FMSB
FINANCIAL MARKETS STANDARDS BOARD

Precious Metals Market Post-Trade
Spotlight Review

Financial Markets Standards Board

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In specialist committees, sub-committees and working groups, industry experts debate issues and develop Standards and Statements of Good Practice and undertake Spotlight Reviews that are made available to the global community of financial market participants and regulatory authorities. As part of its analysis on the root causes of market misconduct, FMSB is focusing on the challenges of new market structures.

Spotlight Reviews

Spotlight Reviews encompass a broad range of publications used by FMSB to illuminate important emerging issues in financial markets. Drawing on the insight of members and industry experts, they provide a way for FMSB to surface challenges market participants face and may inform topics for future work. Spotlight Reviews will often include references to existing law, regulation and business practices. However, they are not intended to set or define any new precedents or standards of business practice applicable to market participants.

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Introduction

Gold has been traded for millennia across the globe. Its inherent value in industry and as decoration, as well as for investment, means that the market is broad, and many transactions, including between members of the public, will take place Over the Counter (OTC). The role of an effective wholesale market in helping with price discovery is therefore vital to setting a reference price, thus bringing transparency to industrial and retail transactions.

With approximately 70% of global notional trading volume[1], the London OTC market has been and remains the centre of the gold trade. Despite remaining OTC, the London market is highly organised and centralised. Gold, together with silver, platinum, and palladium are the most commonly traded "precious metals" which are capable of being traded on an allocated and unallocated basis. This allows market participants to trade the physical metals without the costs of physical transportation.

There are two main locations for facilitating unallocated precious metals trading. Contracts that are settled in London, and underpinned by bullion that is physically held in London vaults, are referred to as "Loco London". The equivalent structure for Swiss-settled contracts is referred to as "Loco Zurich".

The post-trade structure for commodities differs to that of financially-settled contracts; they are physical assets and delivery takes place in the real world, not on a ledger. Precious metals are further unique as a commodity due to their qualities as a store of value, and the difficulty in re-confirming their quality. As such, there is a sizeable custody market, which provides guarantees of standards, the safe storage of the physical metals, and proof of chains of ownership for previously tested bars.

It is recognised that the precious metals market structure has lagged behind other fixed income, currencies and commodities ("FICC") markets in adopting automation and other efficiency gains[2]. Notwithstanding the differences in the structure of the markets, certain solutions from other asset classes may be read across to precious metals, and emerging technologies may provide further benefits.

