity or asset, due both to its comparative rarity and unusual density. Gold appears in the earth's crust at roughly 4-parts-per-billion (as with many statistics in this report, 4ppb is a reasonable ***average*** of competing industry estimates), significantly rarer than most elements (silver is present in earth's rocks at roughly 75 ppb and copper at roughly 70,000 ppb). Additionally, gold is among the densest of elements, with a metric ton measuring only 14.6 cubic inches and currently valued at some $40.2 million ($1,250 per ounce). Gold therefore represents an ideal holding as a monetary reserve, but a somewhat unwieldy asset for general investment.

To most investors, it is simply easier to "wrap one's arms" around the $17.20 cost of a one-ounce Silver American Buffalo coin (at $16.50 silver plus dealer commissions) than the $1,310 cost of a one-ounce Gold American Buffalo coin (at $1,250 gold plus commission). In roughly the same manner that junior shares of Berkshire Hathaway appeal to a wider range of investors than senior Berkshire shares, an investor has the choice to purchase one gold coin or 75 silver coins at today's prices, or, more practically, 75 different increments of silver coins along the way to each incremental gold-coin purchase. ***For these reasons, silver has demonstrated the potential to outperform gold during portions of any cyclical advance during which investor enthusiasm broadens towards mainstream consensus.***

ABOVE GROUND STOCKS

One aspect of silver market fundamentals which is commonly underappreciated is just how tiny the investable above-ground silver stock actually is, especially in comparison to its gold equivalent. Virtually every ounce of gold mined during the past 5,000 years is still present in gold's above-ground stock. Whether in the Metropolitan Museum of Art, a jewelry box or a central bank vault, the above-ground stock of gold represents substantially all the gold ever mined. GFMS estimates that 187,000 metric tons of gold mined-over-time currently constitute the above-ground stock. After subtracting 89,000 metric tons estimated to exist in the form of jewelry, and 33,000 metric tons owned by global central banks, this leaves roughly 65,000 metric tons of above-ground investable gold (or 2.1 billion investable ounces worth $2.6 trillion).

In comparison to the roughly 6 billion ounces of gold mined over history, roughly 54 billion ounces of silver are estimated to have been mined over time. In direct contrast to gold, however, roughly half of the mined silver (27.2 billion ounces) is estimated to have been consumed, destroyed or discarded. Subtracting from the remaining mined-total roughly 24 billion ounces of silver estimated to exist in the form of jewelry, silverware, statues and decorative objects, this leaves only 2.8 billion ounces in the existing, investable above-ground stock of silver, ***valued at only $46.2 billion. Therefore, the investable stock of silver measures less than 2% of the (size of the) investable stock of gold. It is easy to appreciate why silver performance during precious-metal advances can prove comparatively explosive!***

