Crucible

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Image provided by Yuyuan Jewelry & Fashion Group

GOLD BAR INTEGRITY PROGRAMME: NEXT STEPS TO SUCCESS

BY SAKHILA MIRZA, ***Executive Board Director, and General Counsel, LBMA***

Ruth Crowell, LBMA Chief Executive, and David Tait, World Gold Council Chief Executive [on screen] launch the Gold Bar Integrity pilot phase.

In March 2022, LBMA and the World Gold Council (WGC) announced a pilot phase for the Gold Bar Integrity (GBI) joint initiative, which aims to monitor the gold moving through the entire global value chain digitally – from rock to ring – by:

- Ensuring gold supply integrity through verifying its authenticity
- Confirming provenance
- Providing transparency over the Chain of Custody

The initiative aims to increase trust in gold purity and the provenance of gold bars by offering greater transparency across the entire global gold supply chain, mitigating illicit trade risks, and a secure chain of custody to reduce the chance of fraudulent bars entering the formal supply chain.

GBI PROJECT AND SCOPE

The Gold Bar Integrity project has two parts: the Security Feature and GBI Database, which will work together to ensure a robust digital ecosystem.

- **Security Feature** – The Security Feature is a physical feature that will establish the identity and verify the authenticity of a gold bar, akin to a bar passport, which will link to the GBI Database. The market standards for the Security Feature were launched in 2020 by LBMA, and the associated application process opened in 2021. The Association has also established a working group with a panel of technical experts to review the Security Feature applications and determine if they meet the standards. Further updates will be announced once the GBI Database has been established.
- **Gold Bar Integrity Database** – A transparent ledger of gold bars will give consumers, investors, and traders greater confidence in gold as an asset class and advance standards for the common good of the global industry. The GBI Pilot will provide international market participants with the opportunity to help define the scope of the database, identify priorities, and gain a better understanding of how interoperability may work.

THE GBI PILOT

The pilot involves the implementation of the solutions of two vendors with participants' internal systems. Several global market participants have volunteered to participate in the pilot and will test the two platforms to increase their understanding of the technology and the associated benefits. This will enable participants to see the life cycle of a particular gold bar (from mine to refiner and vault) and work through all the various ways the bar enters and exits the professional ecosystem.

A crucial consideration in the development of this global digital ecosystem is the treatment of data. The pilot will allow for scrutiny of data storage practices and an understanding of governance requirements. Participants will provide feedback on what should be the mandatory data fields and identify the challenges of using the technology.

The pilot is a crucial step towards bringing a digital ecosystem into reality and is expected to last for three months. At the end of the pilot, LBMA and the WGC will review feedback received from the broad selection of participants. Understanding this feedback and identifying solutions to any issues raised is pivotal to determining the next phase of work.

THE FUTURE OF THE GLOBAL DIGITAL ECOSYSTEM

The success of the initiative will be judged on the successful implementation of the following:

- Verifying the integrity of the gold being traded.
- Gold provenance records illustrating the origin and transaction information.
- Chain of custody records to increase accessibility to secondary markets.
- Verification of participants against a set of qualification requirements to ensure ecosystem integrity.
- An interoperable system that can be scaled as required.
- A global integrity ledger with broad acceptance and participation, including all key trading hubs.

Any next steps will be discussed with the wider industry, and together we will help determine the implementation plan.

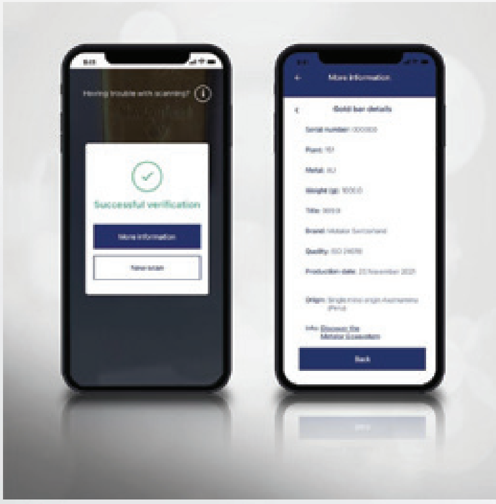
FIND OUT MORE

If you'd like to find out more about the Gold Bar Integrity initiative, or the pilot, please email Sakhila.Mirza@lbma.org.uk. You can find out more about LBMA's initiatives and events in our newsroom, www.lbma.org.uk/newsroom, or sign up to receive news from LBMA by visiting https://portal.lbmahosting.org.uk.

In her role as General Counsel of LBMA and also as Executive Director of the LBMA Board, **SAKHILA MIRZA** works closely with the CEO on the strategic direction of the LBMA. Her role involves addressing all the legal and regulatory matters, the Responsible Sourcing Programme, market development initiatives, and lobbying efforts on behalf of members.

METALOR CHECK
IOS APPLICATION

METALOR®



METALOR CHECK IOS APPLICATION

Metalor Check is an application for iOS devices only which allows bar owners to not only readily **authenticate a Metalor gold kilobar**, but also **get detailed information** on it – including production date and location, purity and specifications.

Furthermore, for bars made by segregated refining, information on the origin of the gold are also displayed – this includes bars from single mines or from specific areas, as well as bars issued from recycling. This application is hence fully integrated in the Metalor Ecosystem.

DOWNLOAD & INSTALL

This application is entirely free.

Furthermore, Metalor respects your privacy! No picture of the bar is neither taken nor sent to us, and no personal information is shared with us when you download or use this application.

To download it, go to Apple Store from your device (https://apps.apple.com/us/app/metalor-check/id1596743511) or use the QR-code provided.

TEST & ADOPT

Test is for yourself!

If you do not have a Metalor kilobar under your hands, you can use the bar test picture on the left.

For questions or issues regarding the use of Metalor Check application, please contact:
nbd@metalor.com

LEVERAGING TECHNOLOGY TO MODERNISE GOLD

BY BRIAN LAN, ***Managing Director, GoldSilver Central***

Gold is an essential part of an investment portfolio, especially in the current geopolitical climate and increasingly volatile equity, currency and bond markets. Hence accessibility and fungibility for gold are imperative in today's Internet of Things (IOT) and super-app enabled world. Improving accessibility and fungibility ensures that gold will remain attractive to younger investors and allow anyone who wishes to own any amount of gold to participate in the gold market, reducing friction between vendors and dealers in the gold trade.

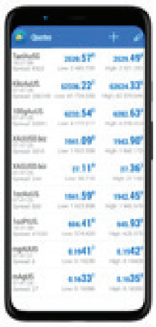
Established in Singapore in 2011, GoldSilver Central has created products to enable clients to accumulate precious metals in bite-sized amounts through different product offerings such as GSC Live! and the more popular GSC Savings Accumulation Program. These various services have assisted many clients to accumulate precious metals while addressing the issues of high-cost accessibility and micro fungibility. GSC has always adopted the view that we need to embrace new technology to increase the efficiencies and benefits to end-user clients for their gold. The merging of technology with the trusted aspects of physical gold is required to unlock more of gold's multi-faceted asset values.

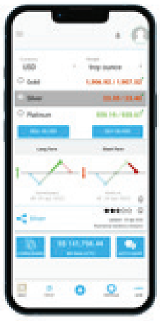
One example of this is our collaboration with Goldblocx, our technology partner that applies digital ledger technology to various functions and processes of the operational supply chain, bringing about enhanced traceability and efficiencies. An example of this is Auto-Save, the DIY version of what is currently GSC's Savings Accumulation Program. Clients can now start, stop, cancel, or continue their precious metals accumulation via the Goldblocx app at any time with no restrictions. Any additional clarification or query can be directed immediately via the in-app chat without the need to send any external emails.

FRACTIONALISATION OF GOLD

With Goldblocx, fractionalisation of gold is simple, allowing anyone the ability to buy any amount of gold, even in S$0.01 increments. And in Auto-Save, this can even be set up automatically and daily. The format of gold transacted via Goldblocx is in Pool Allocated format, allowing users to easily convert their purchased accumulated gold into their desired physical gold bar, coin or even jewellery via the app. Additional bar/coin/jewellery premiums would apply and differ accordingly based on the selection. Alternatively, users can also immediately sell it off anytime if they want to and in any amount without incurring any premium cost loss. Fractionalisation makes all this possible.

One can access additional services via the app, which include converting existing physical gold into a more convenient and manageable micro trading format, direct conversion/buying/selling of gold against silver or vice versa in one click, sending/collateralising your physical holdings for a cash loan or linking up to another broker/dealer and using your physical gold as collateral for margin trading. We are constantly creating new applications internally that can hopefully produce meaningful and valuable outcomes to meet end-user client needs.





Left Image: GSC Live! On mobile
Right Image: Goldblocx app with features displayed above

SOMETHING FOR EVERYONE

Goldblocx provides tools and services that help users become better investors – from applying dollar-cost averaging strategies for novice investors to fractional position sizing strategies for advanced traders.

On the wealth management side, Goldblocx provides a free tool for users to track their physical gold holdings, including any jewellery they may own, providing real-time valuation of these holdings and giving them the flexibility to do what they want with them in any desired quantity and when the time is right for them – not their vendor.