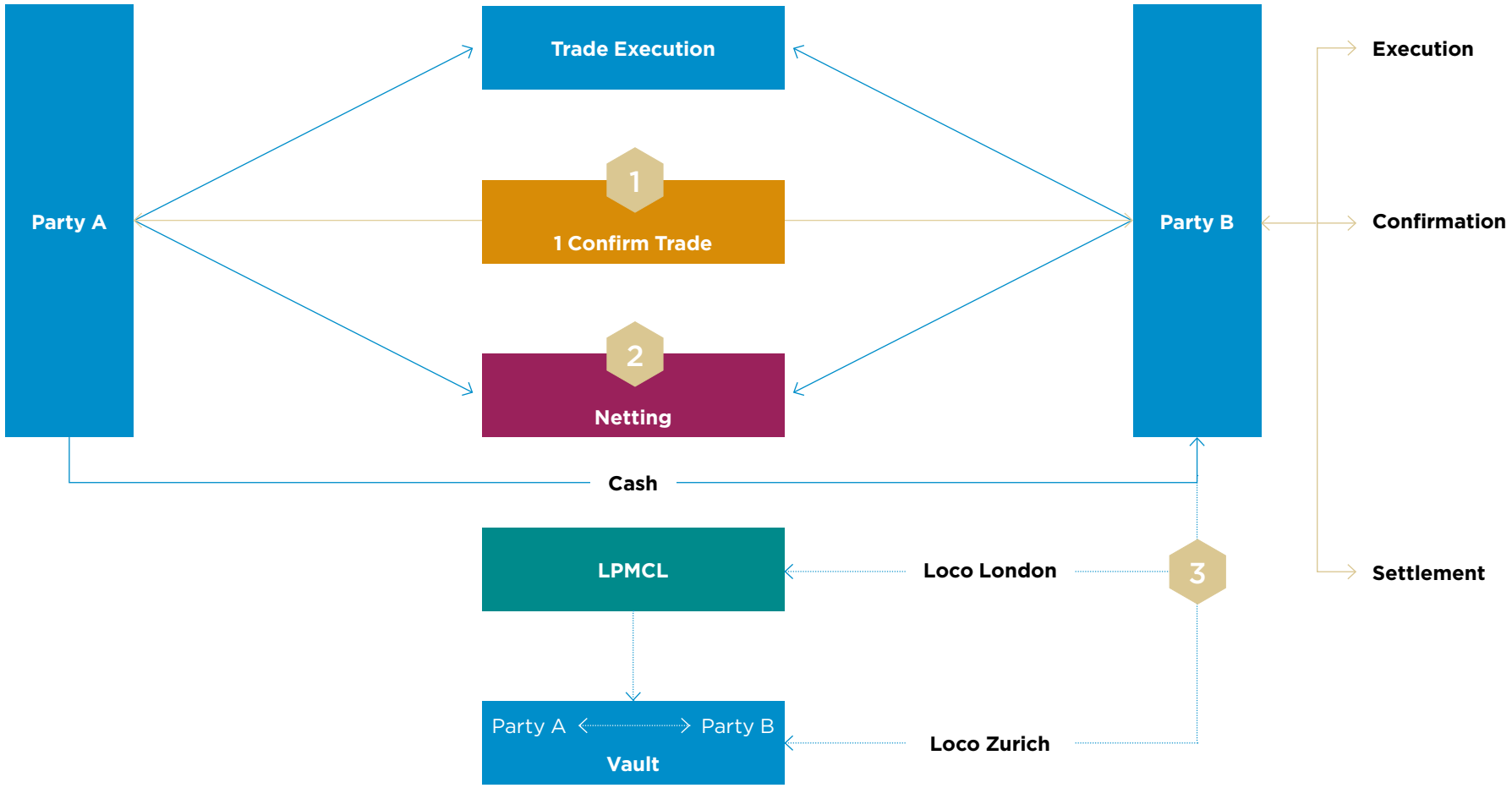
This Spotlight Review examines the existing post-trade landscape for precious metals, identifies prevailing structural and technical opportunities for improvement, and considers emerging technologies which could be applied. Whilst much of this paper refers to the precious metals markets in their entirety, some observations will relate only to the unallocated Loco London and Loco Zurich market. Derivatives of precious metals, whilst an important part of the market ecosystem, are traded and cleared like other asset classes and are out of scope of this review.

2

Existing structure of post-trade processes

The first three stages of the precious metals trade lifecycle (execution, confirmation, and clearing) are broadly similar to other asset classes. However, the presence of vaults in the (non-cash) settlement stage differentiates precious metals from other asset classes.
This section describes the current status of the European wholesale market post-trade landscape.

Figure 2: Post-trade process



Existing structure of post-trade processes continued

1 Trade confirmation

Trade confirmations are used by the parties to a transaction to specify the commercial terms of such a transaction, including pricing terms. The trade confirmation process dates back to the Securities Exchange Act of 1934.

There has been a sustained effort to shift trade confirmations to more automated methods to increase speed and reduce errors. Historically, trade confirmations used Telex, where confirmations were sent through Morse code. This was replaced following the introduction of SWIFT in 1973[3].

In the present-day, trade confirmation consists predominantly of SWIFT messages being sent between SWIFT users. As of 2020, more than 11,000 SWIFT members sent over 35 million transactions per day through the network across all asset classes[3]. There are also vendor platforms that allow non-financial institutions to interact with financial institutions via SWIFT, and dealer platforms allowing clients to confirm trades with dealers. However, some market participants are still using paper confirmations being sent through PDF and email or fax.

2 Netting

Netting is the method of reducing credit, settlement and other risks of financial contracts by aggregating (combining) two or more obligations to achieve a reduced net obligation.

Benefits of netting include:

- Reduction of credit risk;
- Reduction of settlement risk;
- Reduction of liquidity risk; and
- Reduction of systemic risk.

