

The Noble Hedge Companion

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In 2008, the London Bullion Market Association (LBMA) updated its 'Guide to the London Precious Metals Markets' (the 'LBMA Guide') to incorporate references to platinum and palladium. The result is a commendable and comprehensive reference tool for students of the dealing practices of the London Bullion Market and other financial centres.

The primary focus of the LBMA is gold and the primary function of gold is as an investment tool. Certainly, gold has some industrial applications but for most individuals and institutions that produce, handle or consume the metal, its role as a 'store of value' is of the foremost interest and concern. It is perhaps fitting, therefore, that an association of financial institutions, such as the LBMA, should be regarded as the core body of the industry, determining the rules and conventions of trade in its underlying commodity.

A key feature of the market for Noble Metals* – often called the 'Platinum Group Metals', or 'PGMs', in abbreviation – is that for many significant users of these elements, involvement in the market and exposure to its fluctuations in price and liquidity are ancillary to their main commercial interests. For them, the Noble Metals may represent a key, or even essential, component of their industrial processes, capital commitment and Research and Development but, in many cases, these may in part be devoted to the cause of substitution of precious metals by cheaper, more readily-available substances.

If many market participants are reluctant users of Noble Metals, they are often even less enthusiastic about hedging. While the metals remain stubbornly vital to their commercial activities – perhaps as catalysts or through their inertia at high temperatures – holders are reluctant to enter into financial contracts which may seem to run the risk of underlying metal being 'called away' by delivery commitments. Such misgivings are compounded by confusion over the implications of different delivery locations and comparisons between 'sponge' and 'ingot'.

While many members of the London Platinum and Palladium Market (LPPM) are also integral to the LBMA, there are cultural differences between the two communities. London became a market place for platinum and palladium comparatively recently, in the 1970s, and the LPPM is keenly aware of its position in the Noble Metals fraternity, to which it sees itself as a partner and service provider. The organisation, its members and this Companion seek to assist users, processors and producers of Noble Metals to understand and,

* The term 'Noble Metals' technically includes gold and silver, although they are excluded for the purposes of this presentation.

where appropriate, adapt and utilise the hedging tools developed by members of the LBMA and the wider investment community, for their own protection.

Summary of the Companion:

1. **The metals.** Contract specifications; purities; Ingot and Sponge.
2. **The delivery points.** London and Zurich, refiners. Vaulting. Clearing.
3. **Derivatives.** Spot, forward, options. (Ingot and Sponge)
4. **Leases.** (Ingot and Sponge)

1. The Metals.

Technically, the term 'Noble Metals' is used to describe certain metals that are resistant to corrosion in air and moisture, including gold and silver (silver's tendency to tarnish is well known but requires the presence of ozone or hydrogen sulphide), as well as mercury and rhenium. For the purposes of this presentation, they are: platinum, palladium, rhodium, osmium, iridium and ruthenium. All of these are produced industrially in a powder form called 'sponge', which has a high inherent surface area conducive to exploitation of the metals' chemical and catalytic characteristics. Standard purities for platinum and palladium, ingot or sponge, are .9995 fine and for rhodium, osmium, iridium and ruthenium sponge, .999 fine.

Noble metals are traded in their sponge form to varying degrees of activity and liquidity by many Members, Associate Members and Affiliates of the LPPM. However, sponge is unattractive as a trading and investment vehicle to the financial services industry, partly because of difficulties with the stacking and storage of sponge containers but primarily because the metal itself cannot be indelibly stamped with details of its purity and origins, leading to difficulties with 'on-selling', or 'Fungibility'. For this reason, 'Good Delivery' status is only accorded to bars, or 'ingots', produced by refiners on the LPPM Good Delivery list. As a result, bullion banks, metal traders and financiers *tend* to manage the liquidity of their spot, forward and leasing 'books' in terms of ingot metal. This is an important fact to understand when making decisions about the type of hedge that can best mitigate a Noble Metal exposure.

The use of platinum and palladium ingot is primarily, although not exclusively, connected with investment business, consideration of which requires a description of delivery points:

2. The Delivery Points.

Sponge metal is usually traded for delivery at a particular, named location, be it the storage facility of a refiner, user, catalyst manufacturer or other point of mutual convenience for both buyer and seller. Because there are no standardised Good Delivery brands, ultimate adjudication as to the

acceptability of material will necessarily lie with the entity that will place it in its refining or manufacturing processes.

Effective 1 September 2009, six banks in London began to offer to 'clear' transactions in 'loco London' platinum and palladium, on an 'unallocated' basis. Prior to this, any hedger, investor, or market user that had asked a price maker (or 'market-maker') for a price of platinum or palladium would have been presumed to be asking for a quotation for unallocated metal 'loco Zurich'. Since 1 September 2009, the markets have continued to trade for metal held in both centres, in parallel. 'Allocation' of a balance of platinum or palladium held on account in London or Zurich, will result in ingots being made available to the balance holder. These ingots will have been manufactured by a listed Melter and Assayer from the London / Zurich Good Delivery List, to a purity of at least .9995 fine. The ingot is stored in the vaults of the clearers in each location.