STAYING CONNECTED

Precious metals dealers, jewellery manufacturers and jewellers must keep offering great experiences to end-user clients and remain relevant to investors looking to seamlessly interact with their physical gold.

Technology will continue to play a meaningful role in connecting the various products and services currently available in the precious metals space and ultimately bring about increased usability and connectivity to the precious metals community.

GoldSilver Central and Goldblocx (GoldPlus Assets) are registered precious metals and precious stones dealers under the Ministry of Law Singapore for anti-money laundering purposes, countering terrorism financing and operating by following the regulations under the Commodities Trading Act Singapore.

BRIAN LAN is the Managing Director of GoldSilver Central, where he was instrumental in developing the leading GSC Live! application in 2016. Brian is also Co-CEO of Goldblocx, which he co-founded with his partners to follow his passion for leveraging technology to transform business processes and advance client outcomes.

VIETNAM'S GOLD MARKET

BY HUYNH TRUNG KHANH, ***Vice Chairman, Vietnam Gold Traders Association***

Image of the DOJI Gold Campaign

Gold has played an important role in Vietnam's economy and in the lives of locals for many years. In the 20th century, Vietnam experienced war, high inflation, economic instability and currency devaluation. As a result, Vietnamese people trust gold more than the country's currency, and also is their preferred asset class, as with other Asians.

In 2021, Vietnam was the largest gold bullion and coin market in Southeast Asia and ranked among the top 10 globally. According to the World Gold Council, its demand for bars and coins was 31.1 tonnes, exceeding Thailand and Indonesia, whose demand was 28.7 and 19.8 tonnes, respectively. Adding to its demand for jewellery, Vietnam's consumer gold demand increased to 43 tonnes, second in the region, behind Indonesia's 46.8 tonnes.

LONG HISTORY

Before 1975, gold was used as a medium of exchange and a unit of measurement. In the 1960's, a Honda Cub motorbike was priced at 3 taels of gold (1 tael = 37.5 grams), and the monthly salary of a senior government official was pegged at 2 taels of gold.

Kim Thanh was a well-known refiner and bullion dealer in Southeast Asia before and during the Vietnam War (1 Nov 1955 to 30 April 1975). Its gold bars (1 tael, with 99.99% purity) were used as a means of exchange and a store of value. After the Vietnam War, Kim Thanh gold bars, or Swiss bars, were portable assets for the Vietnamese boat people and other refugees.

AFTER THE VIETNAM WAR, THERE WAS A PERIOD OF HYPERINFLATION, WHICH SAW DOUBLE-DIGIT INFLATION FROM 1975 TO THE EARLY 1990S.

After the Vietnam War, there was a period of hyperinflation, which saw double-digit inflation from 1975 to the early 1990s, reaching its peak in 1986 (875%). In the late 1980s to the early 1990s, real estate, motorcycles, televisions, livestock and even agricultural products were priced and traded in gold. However, as inflation eased in the early 2000s, gold's functions in exchange and price measurement gradually decreased, alongside the use and exchange of the Kim Thanh Gold Bar.

Saigon Jewelry Company (SJC) was the largest gold tael bar production and distribution company in Vietnam, with SJC gold bars dominating the market, accounting for 90% of the

ECONOMIC OVERVIEW (2020)

POPULATION	GDP GROWTH	EXPORTS	IMPORTS
98.5 million	2.9%	US$226 billion	US$181 billion
GDP PER CAPITA	CPI	INTERNATIONAL RESERVES	EXTERNAL DEBT AS A SHARE OF GDP
$2,785	2.8%	US$78.3 billion	47.1%

Source: World Bank and Vietnam GSO

gold bullion market share in the domestic market, with more than 22 million bars (equivalent to 825 tonnes) in circulation since its introduction into the market in 1989. From 2012, with the implementation of Decree No. 24 by the State Bank of Vietnam (SBV), the SJC gold tael bar has been considered the national bar brand and falls under the close supervision of SBV, which tightly controls its production and distribution network. Since then, production of SJC tael bars has been extremely limited, while bar demand is still growing strong, making them like "rare collection items" with a premium reaching VND 20 million per tael (US$700 per troy oz.) in February 2022.

Despite being hailed as one of Southeast Asia's fastest-growing economies and one of the few countries to have positive economic growth despite the pandemic, with GDP growth of 2.91% in 2020, Vietnam still lags its global counterparts in cashless and digital transactions. More than 95% of all payments in the country take place using cash or gold.

Some 47 years after the reunification of Vietnam, the national currency, the Vietnamese dong (VND), is not yet convertible for economic and political reasons, and gold bars and chi rings are still the preferred hedging tool for the Vietnamese public (with at least 500 tonnes of gold in hoarding as per the official estimates) against the nearly constant inflation rate, as well as the primary store of wealth for the rural class of the Mekong Delta, which always have a very close affinity to gold since the region founding in the 17th century.

DEVELOPMENT OF VIETNAM'S GOLD MARKET (1988–2012)

The development of the Vietnamese economy began with the introduction of Doi Moi, or renovation, in December 1986. The set of economic reforms aimed to develop Vietnam's centrally planned economy into a market-driven one with a socialist orientation.

The early 1990s witnessed the first wave of foreign direct investment (FDI) into Vietnam, which pushed its GDP to 8–9% by the mid-1990s. In 1997, the currency crisis hit Asia, particularly Thailand and Indonesia, but its effects on Vietnam were less pronounced, as the country's financial market was not open to foreign countries. The damage in Vietnam was limited to a fall in GDP, to 4% in 1999.

The local government in Ho Chi Minh City approved the manufacture of gold bars weighing in taels in 1988, of which 1 tael is almost equivalent to 37.5 grams. While other producers soon produced their imprinted gold bars, SJC gold bars were the most circulated, with more than 22 million Golden Dragon tael bars issued by SJC through several gold bar promotional campaigns, such as the Gold Accumulation Scheme and Gold Savings Box, by the late 1990s. The Vietnamese also purchased high-priced goods with SJC gold bars and listed property prices in SJC taels.

In the 2000s, foreign direct investment (FDI) flowed back into Vietnam. This pushed its GDP above 8% in 2005, a level that was maintained for three years. The growth in FDI was 8.5% and exceeded US$20 billion in 2007. This growth created a new-found appetite for investment among the Vietnamese. Gold, real estate and stocks became popular asset classes for investments.

The government abolished all administrative licensing for the management of gold trading activities in 1999, and in the following year, the State Bank of Vietnam, the country's central bank, allowed credit institutions to mobilise gold in term deposits along with Vietnamese dong deposits guaranteed by gold. Besides that, the import of gold was permitted in 2001.

In 2005, Vietnam's finance ministry reduced the import tax on gold bars from 1% to 0.5%, and the following year, the central bank approved margin trading on domestic and foreign gold. In 2007, the Asian Commercial Bank opened leveraged gold trading facilities, and many banks followed suit in opening similar trading facilities. However, while this increased gold imports, it also increased the country's trade deficit.

In June 2008, the government decided to stop the import of gold. However, this created a surge in gold prices and resulted in more parallel imports. In November 2009, the government resumed gold imports, which resulted in a sharp increase in import figures and a sharp drop in reserves.

SJC Tael Bars

PNJ Gold Bar Promotion

THE GOLD MARKET UNDER CONTROL (2012 – APRIL 2022)

After years of active and free trading, particularly from 2008 to 2010, the central bank decided to take action to cool the gold market. It issued control measures, which included the closure of more than 20 gold trading floors.

The market has been stable since the Vietnamese government issued a new decree in 2012 to enable the central bank to directly intervene in the gold market. The State Bank of Vietnam thus became the sole controller of gold trading in the country. The new rules meant that only companies with a minimum capital of 100 billion Vietnamese dong (US$4,356), yearly tax payments of 500 million Vietnamese dong, and branches in a minimum of three provinces would be allowed to trade gold and import gold bars. However, this put many small gold traders out of business. The number of gold traders decreased sharply from over 10,000 to around 2,500.

Some credit institutions and jewellery manufacturers had to close, as a result of the new rules, which stated that a credit institution must own a charter capital of at least 3 trillion Vietnamese dong (US$131 million) and have registered for gold bar trading and be based in at least five provinces and municipalities. In order to qualify as a gold jewellery manufacturer, the company must be lawfully established, possess a business registration certificate to make gold jewellery, and have the necessary production facilities and equipment.

According to information found at the State Bank of Vietnam website, we understand that the gold market is still under very strict controls, and there is not much freedom to import and export gold. We also understand that the Vietnamese government is solely authorised to produce gold bullion, and it is also the only entity authorised to import and export raw gold for bullion production. Companies can import raw materials used in gold jewellery production, but this requires a license from the central bank, which is also required for trading gold bullion in Vietnam.

