

Speculative interest is also an important element of futures markets, because it provides the liquidity necessary to allow hedgers to trade positions efficiently, looking for profits or small price movements. For futures traders, profit from a falling market is as realistic an objective as profit from a rising market. The ability to enter long or short market positions with equal facility makes so-called spreading a viable trading strategy. As a common intercommodity spread, PGM traders often combine platinum against gold, since the prices of these two metals move together, although platinum is the more volatile commodity. Platinum prices rise more rapidly in bull markets, and fall faster in bear markets, so that the trader anchors platinum to gold as the more stable commodity. This phenomenon is due to the fact that platinum is both an investment and an industrial metal, and is more sensitive to changes in investment and industrial factors than gold, which essentially is an investment vehicle. Market pressures on platinum and gold therefore commonly provide opportunities for trading such spreads.

All the PGM are traded worldwide in US dollars per troy ounce gross, but the prices are also available in other currencies or in international weights. Although the trading in all three of the markets is basically similar, there are historical and individual characteristics that make each of the markets or exchanges unique.

*The Tokyo Commodity Exchange.* In November 1984, a consolidation of several commodity markets, including that for gold (which had also started trading platinum and silver in January 1984) formed TOCOM under the jurisdiction of the Japanese Ministry of Trade and Industry (MITI). This is the only global exchange where platinum, gold, and silver are traded at the same facility. TOCOM expanded rapidly after its founding, particularly after the Japanese Commodity Exchange Law was amended in June 1990. This broadened the scope of TOCOM, and internationalized its trading function. Furthermore, computerized trading was introduced on 1 April 1991, which solved various problems, not least of which was the extension of the hours of trading by TOCOM. Palladium trading was mooted as early as September 1991, and a proposal in this regard was submitted to MITI for approval, but palladium became a trial listing only in July 1992. TOCOM is currently the largest platinum futures market in the world.

Trading transactions start the day with opening orders being accepted at 08h20 Tokyo time in the morning, and later at 12h30 for in the afternoon, based on initial trading offers. Active trading takes place from 09h00 to 11h00 for the morning session, and after 13h00 for the afternoon session.

*The London Platinum and Palladium Market.* This market had a long history of informal commodity trading before it was formalized by a Deed of Establishment, which provided it with its present form and trading procedures. The London Platinum (pricing) Quotation

was introduced in 1953 as a forerunner to the present (price) 'fixings', a twice-daily indication of the spot market price for platinum. The Quotation was reached by mutual agreement between London and Zurich in 1959, and was upgraded to full fixings in 1989. These Fixings, and how they operate, will be described in Section 5.5. This formal market has nine full members and 25 associate members. In January 1992, the full and associated members were as follows.

*Full Members:*

J. Aron & Co (UK) Ltd*	Engelhard Metals Ltd*
N.M. Rothschild & Sons Ltd*	Ayrton Metals Ltd*
Credit Suisse*	Johnson Matthey PLC
Mase Wespac Ltd*	Swiss Bank Corporation*
	Union Bank of Switzerland*

*Associated Members:*

Amalgamated Metal Trading Ltd	Morgan Guarantee Trust Co (New York)
Barclays Bank PLC	Moscow Narodney Bank
Barclays Metals Ltd	Nissho-Iwai (UK) Ltd
Credit Lyonnais Rouse Ltd	Paine Webber International Futures
Dresdner Bank AG	Prudential-Bache (Futures) Ltd
Engelhard Sales Ltd	Rudolf Wolff & Co Ltd
Inco Europe Ltd	Salomon Brothers International
Merill Lynch, Pierce, Fenner & Smith (Brokers & Dealers) Ltd	Samuel Montagu & Co Ltd
Mitsubishi Corporation (UK) Ltd	Sharps Pixley Limited
Mitsui & Co (UK) PLC	Shearson Lehmann Brothers Inc
Mocatta Commercial Ltd	Sogemin (Metals) Limited
Mocatta & Goldsmid Ltd	Sumimoto Corporation (UK) PLC
Morgan Stanley International	