Netting agreements, where counterparties agree to net offsetting obligations prior to settlement, promote efficiency by reducing the number and size of settlement obligations.

Some participants in the precious metals markets transact through prime brokerage arrangements, whereby a client accesses liquidity from a dealer via a prime broker who intermediates the transaction by entering into offsetting trades with both the client and the dealer. Under prime brokerage arrangements, netting will take place between both the prime broker and dealer and the prime broker and client, where obligations can be offset.

Obligations can be offset, and therefore netting can occur in both unallocated Loco London and unallocated Loco Zurich metal. However, due to the different delivery options, it is not possible to net across markets or contract types.
For example, an allocated contract cannot be net against an unallocated contract.

Therefore, while netting in unallocated precious metal is possible, there has historically been less netting in the precious metals market compared with other asset classes on both a multi and bilateral basis outside of prime brokerage agreements.

3 Clearing and Settlement

Clearing and settlement complete a securities transaction where it is concluded with the discharging of the obligations of the parties to that transaction through the transfer of cash or securities, or both (see Article 2(6), Central Securities Depositories Regulation).
The processes include reconciling trade data, recording the transaction, and ultimately delivering the cash and/or securities to the end recipients or their agents.

Precious Metals transactions can be settled on a cash-only or physical basis. Currently, the spot settlement period for precious metals is 2 days (T+2)[4]. When trading Loco London metals, the metal must be settled by 3pm UK time while the currency leg (assuming US dollars) can be settled until 10pm UK time as the currency leg is settled in the US. In addition, there are currently two messages sent for the settlement of precious metal trades. Operationally, it is difficult to combine these two messages as they are sent through different systems.

Existing structure of post-trade processes continued

3 Clearing and Settlement continued

London Precious Metals Clearing Limited (LPMCL), a market utility, supports the Loco London precious metals market as it oversees and manages the daily clearing system. LPMCL has just four members who provide clearing services for the rest of the market.

The members of the LPMCL follow a code of practice on clearing[5], meaning that they may settle trades amongst themselves, because of the guarantees of metals kept in their vaults. This interconnectivity between clearing providers increases efficiency of the post-trade process.

LPMCL provides an electronic matching system for trades. The clearing members also provide vaulting services for clients who require custodial services, which may be on an allocated basis (where specific assets are assigned to the client, similar to a safety deposit box) or unallocated basis (where the client maintains a claim to a fixed amount of assets meeting 'good delivery' standards, similar to a bank account).

Loco Zurich also allows market participants to trade, clear, and settle on an allocated and unallocated basis but less flexibly than London. Zurich is a significantly smaller market and is largely dependent on two clearing banks.

The structure of the London and Zurich markets is also different. Notably:

I. The Zurich market is more focused on the trading of physical metal and is used as a transit point between western and eastern markets; and

II. Whilst London is dominated by gold and silver, the Zurich market has higher volumes of other traded precious metals including platinum and palladium.

A minority of precious metals trades are settled Delivery versus Payment (DvP) or on a pre-funded basis where one or both of the counterparties are uncomfortable with the intra-day settlement risk. However, the majority of precious metals market trades are not settled DvP due to the operational challenges associated with the metals leg and currency leg of each trade being settled at different times.

It is understood that the current clearing process works effectively; however, as with other asset classes, there remain potential areas for efficiency gains.

3

Opportunities in the existing post-trade process

This section explores some of the opportunities to improve the efficiency of the existing post-trade process for precious metals.

Some, such as the adoption of automation, are acknowledged as positive for the overall market but the cost-benefit analysis may differ for individual market participants. Others are trade-offs, such as between faster settlement timelines versus the liquidity benefits of margin trading and netting. It will be up to the industry to decide if, and when, new standards and conventions are required.