Clearing facilitates the settlement of transactions in London or Zurich, without the need to allocate ingot each time a transaction takes place. Market users can therefore feel free to execute sales or purchases at the best price and with the greatest convenience to themselves, perhaps with multiple price providers, whilst having the point of delivery of any 'physical' outcome to their business, at a single clearer.

3. Derivatives.

A derivative may be defined as an asset whose value is dependent upon or derived from one or more (underlying) assets.

The opening remarks of this companion refer to the LBMA Guide, which provides a remarkably comprehensive explanation of the workings of the London Bullion Market, of spot 'OTC' trading, forward premium (or discount) calculations, the London Gold, Silver, Platinum and Palladium fixings, swaps and deposits and, even, Spot Deferred Forward Contracts. The LBMA Guide also includes a glossary of basic option terms and definitions, relevant to precious metals.

It is not the purpose of this companion to reproduce, wholesale, the text of the LBMA Guide. However, one small section, under the title 'Precious Metals Loans and Deposits' (p. 16) provides a useful starting point for a discussion of the particular characteristics of Noble Metals hedging:

The lending of gold by central banks and other long-term holders provides the liquidity for operations such as hedging structures and inventory loans. In silver, where there is little or no such source of liquidity, lease demand must be satisfied from the forward swap market or other reserves. Platinum and palladium leasing is a popular strategy used mainly by industrial customers

who would like to have the comfort of locking in a lease fee for a certain period of time without the exposure of spot price volatility. Liquidity for platinum leasing is obtained from natural lenders and those who have the appetite to hedge metal on a forward basis.

This small passage raises a number of issues, a key one of which is this: the practicability and / or cost of a hedging operation are directly determined by the availability, to the hedge provider, of reliable liquidity in the underlying asset.

For those who wish to hedge ('hedgers') or lease ('lessees') Noble Metals, constraints on available liquidity may affect the nature of transactions and how closely a hedge matches a given exposure. As described under '2. Delivery Points', balances of rhodium, osmium, iridium and ruthenium are generally held at the premises of refiners etc. and delivery of these metals, as well as of platinum and palladium sponge, will be subject to the quality approval of the relevant custodian. A hedge provider or market maker offering forward delivery, a call option or a lease of such metal will have to factor into its pricing the potential cost of obtaining metal acceptable to the custodian. Likewise, the same market maker will need to factor in the possible costs of being delivered metal at an unpopular location, when pricing a bid for forward metal or offering a put option to a hedger. This results in a widening of the bid-offer spread to the hedger and a resultant increase in hedging costs.

Users and processors of platinum and palladium have access to more liquidity than hedgers of the other Noble Metals, through loco London and loco Zurich unallocated accounts. Banks and Financial Institutions, as well as institutional investors, are more likely to hold balances in these accounts since the fungibility of the underlying (ingot) material and ease of transfer create a (albeit small) terminal market for the metals. Pricing is more competitive, since a market user can trade with one or more price providers and instruct its clearer to transfer maturing balances between different counterparties' accounts. For holders or users of sponge metal, a hedge or lease of unallocated metal, loco London or loco Zurich, is a less perfect 'match' than one in the underlying sponge material and may mean that the user incurs costs 'switching' a position in unallocated metal for a position in sponge at a required location. However, the process of pricing and paying for such a switch is far more transparent than the added cost factor incorporated into a sponge hedge or lease and not itemised in the pricing structure. This issue will be further dealt with under 'Leases' below.

The LBMA Guide (under 'Precious Metals Forwards' p.17) has one further passage which warrants clarification, in terms of its relevance to Noble Metals hedging:

Somewhat confusingly, some non-traditional market participants use the word “swap” to refer to cash-settled outright forward transaction. Such transactions..... can also be referred to as “Commodity-”or “Financially-settled swaps”.

Cash-settled swaps are outright forward transactions conducted with the intention that the deal will not be settled by delivery of metal and settlement of currency countervalue, but by the payment of the difference between the value of the contract and the value of the contract at maturity. In other words the difference is “cash-settled”.

The ‘non-traditional market participants’ alluded to here would appear to be producers and consumers of Noble Metals (and some of silver, too), culturally more aligned to the non-ferrous metals markets than to the gold market, who have entered into physical supply agreements based on the average daily price of the underlying metal, over a succession of agreed periods (each usually one month). Consumers (in particular) are sometimes inclined to ‘fix’ this average price, through a hedge which often provides them with a single price for the metal over the entire physical supply pricing period. Profits or losses on the hedge are realised by reference to the same benchmark as is used to price the physical supply – normally the fixing price, in the case of platinum and palladium (and silver).