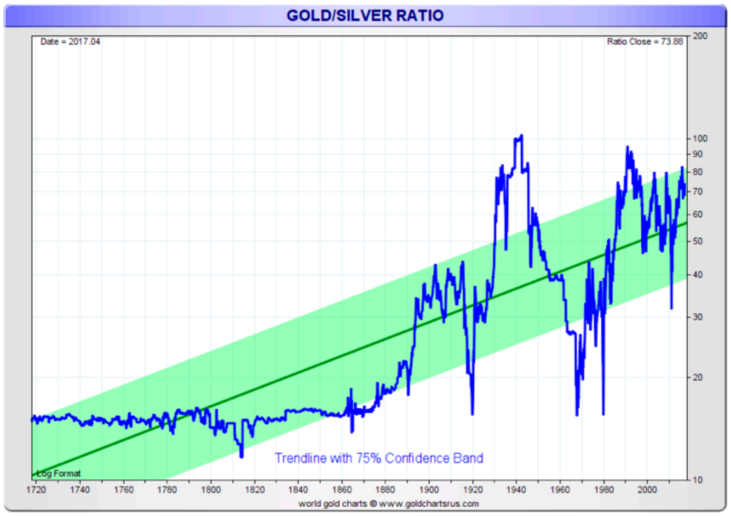
PRODUCTION CHARACTERISTICS

Silver occurs most commonly in the earth's crust in ore bodies which are primarily composed of gold or other base metals. In fact, only one-third of annual silver production accrues from primary silver mines, while the other two-thirds is produced as an offtake from the mining of gold (15%), copper (20%), or zinc/lead (32%). Since two-thirds of silver production is viewed essentially as a "byproduct credit," silver streams have become a prevalent financing tool in financing and construction of gold or other base-metal mines with significant silver content. These silver streams lock-in specific annual quantities and prices for the offtake silver, which are fixed for many years (or even decades), regardless of oscillations in the prevailing silver price over the lifetime of the contract. Therefore, up to two-thirds of annual silver mine production displays virtually infinite inelasticity. In other words, no matter how high the silver price rises, there is little incentive or flexibility for byproduct silver producers to ramp up production to satisfy the increased demand, leading to even higher prices for silver than might otherwise have been the case.

GOLD-TO-SILVER PRICE RATIO

During the 18th and 19th centuries, when both gold and silver were utilized as global currency reserves, the price relationship between gold and silver remained relatively static, near 16-to-1 (Figure 1). It is logical to assume this ratio was originally an outgrowth of the roughly similar ratio of gold-to-silver in the earth's crust, approximately 18-to-1. After the year 1880, as more and more countries adopted currency systems based exclusively on the gold-standard, the gold-to-silver price ratio began to migrate upwards. Today, silver's role as an official monetary reserve has been all but extinguished. Global central banks now hold $1.33 trillion worth of gold reserves (33,000 metric tons) versus identified sovereign silver holdings approximating $1.17 billion (2,200 metric tons).

Figure 1: Gold-to-Silver Price Ratio (1720-4/30/17)



Source: Nick Laird

As shown in Figure 2, the gold-to-silver ratio since 1990 has occupied a wide band between 90-to-1 and 35-to-1, with a clear downward bias. While a gold-to-silver ratio in the teens is unlikely to recur any time soon, we would suggest there is plenty of room for the ratio to swing significantly in silver's favor during any sustained advance in precious-metal markets.

For example, the gold-to-silver ratio declined from over 68-times to under 32-times in just the eight months prior to silver's intra-day high of $49.79 on 4/25/11 (highlighted in red oval below).

Figure 2: Gold-to-Silver Price Ratio (1990-6/16/17)

Source: Nick Laird

ENTICING FUNDAMENTALS

In mature industries such as precious metals, key fundamentals evolve methodically, usually over long periods of time. In the case of silver, we would suggest several important market fundamentals are aligning in support of higher silver prices during the next few years. Moving from top-to-bottom, the two most central ***supply*** factors are clearly bullish for future silver prices: silver mine production appears to have peaked and global scrap supply has stabilized at levels far below scrap rates in recent years. With respect to mine production, 2016 marked the first decline in global silver production since ***2002***, falling a modest 0.6% to 886 million ounces. With far-reaching cutbacks in exploration and capex budgets since the 2011 precious-metal peak, global silver production is expected to decline in each of the next several years (pared exploration; no world-class discoveries). Other than mine production, the only other significant silver supply variable is scrap recovery (essentially melting-down of jewelry, silverware and industrial components). During 2016, silver scrap supply (140 million ounces) was virtually identical to 2015 (despite higher silver prices) and remains some 45% below the average of scrap recovery during the peak-price cycle of 2011 and 2012 (257 million ounces per year).

In addition to generally improving supply fundamentals, two burdensome (but finite) challenges for silver markets appear to have finally run their course: government destocking of silver reserves and the secular decline in silver consumption implicit in the evolution of digital photography. With respect to sovereign silver reserves, GFMS estimates that, between 1999 and 2013, global governments liquidated an average of 48 million ounces of silver every year. However, 2016 marked the third consecutive year during which no significant silver sales were reported by any government (unreported sales are a different issue).

Perhaps the most relentless challenge for silver supply/demand fundamentals since 2000 has been the advent of digital photography. The active ingredient in all analog photographic film was an emulsion with light-sensitive silver halide crystals, and analog photographic paper relied on an emulsion with silver-salt chemistry. While digital photography still utilizes silver in various functions, the aggregate demand is far diminished. The year 1999 marked peak use of silver in the photographic industry, when the industry consumed some 226 million silver ounces. By contrast, 2016 silver consumption for photographic uses totaled only 45.2 million ounces, roughly one-fifth its 1999 peak. The encouraging news is that after contracting 15% annually between 2007 and 2011, the 3% decline in photographic silver demand in 2016 may finally have marked the nadir of demand destruction in the photography market!