The following list of prohibited acts was published in Vietnam Law & Legal Forum magazine on 27 April 2012:

Prohibited acts in gold trading under Decree No. 24/2012/ND-CP of April 3, 2012:

- Producing gold jewellery and art craft without a certificate of business legibility granted by the State Bank;
- Trading in gold bars; or importing or exporting gold material without a State Bank license;
- Individuals bringing gold upon entry or exit in excess of prescribed limit without a State Bank license;
- Using gold as a means of payment;
- Producing gold bars in contravention of this Decree;
- Engaged in other gold trading activities without the Prime Minister's permission and a State Bank license;
- Violating this Decree and other related laws.

The decree created problems for local gold jewellery manufacturers, as they could no longer access gold for import purposes. The central bank later gave permission to a few firms to import gold under their strict supervision, but as yet no gold import quota has been granted.

Despite the strict rules governing the gold trade, there is no shortage of imported gold bars in the market as there is a healthy underground market for gold with a higher premium of US$40/troy oz. from Cambodia, Laos and China. Additionally, while the gold retail distribution network has changed superficially on the surface, the core business remains strong, with about 10,000 gold shops in the country, which sell gold chi rings over the counter and gold tael bars under the counter.

On 27 December 2019, SBV released Circular 29/TT-NHNN, which amended and supplemented some articles of Circular No.16/2012/TT-NHNN dated 25 May 2012. It also paved the way for government officials to implement Decree 24, managing gold trading operations.

There were four articles in Circular 29/TT-NHNN29, which took effect on 12th February 2020:

1. It abolished three administrative procedures regarding:
   a. Changes in the name and address of a licensed gold bullion trading point;
   b. Supplementing a new gold bullion trading point;
   c. Requesting for termination of gold bullion trading operations at a licensed gold bullion trading point.
2. Licensed credit institutions/businesses with gold bullion trading operations need to provide quarterly reports to the SBV when they make adjustments or changes to the gold bullion trading points.
3. It simplified some regulations on the reporting procedures enforced upon the SBV municipal and provincial branches and the credit institutions/businesses with gold bullion trading operations.

DOJI gold coins

Over the past 10 years, the Vietnam gold market appears to be stable, with many business activities going underground, such as sourcing gold raw materials needed for gold jewellery manufacturing and producing investment gold chi rings. Therefore, the Vietnam Gold Traders Association has submitted several petitions to the Government and the SBV, asking for the following:

1. The grant of import quotas for gold raw material used in gold jewellery fabrication as stipulated by Decree 24 and accordingly to production demand proofs submitted by key manufacturers.
2. The authorisation for major gold companies to produce their own branded gold tael bars to match the growing demand for investment bars and to bring down the high sales premium of SJC bars down to acceptable levels.
3. The set-up of a national Gold Exchange (based on the SGE model) under the management and supervision of the SBV to provide a regulated domestic market linking to regional and international gold markets, to cater for the supply and demand in gold of local manufacturers and retailers.

JEWELLERY MARKET

Decree No. 24/2012/ND-CP has enforced stricter control over gold and jewellery businesses. Policymakers authorised only a few companies, which include Sai Gon Jewelry Company Limited (SJC), Phu Nhuan Jewelry Joint Stock Company (PNJ), Doji Jewelry Corporation (Doji) and Bao Tin Minh Chau Jewelry and Gemstone Co. Ltd (BTMC).

However, these big four jewellery companies only occupy 20% of the market share, with the remaining accounted by small traditional family-owned businesses and minor manufacturers and retailers.

RETAIL INVESTMENT

Starting in 2012, as per Decree 24, the SBV only authorised the production and circulation of the SJC Golden Dragon tael bar as the official national bar brand. The SBV also banned all other forms of gold tael bars from circulation.

But as presented above, the premium sales of SJC bars have increased to a record high level. Therefore, other gold manufacturers have produced and retailed other forms of 24 carat gold products such as chi rings, gold medallions and emblems for investment purposes.

VIETNAM'S LACK OF DIGITAL PRODUCTS HAS RESULTED IN LITTLE OWNERSHIP OPTIONS APART FROM BUYING PHYSICAL GOLD.

DIGITAL GOLD

Vietnam's lack of digital products has resulted in little ownership options apart from buying physical gold. Only high net worth individuals who have access to overseas investment accounts invest in physical gold through digital or online platforms. For example, only 7% of all Vietnamese investors have digital gold products. However, digital gold products account for 30% of their portfolio on average among these investors, highlighting Vietnam's potential as a market.

Vietnam is also expanding tremendously in the FinTech industry. The total number of financial technology companies increased from 40 to 154 from 2016 to 2020. Lastly, according to the World Gold Council (WGC), younger Vietnamese are receptive to purchasing gold stored elsewhere. Among the 18 to 34 years old segment, 74% are keen to have vaulted gold, while 76% expressed interest in starting a gold investment bank account, while 48% would like to purchase gold from a digital platform. Hence, the market is ripe for the introduction of digital gold accounts.

SUMMARY

On the surface, the gold market in Vietnam is a highly regulated one, with the State Bank of Vietnam controlling nearly all aspects of gold trading and manufacturing. However, in practice, there is a thriving underground market to meet the demand of about 50-60 tonnes of gold per year, according to Metals Focus and WGC data. With an average GDP growth rate of 6.5%, we can expect a potential increase in demand, for both jewellery and retail investment, to 70-80 tonnes of gold per annum, in the next five years.

HUYNH TRUNG KHANH has more than 25 years of experience in the Vietnamese gold industry, first working for the World Gold Council (Asia) as Vietnam Country Manager before setting up his own gold consultancy business (VGC) in 2003 providing brokering and consultancy services to Saigon Jewellery Company (SJC), PhuNhuan Jewellery Joint-Stock Company (PNJ), Standard Bank Plc, StoneX and World Gold Council.

As a founding member of the Vietnam Gold Traders Association (VGTA), since 1998, Khanh has actively participated in the deregulation of the Vietnam gold market as Vice Chairman of VGTA, heading the External Relations Department of its Executive Committee.

INTERVIEW: BRUCE IKEMIZU, CHIEF DIRECTOR OF JAPAN BULLION MARKET ASSOCIATION

BY SBMA

Bruce Ikemizu is the chief director and precious metals specialist at Japan Bullion Market Association. He is currently using his knowledge and relationships within the sector to develop and grow the newly formed JBMA.

Crucible caught up with Bruce to hear more about his journey in the precious metal space, Japan's precious metals market, and how the Japan Bullion Market Association, which he founded in 2019, is spearheading the growth of the sector.

BRUCE, HOW DID YOU GET STARTED IN THE BUSINESS?

I joined the bullion market in 1987 after I graduated from Sophia University in Tokyo. I got my first job at Sumitomo Corporation, one of the biggest Japanese trading houses or Sogo-Shosha in Japanese, being assigned to the precious metals department. After working for Sumitomo for a little less than five years, I moved to Credit Suisse for two years, then Mitsui & Co. for 14 years, and Standard bank, which became ICBC Standard Bank later for another 14 years, until 2019.

I had been in the Japanese precious metals market, directly involved in trading and sales for the interbank or wholesale market until 2019, when I established Japan Bullion Market Association (JBMA). Currently, at JBMA, I examine the market somewhat indirectly from an advisor's and analyst's points of view. When I started with Sumitomo Corp, assigned to the precious metals department, I had never thought this would be my job until I was 60 years old, and it seems it will still be.

WHAT IS SO UNIQUE AND DIFFERENT ABOUT THE JAPANESE PRECIOUS METALS MARKET?

The Japanese market is unique and slightly different from most other countries because the key players are not Japanese megabanks, like MUFG, SMBC or Mizuho. Its uniqueness derives from the government structure. Many foreign countries regard gold as a quasi-currency, and banks often trade as one of the foreign exchanges, although the big difference from an FX desk is that most of them have physical trading teams to move around the globe. In Japan, gold is treated as a commodity, not a currency, as seen from the supervision of the Ministry of Economy, Trade and Industry, known as METI, rather than the Ministry of Finance (MOF), which governs banks' activities. Thus, historically, trading houses have been the key players in gold and other precious metals markets, not banks that trade currencies and other financial instruments in Japan, which only applies to Japanese banks. This would also explain why I have worked in Credit Suisse and Standard Bank during my career in the Japanese precious metals market.

COULD YOU GIVE OUR READERS WHO MAY NOT UNDERSTAND JAPAN'S PRECIOUS METALS MARKET A BIRD'S-EYE VIEW OF THE SECTOR?

The precious metals market in Japan has been through lots of ups and downs in the past 35 years that I have been in the precious metals space. To comprehend the changes that the Japanese bullion market went through and what it is today, allow me to share with you four broad areas that we need to understand about the industry: the interbank market, exchanges, physical market and precious metals financial investments.

Interbank market

The global precious metals interbank market went through lots of changes last 20 years. There used to be an interbank Loco London market. In the Asian time zone, there were market makers in Sydney, Tokyo, Hong Kong, and Singapore. They all ask and quote each other through telephone, telex and subsequently through the Reuters dealing system or trade through EBS broking. But that was the long-gone past now as the world became more sensitive to those OTC trades due to the counterparty risk, and banks are more inclined to trade on futures exchanges, where trading goes through a clearing system with no counterparty risk involved. From Tokyo, the primary interbank players had been the major trading firms, but some of them pulled out of the bullion market and currently, Mitsui & Co., Mitsubishi Corp, and Sumitomo Corp are market makers, and Sojitz is the market user active in the PM trading market.