Some, sophisticated, hedgers may incorporate Asian option strategies with swaps settled against an average price, in order to enhance their hedge price. Once again, the use of such Asian options is not common in the gold market and the LBMA Guide could perhaps be clearer in stating that such options will be cash settled in favour of the option holder if the average price over an agreed preceding period is above (in the case of a ‘Call option’) or below (in the case of a ‘Put option’) the strike price of the option.

4. Leases.

The LBMA Guide makes rather perfunctory mention of precious metal leases (under ‘Inventory Loans’ p. 25), which are a key hedging tool for many processors, fabricators and users of gold and silver, as well as platinum, palladium and, in some cases, other Noble Metals.

Lease rates of metals are, themselves, essentially, traded products. The forward price of a metal may differ from the spot price by a premium ('contango') or discount ('backwardation'), denoted in the following equation by 'Y', where:

$$Y = P \times I \times d/360$$

and:

P = the spot price of the metal

I = the swap rate for the relevant period, expressed in per cent

d = the number of days in the period.

The forward price of the metal for the relevant period then equals P + Y

The swap rate 'I' is quoted and traded by market –makers and other participants, primarily in US Dollar terms. Subtracting this value from the US Dollar borrowing or lending rate for the period gives the basis for a lease or deposit value. However, the actual value which a market maker is prepared to ascribe to a lease or deposit rate, will depend, in the final analysis, on its own ability to borrow, coupled with its credit evaluation of any borrower to which it may wish to lend or lease metal. Different lenders ('lessors', in the case of leases) will vary in their eventual evaluation of these rates.

Metal loans, leases or fee-bearing consignments are all forms of metal financing, which can remove price risk and reduce capital costs, from an exposure to metal prices. The three types are essentially very similar. In the case of a loan, title to the metal passes to the borrower; in the case of a lease or fee-bearing consignment it remains with the lender. All three enable the borrower (or 'lessee') to commingle metal loaned, leased or consigned with that which is owned by itself and / or other lenders or lessors. Collectively, the forms of metal financing tend to be known as 'leases' or 'leasing'.

There are two main functions of leasing. Firstly, leasing metal (rather than owning it) mitigates price risk, usually limiting it to the value, in currency, of the ounces payable as interest on the lease, should it be rolled at maturity. Secondly, leasing obviates the need for the lessee to commit currency to the funding of inventory, releasing capital for other requirements.

Since most industrial users' metal requirement is for the sponge form of Noble Metals (rather than ingot), it seems logical for such users to seek a lease of metal in the same form, delivered to the manufacturer of its catalyst, stirrers etc. All responsibility for delivery of metal of the correct quality, and maintenance of the lease, is then 'outsourced' to the lessor, until the lessee is due to repay or roll the transaction.

However, such a 'sponge lease' may not be the most cost-effective method of metal financing. Leasing is a form of hedging and, as we have noted before, the cost of hedging is determined by the liquidity open to the hedge providers (as well as competition between them). Most providers of Noble Metal leases fund their obligations through recourse to unallocated metal in Zurich or London. In order to provide sponge material at a specified location, the lessor must exchange (or 'swap') such unallocated metal for the relevant sponge, passing on the cost to the lessee. At maturity of the lease, the lessor will be obligated to repay its funding in unallocated metal but will potentially be repaid with sponge material at the plant of the lessee's catalyst manufacture, for instance. The need to exchange this metal for unallocated metal on account may impose further costs on the lessor, which cannot be quantified in advance, or hedged. The lessor may elect to increase its lease rate to compensate for this risk. At maturity of the lease, the existing lessor's position (being owed sponge by the lessee), enables it to roll the existing sponge lease without arranging delivery, thereby erecting a barrier to competition from other potential lessors, which will have to levy the delivery cost anew. Finally, we have noted that ultimate quality approval of sponge material rests with the designated custodian – in this case the lessee's catalyst or stirrer manufacturer, who may, in effect, be the sole provider of sponge at its plant or refinery. The costs it chooses to levy on such availability are more transparently displayed if all lessors are required to itemise the cost of the lease of unallocated metal, separately from the charge for the swap into sponge.

In the final analysis, the choice of whether to lease sponge or material or unallocated metal on account must rest with the lessee. Leasing sponge is generally more convenient but incurs a cost for risk management of delivery which might be reduced if borne by the lessee.

Summary

A significant range of tools is at the disposal of the Noble Metal user that wishes to hedge and / or finance its exposure to the metals. However, an extensive discussion of the user's precise requirements and exposures with potential providers will usually pay dividends, as will consultation with the user's tax advisers and accountants. Although it is very important that hedgers evaluate and understand the exact nature of their inherent risk, an exact match between a physical exposure and a hedge structure, while convenient, may prove expensive.