Moving forward, we are enamored by the myriad of technological and medical applications for silver's unique physical attributes. As the most electrically conductive of all metals, silver offers significant performance benefits in applications such as transparent conductors, organic light emitting diodes, electrical conductive adhesives, photovoltaic modules, touch panels, and radio-frequency ID chips. Silver's ***lightweight*** conductivity positons it for solutions in the emerging "wearables" jewelry market, both in the fashion (external) component but also in the electronic circuitry and sensors in items such as fitness trackers and smart watches. Finally, silver is grabbing a growing market share in sensors and circuitry connecting discreet objects to the vast "internet of things."

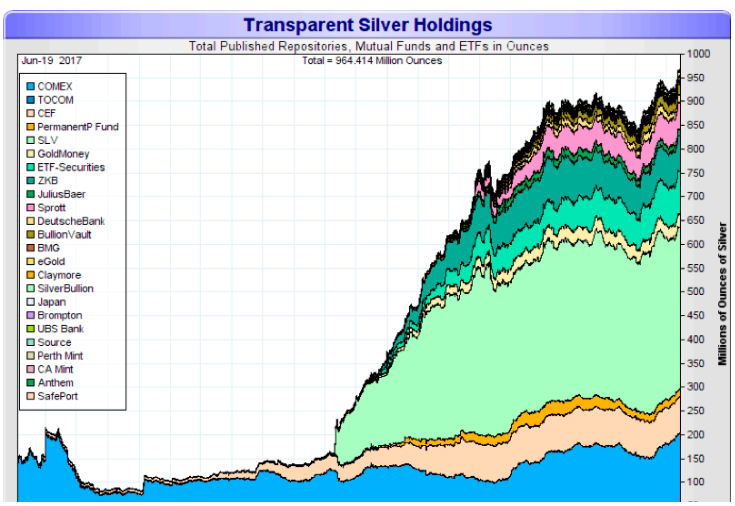
Given silver's unique prowess as a highly technical, precise solution to "spec" challenges in electrical and mechanical applications, it stretches the imagination to appreciate fully the powerful antimicrobial properties of the silver molecule.

Quite simply, silver nanoparticles are an effective tool for killing disease-causing bacteria. It has been known for years that a hospital constructed of pure silver would eliminate many infectious threats (imagine at least silver air ducts and door knobs). The prohibitive costs of large-scale silver deployment have delayed silver's adoption in such institutional environments, but the advent of smart clothing, or "e-textiles," has begun to employ silver threads and patches for beneficial effects as wide ranging as preventing infections in wounds of battlefield combatants, to preventing bacterial buildup in marathoners. Silver nanoparticles are also present in a growing array of cream treatments, healing bandages and respiratory masks.

LOOKING FORWARD

During the past century, a portfolio commitment to precious metals has been demonstrated to augment risk-adjusted returns for most traditional stock/bond portfolios, while reducing the standard deviation of their measured return streams. At Sprott, we believe silver and gold bring substantially unique attributes to the portfolio-diversification discussion. As we have communicated in this report, we believe bullish supply/demand fundamentals bode well for higher silver prices during the next several years.

Figure 3: Total Publicly-Disclosed Silver Bullion Holdings (1996-6/19/17)