JBMA's launch party on October 29, 2020, in Tokyo, Japan

Exchanges

Any conversation regarding Exchanges in Japan would need to include Tokyo Commodity Exchange, also known as Tocom. Tocom has been in the Japanese commodity futures market since 1984, when the Tokyo Gold Exchange, which started in 1982, merged with the Tokyo Textile Exchange and Tokyo Rubber Exchange. The Japan Exchange, which has the Tokyo Stock Exchange, bought Tocom and became the group company of the biggest exchange group. Tocom transferred its precious metals contracts to Osaka Exchange (OSE), which was within the same JPX group that specialises in derivatives trading.

Tocom had one of the most active precious metals (i.e., gold, silver, platinum, and palladium) contracts across the globe next to Comex and Nymex until around 2005. The primary source of profits for the Tokyo trading firms' precious metal traders was arbitrage trading among Tocom, Comex, Nymex and the spot loco London market. But that profit fell as Tocom's volume dwindled year after year, mainly due to the stricter rules by the commodity law – Act on Specified Commercial Transactions. It made marketing among Future Commodity Merchants much narrower, and thus the orders from individual investors decreased drastically. Since Tocom's liquidity relied heavily on those investors, trading volume shrank massively. OSE, a predecessor of the precious metals contracts from Tocom, is trying hard to educate investors and promote the agreements. As JPX is a member of JBMA, we are helping them market their precious metals contracts.

Wholesale and retail physical market

Third, we have the trading firms, the primary players who import and export physical metals. They represent the upstream of the market. Depending on Japan's market demand and supply, they could either be exporters or importers. Trading firms tend to be exporters of gold, especially in recent years, because gold is mainly an investment metal. Gold in yen prices is constantly increasing as we observe them selling back the gold investors bought a long time ago. But for the other precious metals, namely silver, platinum and palladium, trading firms are often importers as they are the providers of those metals to the industrial users. Big players such as Tanaka, Tokuriki and Ishifuku, three traditional precious metals wholesale and retail traders and Nihon Material, a newcomer compared to the big three, provide services for the individual physical investors. These brands are all London good delivery accredited. In addition to those retail traders, Mitsubishi Material, a smelting company, plays an essential role in the physical retail market. They all provide GAP (gold accumulation plan) to the investors, especially Tanaka and Mitsubishi Material, two popular ones.

The other two major physical related fields are smelting and recycling of the precious metals. Only one gold mine is still operating in Japan, Sumitomo Mining's Hishikari gold mine, which the density of gold is more than ten times higher than the global average, but the volume is small, several tonnes a year. So, Japan's gold production is mainly from copper and other base metal concentrates and scraps. Mitsubishi Material, Sumitomo Mining, PPC, Dowa and other smelters produce their brands of gold. The other gold comes from recyclers who specialise in collecting scraps and refining precious metals from them. Asahi Pretec and Matsuda Industry are by far the two largest recyclers. In addition to those smelters, these two recyclers' brands are also London's good delivery accredited and are widely accepted.

Precious Metals Financial investment

Lastly, when we talk about Precious Metals Financial Investment, we look at ETFs, CFDs, futures contracts and gold-backed crypto assets.

Mitsubishi UFJ Trust and Banking offer their precious metals ETF called Fruit of Gold, which covers gold, silver, platinum, and palladium and is also the only Japanese precious metals ETF. They are growing steadily.

Internet-based security houses like Rakuten, Monex, and SBI offer CFD precious metals trading services. These are margin-based trading accounts, just like other currency margin trading.

As I previously mentioned, OSE offers precious metals futures contracts to investors. Futures are high-risk and high-return investment methods due to the margin system. They provide more miniature contracts and spot rolling-based contracts to limit the risk and make it easier for the investors to the less risk appetite.

Earlier this year, Mitsui & Co. announced a new crypto asset called Zipang Coin. As it is a brand-new gold investment vehicle, which follows gold price, it is gathering interest from the gold investment space and crypto-assets investors needing a safe haven from the relentless volatility of other crypto assets.

WHY WAS THE JAPAN BULLION MARKET ASSOCIATION FORMED, AND WHAT HAS IT BEEN UP TO LATELY?

In September 2019, my colleagues and I established Japan Bullion Market Association to promote investments in precious metals in Japan and help introduce Japanese and foreign entities into the Japanese precious metals market. In addition to the others, Japan Exchange (JPX, owners of OSE) and World Platinum Investment Council (WPIC) joined us as members, and we are helping them cultivate investors in Japan.

Unfortunately, Covid-19 hit the world right after our commencement, and our activity has been mainly in cyberspace. As the world returns to normal, we hope to be more active in real life.

STRONG INSTITUTIONAL DEMAND DRIVES GOLD DEMAND IN Q1

BY ANDREW NAYLOR, ***Regional CEO, APAC (ex China) and Public Policy, World Gold Council***

At the end of April, the World Gold Council published our first quarter Gold Demand Trends report, which showed a solid start for the gold market this year, with Q1 gold demand 34% higher than in Q1 2021.

A significant driver of this was strong ETF flows, which at the time of writing, are just shy of their highest ever level. In a quarter that saw the US dollar gold price rise by 8%, gold demand (excluding OTC) increased 34% year-on-year to 1,234 tonnes – the highest since Q4 2018 and 19% above the five-year average of 1,039 tonnes.

Two key factors driving both the price and demand are surging inflation and the Ukraine invasion. Inflation in many markets is at its highest in decades. Here in Singapore inflation is at a 10-year high – fairly modest when compared to the 20-year high we are seeing in Australia, the 30-year high in much of Europe, and the 40-year high in the US. What's clear is that inflation is more persistent than policymakers had hoped, and this is one of the reasons institutional interest in gold is higher.

GOLD AS AN INFLATION HEDGE

Our research shows that gold can be an effective inflation hedge. The average annual return of 11% in US dollars over the past 50 years, has outpaced the US and world consumer price indices (CPI).

Gold also protects investors against high and extreme inflation. In years when inflation was higher than 3%, gold's price increased 14% per year on average. This number increased significantly with even higher inflation levels. Over the long term, therefore, gold has not just preserved capital but helped it grow.

Research also shows that gold should do well in periods of deflation. Such periods are characterised by low interest rates, reduced consumption and investment, and financial stress, all of which tend to foster gold demand.

Inflation isn't the only reason investors allocate to gold though. It is considered a fundamentally strategic asset. It can be a source of returns and in the long run has outperformed many other major asset classes. Its unique demand profile means it performs differently to other asset classes, and its lack of positive correlation to many other assets, particularly in downturns, makes it an effective diversifier. It is also liquid – over US$145 billion is traded every day. And as a physical asset it carries no credit risk when owned outright. Taken together, it has the potential to increase risk-adjusted returns. And this is why many institutions hold a strategic allocation to gold.

Q1 GOLD DEMAND – KEY GLOBAL FINDINGS

- Gold ETFs had their strongest quarterly inflows since Q3 2020, fuelled by safe-haven demand. Holdings jumped by 269 tonnes, more than reversing the 174 tonnes annual net outflow from 2021.
- Bar and coin investment was 282 tonnes in Q1, 20% lower than the very strong Q1 2021 but 11% above its five-year quarterly average. Renewed lockdowns in China and historically high local prices in Turkey were key contributors to the year-on-year decline.
- Jewellery consumption lost momentum in Q1: demand was down 7% year-on-year at 474 tonnes. The drop was largely due to softer demand in China and India.
- Central banks added 84 tonnes to global official gold reserves during the first quarter. Net buying more than doubled from the previous quarter but fell 29% short of Q1 2021.

- The technology sector had a steady start to the year: demand of 82 tonnes was the highest for a first quarter since 2018, driven by a modest uptick in gold used in electronics.

ASEAN TRENDS

Closer to home in ASEAN, the picture was a little mixed. Consumer demand was up in Vietnam, Malaysia, and Singapore. This is due to a mix of post-pandemic economic recovery boosting consumer confidence, and in Vietnam's case, an exiting of the COVID lockdown that took place in 2021. Thailand and Indonesia though saw a drop in consumer demand. Consumers in these markets tend to be more price sensitive, and the higher local gold prices have encouraged consumers to sell and lock in profits.

Vietnam is particularly noteworthy. Jewellery consumption grew 10% year-on-year to nearly 6 tonnes. This is the first year-on-year increase following the last two quarters of year-on-year decline, and the highest first quarter for Vietnam since 2007. Festivities including the New Year celebrations in February, Valentine's Day and the God of Fortune Day supported the recovery, as has the recovery of business activity to pre-COVID levels. This is reflected in a robust GDP growth figure of over 5% in the first quarter. Bar and coin demand in Vietnam also grew – by 4% year-on-year – for similar reasons.