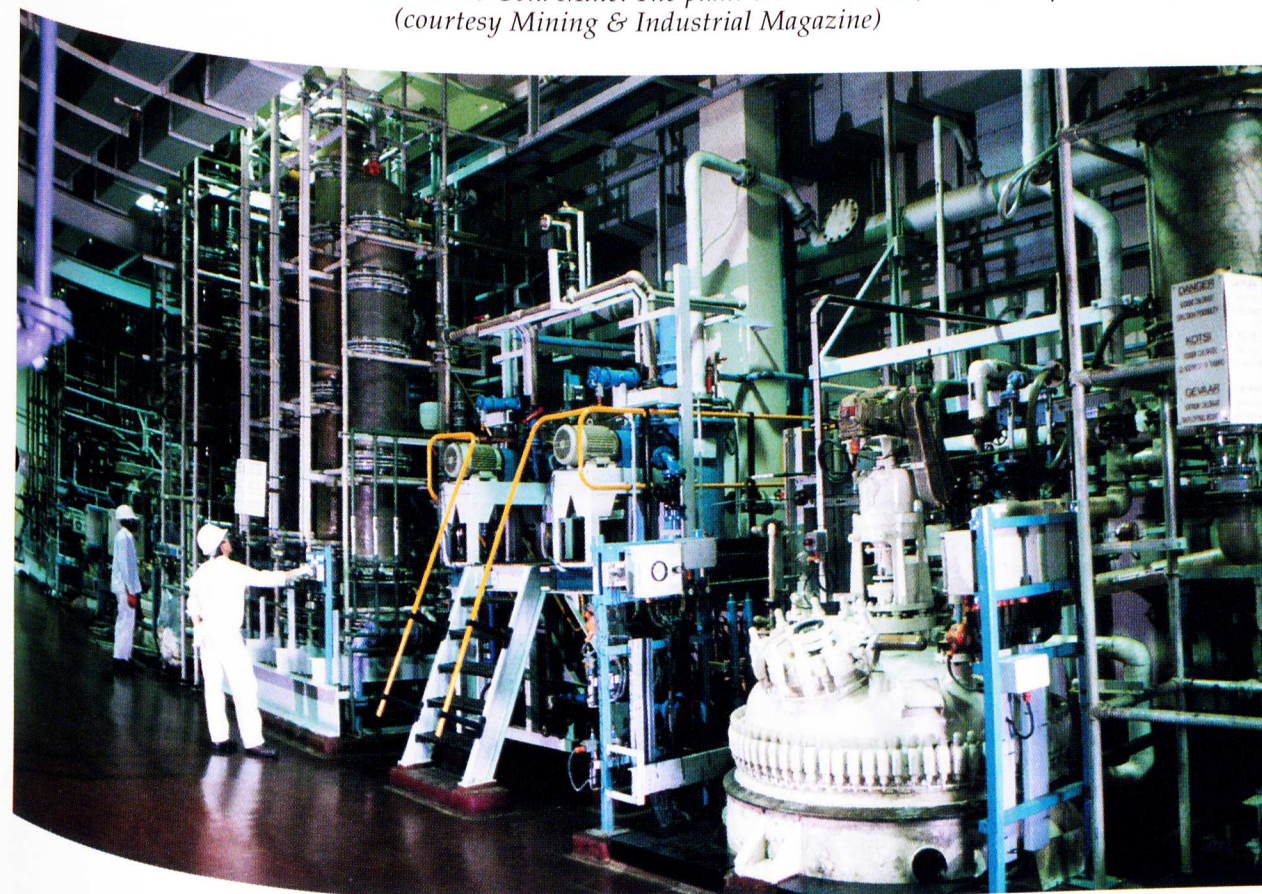
*\* Members of the Fixing.*

The membership represents a good cross-section of leading global producers and consumers. Platinum and palladium are usually traded in lots of 500 to 1000 troy oz (15,55 to 31,10 kg). Such purchases are stored in high-security vaults. The so-called 'Good Deliveries', to customers who have purchased the physical metals, are in plate or ingot between the weight limits of 1 and 6 kg and of 99,95 per cent purity. Both metals bear the producer's stamped guarantee of purity. Platinum bears the mark 'PT' or 'PLATINUM', and palladium the stamp 'PD' or 'PALLADIUM', each with an identifying number and the weight of the piece in grams or troy ounces. The marks of the various producers and their countries of origin, are provided in the Ayrton Metals Platinum Yearbook for 1992 (pp. 143-145).

*The New York Mercantile Exchange.* At one stage, this was the only futures market, starting for platinum in 1956 and for palladium in 1968. As in Tokyo and London, bids and offers are made by qualified brokers and traders according to the orders received from, and on behalf of, their customers. The prices represent their



Furnace room in the chlorination plant for the treatment of PGM concentrates from the Bushveld Complex, built in 1929 at Government Areas Gold Mine. The plant closed in 1930, due to the price slump (courtesy Mining & Industrial Magazine)



Interior of the precious-metal refinery at Rustenburg Matthey Refiners (courtesy Johannesburg Consolidated Investment Co. Ltd)