The opportunity to increase adoption of automation for trade confirmations, leading to greater post-trade efficiencies

There is continued use of paper confirmations (PDF via email or fax) for trades settled with non-financial institutions. This becomes problematic as market participants will be using various platforms to confirm trades with different counterparties causing slower trade confirmations. Issues particular to the precious metals market include:

- Presence of non-financial market participants: Physical trading is common with non-financial institutions, such as miners and refiners, who do not have access to SWIFT and may not be able to adopt SWIFT.
- Format of messaging is limiting for bespoke contracts: SWIFT is not flexible, unlike XML formats, to accommodate the need to add additional fields. Physical transactions for precious metals are bespoke, and different parties engaged in a trade may expect different information due to internal processes. SWIFT leads to the inability of parties to insert information beyond the pre-set fields, which may be key terms of transactions.
- Lack of standardisation for required fields: There are no fully adopted standards for inserting additional information into the pre-set fields in SWIFT messages that need to be completed, potentially leading to settlement failures where the information included in the SWIFT message by each counterparty to the trade is not electronically matched.

Electronic platforms offer potential solutions to the current inefficiencies that exist with the precious metals trade confirmations.

A number of existing electronic platforms are able to sync with SWIFT messaging or offer alternative communication systems to confirm trades. SWIFT alternatives which use JSON or XML formatting would allow for more flexibility in the messaging process, facilitating the inclusion of additional information when necessary.

Adopting an alternative system would streamline the precious metals trade confirmations and reduce the use of paper, pdf or fax communication between trade parties.

Despite the benefits of alternative confirmation systems, challenges in implementing these solutions are apparent as adoption cannot be fragmented. All market participants would need to agree on a single solution and/or platforms and transition from existing systems.

There is insufficient adoption of netting for non-prime brokerage transactions

To net offsetting obligations in unallocated metal, a bilateral agreement must be signed between the counterparties. While this is a standard part of a prime brokerage agreement, a specific bilateral netting agreement is less common in precious metals, compared with other financial assets.

Achieving greater netting for precious metals would increase the liquidity of the market by reducing the outstanding settlement obligations that need to be considered against a counterparty default.

For comparison, in the equities market an average of $1.7 trillion transactions is recorded every day. The multilateral netting process reduces that number by 98% and the total value of settled trades equates to $38 billion[6].

A greater focus on implementing these netting agreements would therefore increase adoption of netting for non-prime brokerage transactions.

Opportunities in the existing post-trade process continued

The clearing and settlement of Loco London precious metals trades is concentrated in a limited number of LPMCL members

There is limited membership of LPMCL, and there is potential for a disruptive effect if one of the four existing members were unable to continue offering clearing or settlement services either on a temporary or permanent basis.

LPMCL is open to new member firms who are looking to offer clearing services to other market participants in the precious metals market. However, there are pre-requisites for becoming a member including, for example: (i) maintaining confidential secure vaulting facilities within central London locations, using either their own premises, or those of a secure storage agent; and (ii) becoming a signatory to a code of practice on clearing under which members undertake to operate unallocated precious metal accounts between themselves.

Loco Zurich could benefit from implementing a similar infrastructure to LPMCL, and extending the LPMCL model to the Zurich market could enhance the efficiency of the European precious metals market, reducing concentration risks associated with precious metals clearing, and leveraging the benefits of standardising and scaling technologies.

The settlement period for precious metals could be shortened, in line with efforts for other asset classes

Longer settlement periods increase exposure to the risk of default[7] and broker-to-broker counterparty risk[8]. This requires more margin to be posted, impacting market liquidity.

The precious metals market may see similar benefits to the equities market when the settlement period was shortened from T+3 to T+2 in 2014[9], which are likely to increase when the industry-led push for T+1 settlement is implemented, all of which benefit the end-investors. In particular, a shorter settlement period:

- increases liquidity;
- reduces the time-horizon for risk exposure; and
- promotes better use of capital by reducing margin requirements.

Unlike equities markets which are largely on exchange, the unallocated precious metals markets in London and Zurich operate on an OTC basis. This means that in theory, the counterparties to each bilateral trade can determine the settlement date themselves, and this can be the same day as the transaction if there is time remaining in the day to process both the currency and metal settlement obligations. However, to aid price transparency and standardisation, the market trades off a standard settlement date, the price for which is commonly referred to as the "spot price". In the precious metals market, the spot price is for a settlement period of T+2.

Shortening the settlement period on spot contracts will impact other parts of the precious metals market ecosystem (for example, margin investing systems would require re-engineering), meaning that consensus is required from a wider audience.