OTHER KEY REGIONAL MARKETS:

- Consumer demand in Australia grew 24% year-on-year. This was the first time Australia has been included in out gold demand data series and our estimates suggest Australia is a c28 tonne retail market. Institutional investment in Australia is also a significant component of gold demand, and Australian-listed ETFs grew by almost 5% in the first quarter.
- Japan was more mixed. We saw net selling of bars and coins as consumers – many of them having held gold for a long time – continued to take advantage of the higher gold price and sell. Jewellery demand was up slightly. We are also seeing an increased interest in Japan from younger investors, particularly for gold accumulation plans. The weakening yen is likely to see this interest grow.
- In South Korea, consumer demand was down 16% year-on-year. The main reasons for this are the higher gold prices and also the COVID situation, with cases spiking significantly in Q1 (although now tapering off).

So, whilst it was a robust first quarter this was driven by institutional investment. The consumer demand picture was more mixed. However, as most countries are starting to move on from the pandemic, it is likely that consumer demand will be supported in the remainder of the year, as one of the biggest drivers of retail demand is economic confidence. Institutional investment demand could be more volatile, with a number of tail- and head-winds having an impact. The tug of war between inflation and interest rates, and continued geopolitical uncertainty, will be large factors affecting institutional investment demand for the remainder of the year.

WORLD GOLD COUNCIL SINGAPORE INITIATIVES

The World Gold Council is working on a number of initiatives in Singapore and the region:

1. Professional development curriculum for gold – as part of our commitment to drive forward industry standards, we are creating a professional development curriculum for gold. This will be launched in Singapore later this year, before being rolled out to other markets worldwide. The curriculum will cover the investment case for gold, gold products, fundamentals of the gold market, role of supply chain participants, international standards, and ESG.
2. Retail Gold Investment Principles (RGIPs) – The World Gold Council's professional principles build trust in the global retail gold market. They give gold providers a detailed set of best practices and a road map for implementing them. Following engagement with the retail gold industry, we are rolling out a Singapore version of the Principles to help increase confidence in gold, and embed gold as a trusted financial asset.
3. EVOLE Singapore – our second institutional investment conference will take place in Singapore in December. The conference is part of a series of events bringing together senior investment decision makers from institutional asset owners and wealth managers to discuss the role of gold as a strategic investment.
4. Gold Bar Integrity programme – the World Gold Council and the LBMA have joined forces to develop and implement an international system of gold bar integrity, chain of custody and provenance. Over time, this will help consumers, investors, and market participants to trust that their gold is genuine and has been responsibly and sustainably sourced. This is an international initiative, and engagement will continue with stakeholders worldwide, including here in Singapore.

ANDREW NAYLOR joined the World Gold Council in 2016 and since 2020 has led WGC's regional office in Singapore. Originally part of the central banks and public policy team, Andrew was responsible for WGC's Islamic finance initiative, culminating in the launch of the AAOIFI Shari'ah Standard on Gold. Andrew started his career at international consultancy firm Cicero Group advising financial institutions on foreign investment and trade policy in Asia, and the global regulatory reform agenda.

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HOW THE COVID-19 CRISIS TURNED INTO AN OPPORTUNITY FOR KOREA'S GOLD MARKET

BY KAY LEE, *CEO, Wolgok Jewelry Foundation*

Like anywhere else, Korea's domestic consumer market, including the gold and gold jewellery sectors, was hit by the worldwide Covid-19 pandemic. What we thought was normal became non-normal and the good old past is not likely to be fully restored.

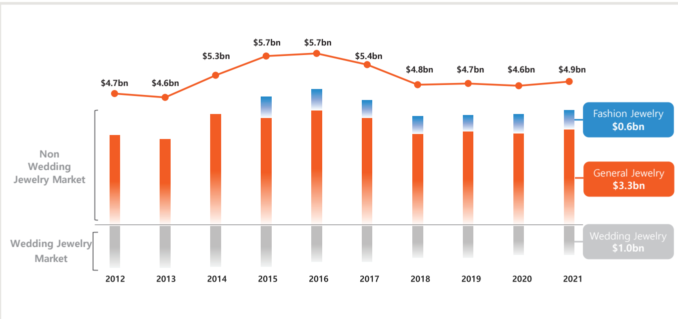
CHANGING MARKET TRENDS

According to WJRC (Wolgok Jewelry Research Institute), the Korean jewellery market was estimated at US$4.9 billion in 2021, 3% higher from the previous year. The market, hit by Covid-19, saw a decline from the pre-pandemic years but marked a recovery in 2021.

Korea's jewellery market has been traditionally divided by wedding and non-wedding purchases. General gold jewellery in the non-wedding jewellery market, which includes 84.6% of the total non-wedding market and 67.3% of the total market, recorded US$3.3 billion in sales and led the market recovery. The wedding market, which comprised 20.4% of the total market, has been steady at US$1 billion. However, it might be regarded as a "good defence", considering the rapidly decreasing number of weddings, due to decreasing wedding age population and the trend to postpone weddings during the pandemic and to stay single or get married at a later age.

Size of Korean Jewellery market

[Unit: USD billion]



[Unit: USD billion]

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Non Wedding Jewelry Market	General jewelry	2.9	2.8	3.5	3.4	3.7	3.4	2.9	3.0	3.0	3.3
	Fashion jewelry	-	-	-	0.7	0.7	0.5	0.5	0.5	0.6	0.6
	TOTAL	2.9	2.8	3.5	4.1	4.3	4.0	3.5	3.5	3.6	3.9
Wedding Jewelry Market		1.3	1.3	1.3	1.3	1.1	1.1	1.0	1.0	1.0	1.0
TOTAL		4.2	4.1	4.8	5.4	5.5	5.1	4.5	4.5	4.6	4.9

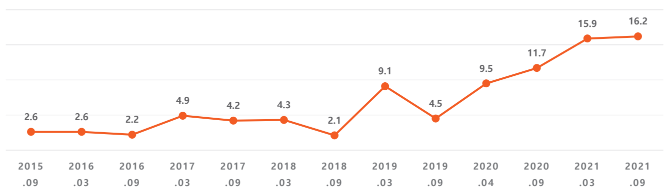
Source: Wolgok Jewelry Research Center, Gallup

One of the most noteworthy changes in the jewellery market during the pandemic is an increase in online jewellery purchases. According to Euromonitor, Korea's online jewellery market size in 2021 was estimated at US$370 million, an increase of 7.7% from the previous year. Despite the fact that the jewellery market has been highly traditional and rather conservative, this growth rate seems to be relatively significant and proves that the jewellery market is not an exception from the global trend of "untact" market expansion – a South Korean government policy that aims to spur economic growth by removing layers of human interaction from society. The pandemic has pushed the jewellery market further to e-commerce environment and this trend is most unlikely to be reversed, even after the post-pandemic situation.

Similar trends have been monitored in WJRC's research. Before 2019, online jewellery purchases accounted for about 2–4% only. But, from the first half of 2019, it grew to 9.1% and then jumped to 16.2% in the first half of 2021.

[Unit: %]

Year-on-year changes in the online general jewellery purchase rate



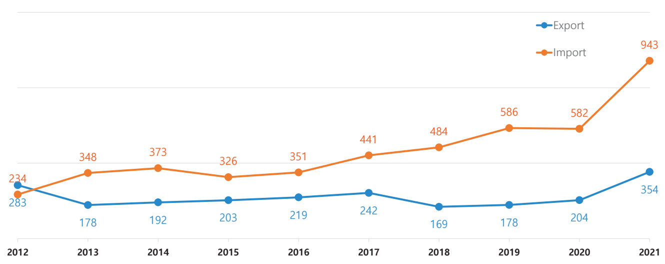
Source: Wolgok Jewelry Research Center, Gallup

JEWELLERY IMPORTS AND EXPORTS

In 2021, gold and jewellery recorded US$2.5 billion and US$942 million in imports respectively. In addition, both diamond/gem imports and jewellery exports saw their highest levels since WJRC started its market research in 2012. Exports reached US$353.75 million, an increase of 73.5%, while imports reached US$942.84 million, an increase of 62%. According to Euromonitor, Korea's luxury jewellery market size is the fourth-largest globally, and is likely to grow further, influenced by "revenge spending from the pandemic" and "flex consumption by the MZ generation".