Source: Nick Laird

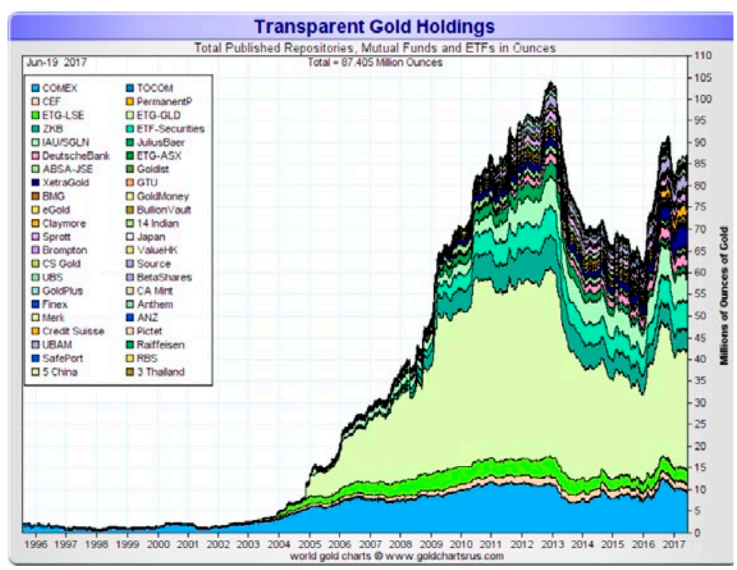
One final observation we would offer about the nature of silver investment-demand has been its remarkable resiliency, even during the correction years since 2011-highs for precious metals. As shown in Figure 3, the aggregate total of publicly-reported silver ounces held by the world's leading silver-bullion vehicles currently stands at 964.4 million ounces (6/19/17). To put this total in perspective, it constitutes fully ***34.4% of the world's investable silver stock.*** Further, the current ETF silver total is some 23.6% higher than it was at its 2011 peak. (As shown in our addenda graph, total ounces held by publicly-reported gold vehicles still stand some 16.8% below their 2012 peak.) Our conclusion is that, in the notoriously fickle world of precious metals, one distinction about silver-bullion investors appears to be that they actually want to own the stuff! In an increasingly short-term investment climate, we tip our hats to their collective resolve.

Sincerely,

Trey Reik
Senior Portfolio Manager
Sprott Asset Management USA, Inc.
203.656.2400

ADDENDA

Figure 4: Total Publicly-Disclosed Gold Bullion Holdings (1996-6/19/17)



Source: Nick Laird

Metal Prices

METAL	CLOSE	1 WEEK	YTD	1 YEAR
GOLD	1,242.99	-1.9%	7.9%	-3.6%
SILVER	16.47	-2.5%	3.5%	-5.9%
PLATINUM	921.87	-0.5%	2.0%	-6.5%
PALLADIUM	876.67	-0.9%	28.7%	59.6%

Source: Bloomberg. Prices as at June 20, 2017.

Sprott Physical Bullion Trusts

The goal of the Sprott Physical Gold Trust, Sprott Physical Silver Trust and Sprott Physical Platinum and Palladium Trust ("the Trusts") is to provide a secure, convenient and exchange-traded investment alternative for investors who want to hold physical bullion. The Trusts offer a number of compelling advantages over traditional exchange-traded bullion funds.

SECURE • CONVENIENT • COST EFFECTIVE • POTENTIAL TAX ADVANTAGE FOR U.S. INVESTORS

SPROTT PHYSICAL GOLD TRUST

NYSE ARCA: PHYS	
Price	$10.14
NAV	$10.20
Premium/ Discount to NAV	-0.64%

TSX: PHYS	
Price	$10.13

Total Ounces Held	1,755,391
Total NAV of Trust	$2,182,404,484

SPROTT PHYSICAL SILVER TRUST

NYSE ARCA: PSLV	
Price	$6.24
NAV	$6.24
Premium/ Discount to NAV	0.03%

TSX: PSLV	
Price	$16.47

Total Ounces Held	55,631,091
Total NAV of Trust	$916,424,856

SPROTT PHYSICAL PLATINUM AND PALLADIUM TRUST

NYSE ARCA: SPPP	
Price	$8.18
NAV	$8.30
Premium/ Discount to NAV	-1.49%

TSX: SPPP	
Price	$8.04

Total Ounces Held	39,740 Pt 90,187 Pd
Total NAV of Trust	$115,640,120

Figures as at June 20, 2017.

To learn more about the **Sprott Physical Trusts**, visit **www.sprottphysicalbullion.com** or contact us at **bullion@sprott.com**.

About Sprott

Sprott Asset Management LP is a leading independent asset management company headquartered in Toronto, Canada. The company manages the Sprott family of mutual funds, hedge funds, physical bullion funds and specialty products and is dedicated to achieving superior returns for its investors over the long term.

For more information, please visit **www.sprott.com**

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