Further, the benefits of shortening the spot settlement period must be balanced against the risks:

- The current spot settlement period is a function of the time required to clear and settle trades, using the prevailing technology and customs at the time the conventions were established. However, many trades do not go through sophisticated trade processing systems. This could mean that a reduction in the spot settlement period, which leaves less time to match trades, would potentially increase trade failures.
- Due to the time differences in settling the metals and currency leg, there is increasing difficulty in agreeing and matching trades as the trading day progresses and the shortening of the timeframe where both markets remain open.

There is a risk that a reduced settlement period impairs the resilience of market clearing and settlement, as a shortened settlement period does not allow for an appropriate recovery time should system interruptions take place. High market volatility could cause difficulties for shorter settlement.

Opportunities in the existing post-trade process continued

If all market participants can collectively achieve a shortened settlement period, then the post-trade process is likely to become more efficient. A reduction in settlement risk may be dependent on whether participants have access to increasingly advanced technology, which is able to withstand the extra demands of a shortened settlement window.

Delivery vs Payment (DvP) will be challenging to achieve without significant changes to how the precious metals markets operate

Where different legs of a trade are transacted together but settled separately, there is a risk of settlement failure if the metal is settled but the corresponding currency payment is never made. Having DvP would reduce the risk of settlement failure as both assets in the trade would be exchanged simultaneously.

The use of DvP is limited across the precious metals market. DvP would require the ability to process a single synchronized message process across the currency and metal leg. In the current market, there are operational challenges in combining commodity leg and currency leg messages as they are sent through different systems. The settlement infrastructure for metals and the currency leg are also entirely separate. To change this in isolation, the market would either change the time that metals or the currency leg are settled.

There are challenges to implementing DvP separate to the fundamental changes to infrastructure that may derive from digital solution as discussed in Section 5.

4

Learning lessons from other asset classes

FICC markets have adopted holistic technological solutions which are reflected in the case studies on this page. Incorporating new technology and innovations to the post-trade processes in precious metals markets, if properly designed and implemented, will make the post-trade process more efficient and both market participants and clients will see the benefits. They will require significant investment initially but may well see the benefits outweigh the costs in the longer term.

Adoption of new technology has been tested across different markets. For example, 'Case Study: Project Jura' highlights a market example where tokenised solutions were adopted for a market experiment.

Case Study

Project Jura

Project Jura, an experiment conducted by Banque de France (BdF), the Bank of International Settlements Innovation Hub (BISIH), and the Swiss National Bank (SNB), included the use of wholesale Central Bank Digital Currency (wCBDC) for cross border payments and settlements, together with a private sector consortium.

Project Jura involved the issuance of intraday wCBDCs and tokenised Commercial Paper settled between France and Switzerland on a Distributed Leger Technology platform. wCBDCs were issued when funds were transferred to central banks in the respective Real Time Gross Settlement (RTGS) systems either directly, or through correspondents.

Project Jura demonstrates cross-border instantaneous settlement and DvP on a single user platform. Whilst the technology involved remains at an experimental stage, a similar solution could be beneficial for the precious metals market.

Case Study

CLS in FX case study

CLS Group offers a settlement platform for FX. This involves both participants to a trade instructing CLS of such a trade, which is then matched. At the start and end of each day, a settlement member's multicurrency account has a zero balance. Multilateral net positions are funded and paid out using a daily organised schedule. Members pay and receive funds through CLS's central bank account in each currency via their own accounts or nostro bank accounts.

CLS offers their settlement members a liquidity management service for in-and-out-swaps. This service, combined with multilateral netting, results in an average funding requirement of less than 1% of the total value of all trades for participating settlement members. This tool mitigates risk and reduces account funding requirements by an average of 96%. Although FX and precious metals are different asset classes, the market and trading structure share similarities. Alternative solutions which offer more effective confirmation and settlement may be applicable to the precious metals market.

5

Leveraging technology: the future for precious metals settlement?

Examples from other asset classes, including the case studies above, show that holistic solutions can sometimes solve multiple problems. This section explores potential options for the future which might deliver one or more of the efficiencies identified in Section 3.

For solutions to be successful, there needs to be a high degree of standardisation across the precious metals market.

Integrated vendor solutions?