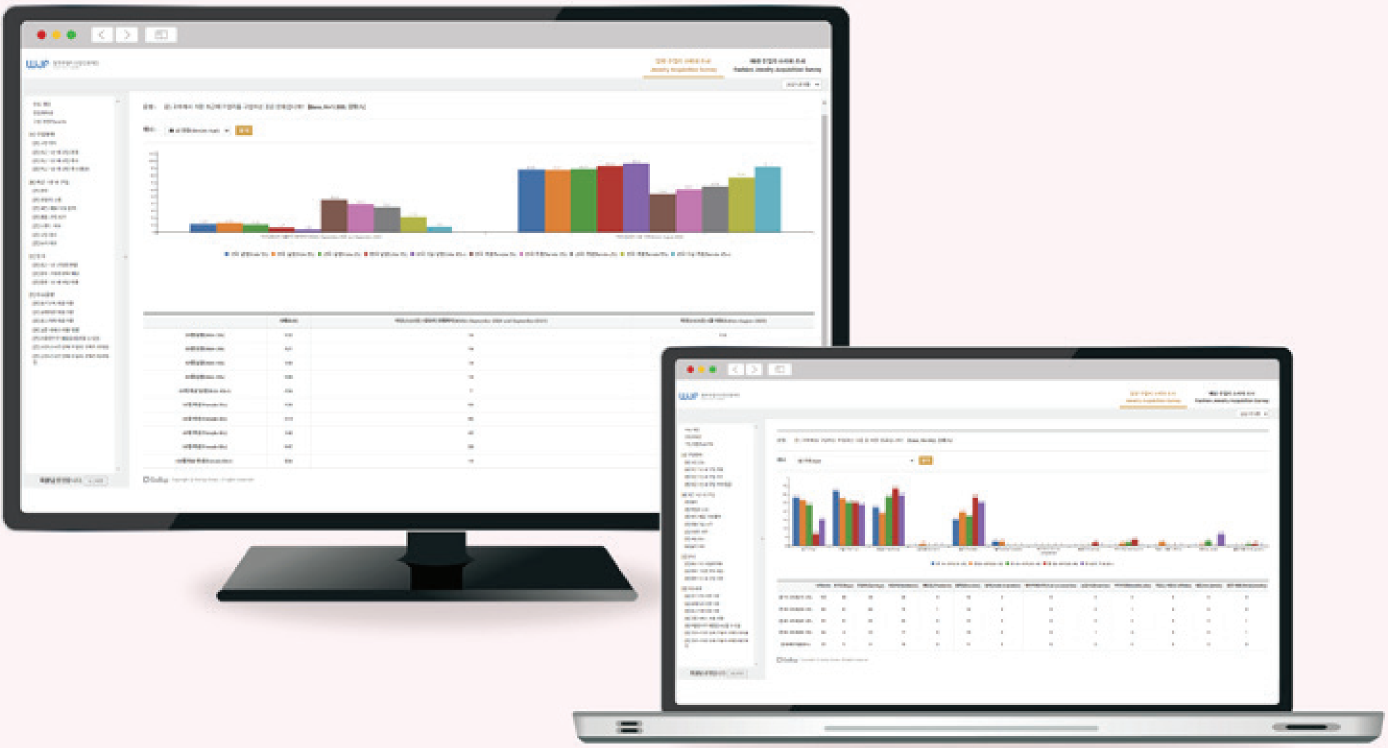
[Unit: USD million]

Annual jewellery import and export



*Hs Code 7113: Articles of jewellery and parts thereof, of precious metal or of metal clad with precious metal.

Source: KITA (https://www.kita.net/), Korea



Current online research data service - Jewellery Acquisition Survey

CATCHING UP WITH THE JEWELLERY'S CONSUMER MARKET

Founded in 2009, Wolgok Jewelry Foundation (WJF), a non-profit organisation, has been contributing to the jewellery market by providing market research data, educating future jewellery market leaders, providing marketing consulting, and working with the gold and jewellery industry to deregulate and develop the market. For all these objectives, reliable market data is essential. However, it is also equally or even more important to let the data be fully accessible and utilised by the industry, consumers, media, and various government bodies and organisations.

WJF has been hosting various seminars and publishing research periodicals, newsletters, and reports. However, accessibility and custom-tailored data analysis were not fully available to people who needed data analysis for their own specific requirements when they wanted, due to the limitation of printed materials and physical spaces in the offline programs.

At the start of the pandemic, WJF started to invest in online data analysis service to make its research more widely available and accessible. As a result, WJF online data service was made available and free to everyone. In addition, WJF was assigned as the organisation to participate in the government's AI learning data development project to spur innovation in the jewellery market. The consumer market is also being diversified. The traditional understanding of the mass market may vanish sooner or later as consumer profiles and expectations are getting more complicated and changing rapidly. In this sense, market and consumer research data are essential raw materials, which gold and jewellery industry must catch up with the consumers for survival. When this science is combined with creative insights, the future of the gold and jewellery industry may find a new opportunity a path forward.

WJF offline programs

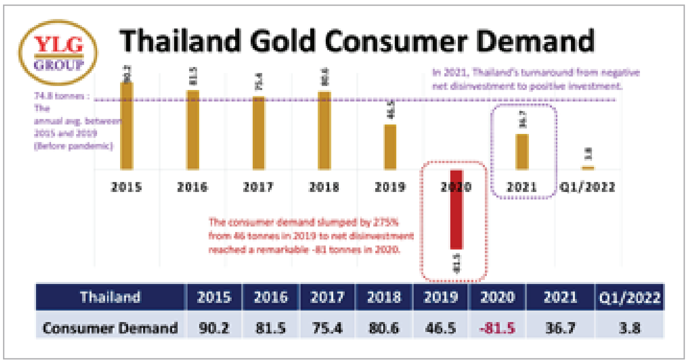
KAY LEE is CEO of Wolgok Jewelry Foundation, a non-profit organization established in 2009 to support Korea's gold and jewellery industry. Kay has been working for various multinational communication, marketing, and consulting companies, including 11 years of experience as the country manager for Korea at the World Gold Council.

THAILAND'S GOLD MARKET UPDATES

BY PAWAN NAWAWATTANASUB, *CEO, YLG Bullion Singapore*

Our last two articles (published in Crucible #17 and #19) highlighted the challenges and problems Thailand's bullion industry faced while navigating the Covid-19 crisis.

In fact, even before the pandemic started, our records showed a downward trend in physical gold demand from 2015 to 2019 (2015: 90.2 tonnes; 2016: 81.5 tonnes; 2017: 75.4 tonnes; 2018: 80.6 tonnes; 2019: 46.5 tonnes). Subsequently, experiencing the full impact of the Covid-19 in 2020, the country witnessed a massive wave of physical gold disinvestment.



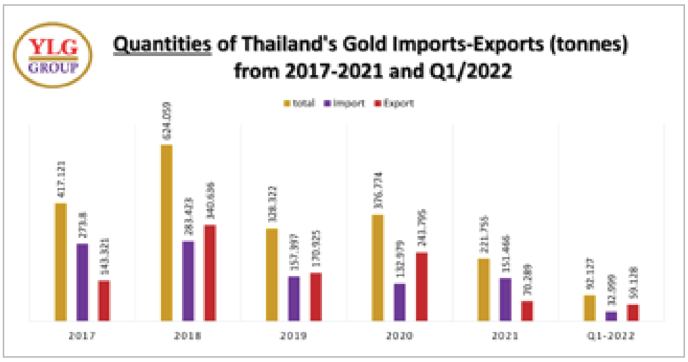
Thailand	2015	2016	2017	2018	2019	2020	2021	Q1/2022
Consumer Demand	90.2	81.5	75.4	80.6	46.5	-81.5	36.7	3.8

Source: World Gold Council, data calculation by YLG

Throughout 2021, Thailand moved from net disinvestment to net positive investment due to the combination of a lower gold price and continued economic recovery. Annual gold consumer demand reached 36.7 tonnes, compared with net selling of 81.5 tonnes in 2020.

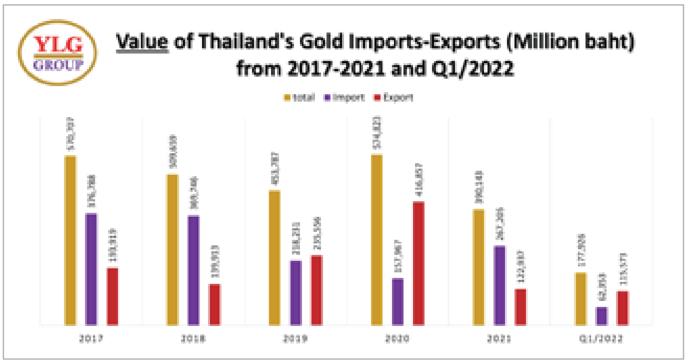
In 2022, while higher local gold prices and the Omicron surge have prompted many Thai investors to hold back their gold purchases, the government maintained its GDP growth outlook at 3.5–4.5% for the year. Moreover, as travel restrictions are relaxing globally, there is optimism that the Thai tourism industry will soon recover. Hence, we can expect a modest increase in Thai gold consumption for this year, provided that gold price stays under the US$2,000 per ounce level.

Typically, the volume of gold imports and exports depend on the movement of gold prices. In 2020, the country exported 243.795 tonnes of gold, an increase of 42.63% from 170.925 tonnes in 2019. Meanwhile, imports plummeted -15.51% to 132.979 tonnes. The rise of gold exports was a result of continued growth in the gold price globally during the year.



Source: Thai Customs Department, data calculation by YLG

A falling gold price is a factor that stimulates the buying of gold among investors, who hope to profit from future price appreciation. As a result, the quantity of imports has increased. Evidently, in 2021, the country's gold imports rose roughly 14% to 151.466 tonnes. Meanwhile, exports slumped by -71.17% to 70.289 tonnes of gold.



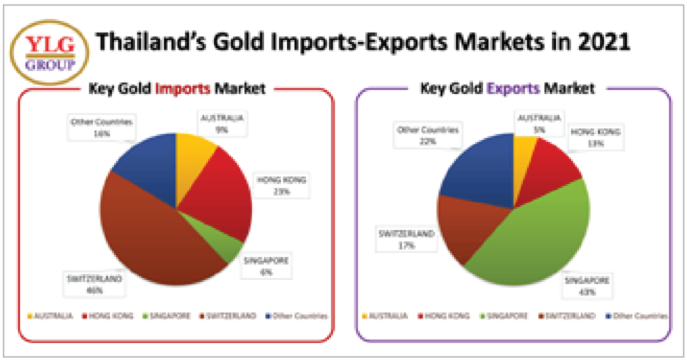
Source: Thai Customs Department, data calculation by YLG

The main destinations of gold exports from Thailand in 2021 were Singapore (43%), Switzerland (17%), Hong Kong (13%) and Australia (5%), according to Thai customs data. On the other hand, the main sources of Thailand's gold imports in 2021 were Switzerland (46%), Hong Kong (23%), Australia (9%) and Singapore (6%), as per Thai customs data.

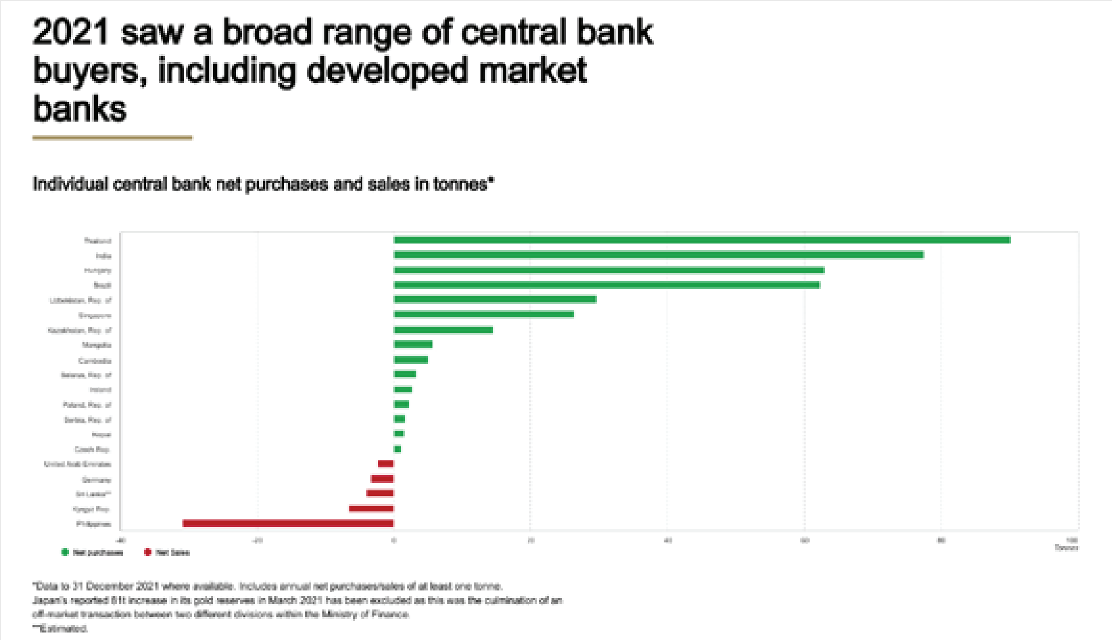
All imports and exports of gold are VAT exempt. The standard rate of VAT is 10%, but the rate is currently reduced to 7% until 30 September 2023. Corporate tax is 20%.

Interestingly, according to the World Gold Council, the Bank of Thailand, the country's central bank, was the largest buyer of gold in 2021. As a result, its gold reserves grew by 59%, from 90 tonnes to 244 tonnes, as it last bought gold in 2017. As a matter of fact, gold accounted for 6% of Thailand's total reserves, the highest tonnage level recorded.

According to Bank of Thailand Governor Sethaput Suthiwartnarueput, gold achieves the critical objectives of reserve management, which include security, return, diversification and tail risk hedging.



Source: Thai Customs Department, data calculation by YLG



Source: IMF IFS, Respective Central Banks, World Gold Council

In Thailand, the popular choice of physical gold investment is the traditional baht bars in various weights and shapes such as square, oval, round, rectangular, biscuit, boat and doughnut, with a purity of 96.5% & 99.99%.

Alternatively, many savvy domestic investors also trade gold futures via the Thai Futures Exchange (TFEX). The 50 Baht Gold Futures contract was launched in 2009. Since then, the good response to the contract has led the exchange to launch a smaller sized 10 Baht Gold Futures contract in 2010.

The TFEX gold futures contract is a non-physical delivery contract. It is cash-settled upon expiry based on a final settlement price that is derived from the London AM Fixing price for Loco London and the USD/THB fixing price (16.30 hrs. Bangkok time) on the last trading day.

To date, there are more than 7,000 gold shops and goldsmiths spread across numerous provinces around Thailand. However, many of these retail outlets and gold shops are relatively small-scale operations with limited capacity to handle large trading volumes. This situation is especially apparent after a sudden overnight movement in the international gold price.

As such, the larger flow of the activity will eventually have to channel to reputable and large-sized wholesale gold traders. However, there are only a few Thai gold trading firms that can handle substantial trading volumes, such as YLG Bullion International. And these wholesale gold traders have been actively trading in the domestic and international markets for more than two decades.

In Thailand, there are some regulatory requirements to fulfil before any gold traders can start importing and exporting gold. These gold traders must have already registered and fulfilled specific business requirements under the Ministry of Commerce, Revenue Department and Custom department.

Also, these traders must be a member of the Thai Gold Traders Association, which has significant influence in the domestic market. It represents the entire bullion community, often communicating with respective government agencies on trade regulations and policy implementation.

SUMMARY

Gold has always been well-liked by the Thai people. And the traditional values of saving for rainy days has not been forgotten, even during crisis periods. This attitude to saving is also why in 2021, Thailand bounced back with a reasonable demand after disinvestment in the previous year.

Globally, we have witnessed runaway inflation as pent-up spending demand, coupled with supply chain disruption, pushed prices up. Furthermore, the ongoing war in Ukraine is also causing many economic shocks and impacts. Under these circumstances, gold will continue to be well sought after because of its safe haven and inflation hedging qualities. Therefore, we remain very bullish on physical gold investment in Thailand in the foreseeable future.

PAWAN NAWAWATTANASUB is the CEO of YLG Bullion Singapore and the CEO and founder of YLG Bullion International. She has almost 40 years of experience in the jewellery industry and established YLG in Thailand in 2003. In 2012, she brought YLG to Singapore. She sits on the Board of Directors of the Thailand Gold Traders Association, and is a SBMA Committee member.

DIGITAL GOLD AND THE LATEST UPDATES IN THE INDUSTRY

BY JEFFREY PREMER, *CEO, Vaultex* & SIMON SYWAK, *COO, Vaultex*

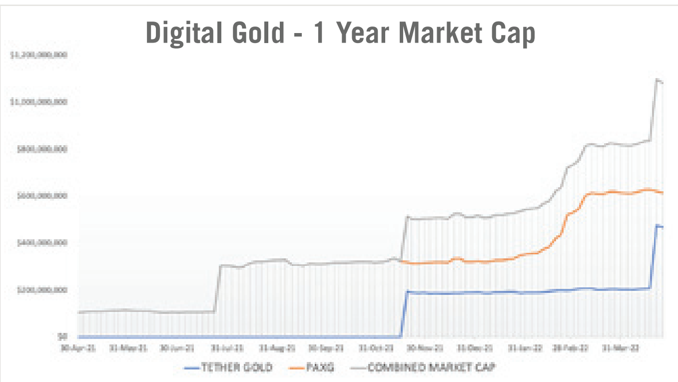
The term "digital gold" has been hurled about by pundits everywhere in reference to Bitcoin or even unbacked digital assets in general.

The term digital gold has only one legitimate definition: physical gold stored in custody and represented in digital form on cryptographically secure public or private ledgers. This is where one could digress into a discussion on the value of unbacked digital assets versus asset-backed digital assets, but I will leave that rabbit hole for another day.

Digital gold is nascent but growing and has shown it can be efficient in both trade and collateralisation. Digital gold tokens are popular on major cryptocurrency exchanges. These "stablecoins" can be used during volatile down swings in the digital asset markets by traders to quickly align their portfolios into an asset-backed token that is less volatile than cryptocurrency but still not pegged to a government-backed currency. Digital gold tokens can also be "staked" on decentralised lending platforms, creating a revenue stream for the token owner through lending yield. Not all digital gold tokens are equal, and due to differences between them, some flourish, and some seem relegated to obscurity. We will ignore the obscure issuances and focus on the successful ones.

PAX Gold (PAXG) was issued by Paxos, a US-based licensed custodian and trust company. PAX Gold has issued over US$600 million in gold-backed tokens since its founding in 2019. PAX Gold is redeemable for an LBMA good delivery gold bar or cash settlement from the issuer on demand. PAX Gold's success can be partially credited to the reasonable pricing and its strong ecosystem partners like Brinks for storage, StoneX for bullion supply, and popular cryptocurrency exchanges that have listed PAXG. Trading volume and demand are primarily retail buyers and traders. PAXG has seen daily trading volume as high as US$315 million per day.