Potential vendor solutions could work in cooperation with LPMCL to make the precious metals market more efficient. As reflected by CLS in the FX market, a vendor working on top of LPMCL could provide DvP and netting solutions for the precious metals market. When trading multiple physical assets, a market participant will have numerous contracts where netting can be used.

This could require a significant change to bank processes and operating models as it is technically challenging to capture both the currency leg and metal movement information and use it to create a contract.

The vendor solutions applied would need to be consistent across the market and link in with a variety of existing in-house systems.

An expanded and more integrated unallocated precious metals market?

In addition to Zurich developing more advanced clearing and settlement systems, a single infrastructure solution between London and Zurich could drive additional advantages. Loco London and Loco Zurich dealers already reached an agreement in 1979 to standardise 'good delivery' for precious metals.

Building on the attributes of the LPMCL model across both markets could be effective when trading on an unallocated basis. The interbank network in the Zurich market is lighter than the existing London network and the liquidity in the Zurich market varies from being more liquid than the London market to less liquid, so could form a good complement.

The existing concentration of the metal vaulting network can make trading across regions difficult in terms of the need for transportation. Theoretically, it may be beneficial to expand the existing vaulting network as trading between regions and countries would be simplified with less need for transport.

However, even creating a vaulting network across just Loco London and Loco Zurich metal faces considerable barriers. Most notably, it would result in differential freight costs for participants requiring physical delivery, depending on the location of the metal. Also, across the precious metals market, there is a difference between the physical assets that are traded. For example, in the gold market, there are two main type of physical bars that are traded – the large bar and the kilo bar.

Tokenising precious metals?

A digital solution whereby physical assets are tokenised may offer the market lower margin requirements, reduce settlement risk and allow for shortened settlement which could be instantaneous and/or allow atomic settlement, where one leg of a trade is settled if, and only if, the other is also settled. T+0 settlement under today's infrastructure has drawbacks due to the understandable difficulties in trusting that an anonymous market participant can deliver on their side of the trade. Tokenisation, however, would mean that each physical asset has a digital twin, thus allowing an improved infrastructure of less fraudulent activity. This is because all bars traded on the market are registered and traceable on an immutable basis as pledged collateral.

In precious metals, the London Bullion Market Association (LBMA) and the World Gold Council (WGC) are collaborating to develop and implement an international system of gold bar integrity that will create an immutable record of a gold bar's place of origin and chain of custody[10]. This blockchain-backed ledger will register and track bars, capturing the provenance and full transaction history. While the initial focus of this work is not on confirmation and settlement in the unallocated precious metals market, it may provide a pathway to the significant investment that would be required by all market participants to achieve a tokenized digital market

Furthermore, the UK government have acknowledged the significant efficiency gains which may arise from the introduction of tokenisation in markets[11]. However, it is also understood that future regulatory change might be necessary to facilitate a large-scale adoption of this technology whilst preserving market integrity.

Final remarks

The adoption of automation and other efficiency gains in precious metals market structure has lagged behind other FICC markets. However, there is now an opportunity for the market to make material improvements to the efficiency of its post-trade processes. These improvements could be driven by incremental enhancements informed by the earlier evolution of other FICC asset classes or a more radical change through the tokenisation of the post-trade ecosystem.

Endnotes

1 Major Global Trading Hubs, World Gold Council, last accessed 8 June 2022

2 Precious Metals Market Structure, FMSB, November 2021

3 SWIFT history, SWIFT – The global provider of secure financial messaging services, last accessed 8 June 2022

4 The settlement period refers to the time period between the trade date and the intended settlement date (see Article 2(13) CSDR). Precious metals are officially settled the day the commodity is delivered.

5 Loco London / Clearing, LPMCL, last accessed 8 June 2022

6 Challenges of Real-Time Settlement, DTCC, February 2021

7 SEC shortens settlement cycle for securities trades, Reuters, March 2017

8 Building the Settlement System of the Future, DTCC, September 2021

9 ECSDA: T+2 Settlement Smooth, Bloomberg Professional Services, November 2014

10 LBMA and WGC launch Gold Bar Integrity Programme, LBMA, March 2022

11 UK regulatory approach to cryptoassets and stablecoins: consultation and call for evidence, GOV.UK, January 2021