Token	Market Cap (total issued)	Highest daily trading volume	Recent daily trading volume
Tether Gold (Gold)	$477,000,000	$33,000,000	$33,000,000
PAX Gold (PAXG)	$600,000,000	$315,000,000	$26,000,000



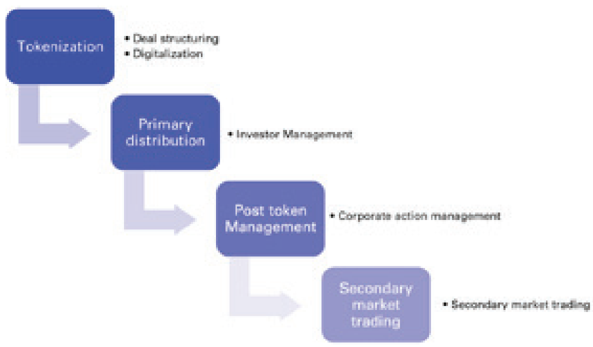
Source: CoinMarketCap

Tether Gold (GOLD) is issued by TG Commodities Ltd., affiliated with the Hong Kong company Tether Limited, which in turn is controlled by the owners of Bitfinex. Tether USD, a popular USD-backed token issued on the Ethereum network, has seen many allegations of fraud and paid millions in regulatory fines for misrepresentation. Regardless, retail cryptocurrency enthusiasts and traders do not seem fazed by the tainted history and have bought nearly US$477 million from Tether Gold, which trades on various exchanges at a US$33 million trading volume per day. Considering Tether's past, trading or holding Tether Gold was not an attractive option for institutional investors.

As previously mentioned, one attractive aspect of digital gold is that they can provide yield to token holders who lend them out via smart contracts on decentralised lending platforms. This staking of digital gold produces yield for any amount of time in a secure manner as the token return is guaranteed through the smart contract and is essentially a risk-free carry income.

In addition, digital gold can be used as collateral on decentralised lending platforms to speculate on unbacked digital assets. The collateralisation is also done through smart contracts and, although always at risk of a margin call, in the event of a market loss, a good trader would be able to profit from this ability and still retain his original gold position. We will surely see new and innovative decentralised platforms that create opportunities for the digital gold holder.

But the real opportunity for blockchain and gold is institutional.



Currently, the presence of an institutional secondary market for the tokenisation businesses is developing. The technology behind such a market needs to be very modular and scalable, allowing expansion into other asset classes in the future and streamlining the secondary market infrastructure.

Gold in Asia is just the beginning. The value of tokenised gold will only be realised when institutional investors like retail consumers can deploy capital via a regulated secondary market working with a public distributed ledger (blockchain).

Singapore is well-positioned to be the regulated Asian secondary market to provide services to the ecosystem in tokenisation of precious metals and other commodities and workflows in the future.

A SOLUTION FOR TOKENISING INSTITUTIONAL FINANCIAL MARKET SECURITIES

New capital markets need faster trading options to improve settlement risk management and custody and, from a regulator's point of view, are technology-neutral.

Innovative technology addresses the issues in secondary market infrastructure

1. Identity

   Securities issuance and transfer require a known identity, but most chains are built for pseudonymity. Therefore, an institutional-grade customer due diligence process is required to ensure all actors on the chain are verified and transactions are authored by permissioned entities.

2. Compliance

   Solutions built on top of general-purpose blockchains struggle with processing the complex logic needed to comply with regulations. Participants will need an ability to build compliance into the chain, enabling faster processing and lower protocol fees that can scale as demand and complexity of regulation grow.

3. Confidentiality

   Most market participants need their position and trades to remain confidential, but anyone can see and view the holdings on blockchains. Hence, the solution needs to engineer a secure asset management protocol that enables confidential asset issuance and transfers.

4. Governance

   Contentious forks in the chain present significant legal and tax challenges for tokens backed by real assets. Therefore, participants need to adopt an industry-led governance model to prevent hard forks and guide the chain evolution.

5. Finality of settlement

   The distributed ledger serves as an immutable golden record for asset ownership. Digitalisation by creating assets at the protocol layer can provide a simplified approach to transfers and deterministic finality using a distributed ledger technology whilst complying with regulatory developments.

BENEFITS OF CREATING A SECONDARY MARKET

Improved liquidity

A secondary regulated market is a venue to allow institutional liquidity and access.

Less complexity and better operational efficiency

It is also an architecture to simplify workflows in complex and legacy market infrastructure whilst maintaining the current ecosystem and incorporating a digital ledger. By using modular technology, it will be able to reduce cost and increase efficiencies using current and future technologies to develop an advanced secondary market structure.

Faster, cheaper transactions

The token holder's rights, legal responsibilities and record of ownership can be embedded into the market ecosystem using distributed ledger technology.

Greater transparency and broader access

An accredited and regulated secondary market establishes access for more institutional investors to a previously unaffordable or insufficiently divisible asset class, only available to retail clients through unregulated and unsecured platforms, using best-in-class technology. It also assists and enables regulatory bodies greater transparency and monitoring through access via the ledger layer and enhances the providence of the capital market structure.

SUMMARY

In conclusion, as emerging technologies continue to evolve and regulation develops, IT and business partners need to remain closely aligned on their digitisation strategies. The establishment of a regulated secondary market will enhance the existing infrastructure ecosystem through digitisation and tokenisation. However, firms that struggle with adoption or do not fully embrace and invest in digitisation won't have the ability to adapt and seize new opportunities in the future. Therefore, digital gold and other asset classes offered by Vaultex are an obvious starting point for this process via its secondary market infrastructure.

JEFFREY PREMER is the founder and CEO of Vaultex Pte Ltd., a Singapore based allocated spot gold and commodities exchange launching this fall. Jeffrey has extensive experience as an entrepreneur, team builder and company scaler in a variety of industries, including finance, software and electronic hardware development, supply chain management, telecom and infrastructure. Jeffrey has been advising companies, venture funds and family offices in Asia for over 25 years.

SIMON SYWAK is a founder and COO of Vaultex Pte Ltd. Simon has extensive experience in commodities markets and electronic trading strategies and infrastructure obtained within both investment and asset management firms. Simon has been working within banks, investment funds and family offices in Asia and Europe for over 25 years.

SBMA News

The team at SBMA has been busy this quarter with preparatory work for the 5th Asia Pacific Precious Metals Conference (APPMC) in June. We hope that our members and friends will support the event and have had a good time attending the conference like in previous years. We also would also like to thank our contributors and sponsors for their continued support for the APPMC, as well as their contributions to *Crucible*.

Here is an update of SBMA's activities in the past quarter:

APRIL 5, 2022: SBMA Management Committee members gave an introduction of the precious metals industry to Enterprise Singapore (Enterprise SG) Assistant CEO Lee Pak Sing, during a visit to Metalor Technologies Singapore Pte Ltd, an LBMA-accredited refinery.

Enterprise SG Assistant CEO Lee Pak Sing holding a 400 oz gold bar during his visit to the Metalor refinery.

APRIL 12, 2022: SBMA assisted Inland Revenue Authority of Singapore in understanding gold bullion market practices.

APRIL 19, 2022: SBMA CEO Albert Cheng was interviewed by The Business Times to comment on Singapore's non-monetary gold trade.

APRIL 28, 2022: Ruth Crowell, Chief Executive, LBMA, briefed the SBMA Management Committee members on the progress of the Gold Bar Integrity Programme – an initiative by the LBMA and the World Gold Council (WGC) to develop and implement an international system of gold bar integrity, chain of custody and provenance. SBMA seeks its members' support and collaboration with their service providers in their pilot test in Q2.

MEMBERSHIP

HydraX Pte Ltd and Precious Metals International (Singapore) Pte Ltd onboarded as Local Associate Corporate members. Integral Software Singapore Pte Ltd onboarded as an Affiliate member.

SBMA's total corporate membership consists of 53 companies, including three Category 1 members, 34 Local Associate Corporate members, 14 Foreign Associate Corporate members and two Affiliate members.

UPCOMING EVENTS

16–18 October, 2022. Lisbon, Portugal

LBMA/LPPM Global Precious Metals Conference 2022

This year's conference, that gathers more than 500 industry professionals, features two days of exclusive knowledge-sharing across the entire precious metals supply chain. It will also include three days of networking opportunities with other global industry leaders and expert analysis from top speakers on issues that matter to businesses. Please visit https://www.preciousmetalsconference.com for registration and event details.

Shanghai Platinum Week 2022

Due to the extended COVID lockdown, the Shanghai Platinum Week 2022 which was initially planned in the last week of June will be postponed to the second half of 2022. The organisers are very sorry for the change and will inform you when the new date is fixed. They look forward to your continuous support to the event. Please visit the official website www.shanghaiplatinumweek.com, if you need further information.

About Crucible

Crucible is published quarterly by SBMA. If you would like to contribute an article, news or information to Crucible, place an advertisement in Crucible, or if you require further information, please contact:

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