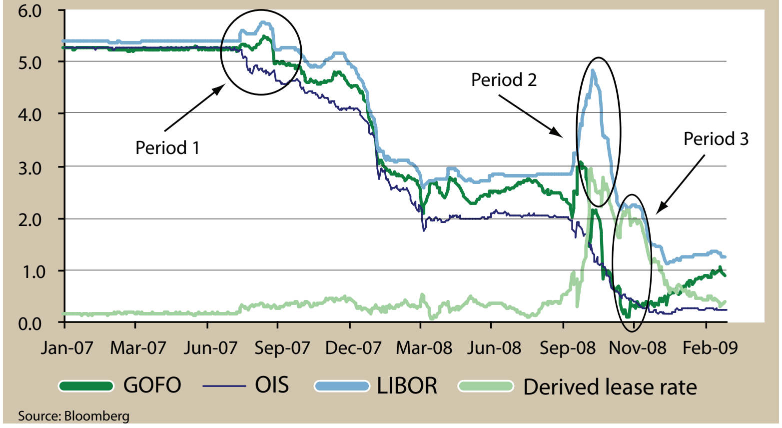
Gold – A New Lease of Life?

By David Barclay and Christophe Duval-Kieffer, Analysts, Standard Chartered Bank

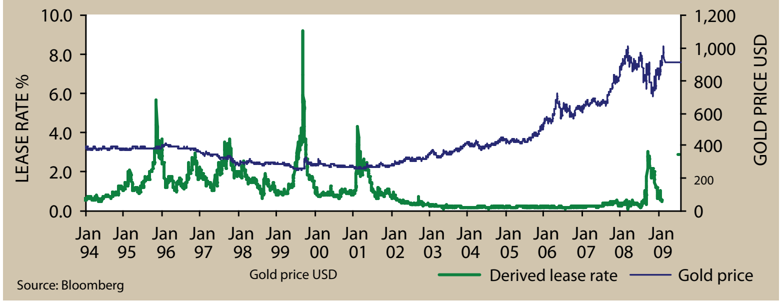
Last year's money market disturbances drove lease rates higher, in contrast to previous spikes, which tended to stem from more idiosyncratic factors. Lease rates have since recovered from last year's tumult, but are still relatively high. We do not believe in a repeat of the extreme conditions in September and October 2008, therefore in our view a repeat of such high lease rates is unlikely.

Chart 1 GOFO, OIS, LIBOR and derived lease rates (all 3-month)



Source: Bloomberg

Chart 2 LBMA 3m derived lease rates and gold prices



Source: Bloomberg

Chart 1 illustrates that whilst the spike in lease rates appears as a singular event, underlying money market disturbances had been evident since the onset of the crisis in August 2007. We take three distinct periods and examine the dynamics driving LIBOR, GOFO and OIS rates in each case.

Lease Rates and Financial Market Distress

The acute distress in the global financial system last September and October coincided with lease rates at levels not seen since 2003, but there have been plenty of previous occasions where lease rates have spiked to even higher levels. Unlike last year, these tended to occur for idiosyncratic reasons within the gold lending market and not due to broader market stresses; chart 3 illustrates this by showing that the VIX – a measure of general financial market volatility – is usually not correlated with moves higher in lease rates.

Instead, central banks withdrawing lending in preparation for outright sales (Netherlands and Belgium were active sellers in the mid to late 1990s), coupled with new hedging programmes by miners led to the temporary spikes in lending. The outsized jump in lease rates in 1999 was a result of the Washington Agreement on Gold (WAG) announcement, which led to fears of diminished liquidity as central banks communicated their intentions to sell holdings of gold and limit further additions of new lending.

Unlike the equity market, where high borrowing rates reflect a stock being "in play", indicating speculative demand to sell a security short, high lease rates in the gold market do not tend to be a reliable guide for indicating price pressures in either direction, as chart 2 illustrates. There seems to be no statistical linkage between the price of gold and the lease rate over the long run.

Intersecting LIBOR, OIS and GOFO Rates: Periods 1 and 2

Since lease rates are a function of LIBOR and GOFO rates, we examine both of these in relation to a common benchmark, the overnight indexed swap (OIS) rate. The OIS rate is a fixed versus floating interest rate swap, with the floating rate indexed to the overnight rate, which in the case of the US, is the Fed Funds Effective Rate (FFER). The swap rate reflects market expectations about the average level of overnight rates over a three-month time period.

Since the beginning of the crisis, GOFO rates have been more highly correlated with LIBOR rates than with any other funding rate. Changes in the OIS rate are, however, uncorrelated with GOFO and LIBOR during this time period.

Table 1: correlation between the change in GOFO, OIS, Libor and Repo 3-month rates, 02/11/2007-now

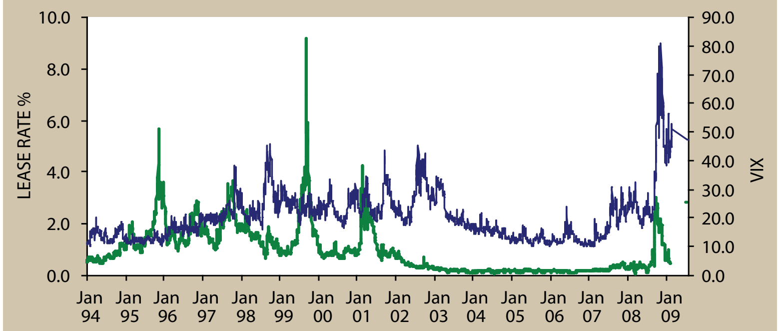
	ΔGOFO	ΔOIS	ΔLIBOR	ΔREPO
ΔGOFO	1.00			
ΔOIS	0.07	1.00		
ΔLIBOR	0.45	0.09	1.00	
ΔREPO	0.05	0.31	0.11	1.00

Source: Bloomberg, BBA

The various rates are marked by differences in counterparty risk (with the highest first):

- LIBOR is the rate at which banks can borrow from one another with no pledging of collateral and an actual exchange of notional; counterparties are exposed to the full size of the transaction.
- The GOFO rate involves an actual exchange of cash for gold, leaving the counterparties exposed to the difference in value of the underlying notionals.
- The OIS rate is a swap transaction where the counterparty risk is limited to the change

Chart 3 LBMA 3m derived lease rates and gold prices



Source: Bloomberg

in the marked-to-market value of the swap and not the principal transacted.

So the counterparty risk element is much smaller on an OIS swap than on an unsecured deposit reflected in LIBOR rates, so when counterparty risk increases, the spread between the two tends to widen. Historically, LIBOR tends to track the OIS rate very closely, as seen in the first part of chart 1.

At the onset of the current crisis in early August 2007 (marked period 1 in chart 1), the LIBOR-OIS spread moved wider, whereas the GOFO-OIS spread reacted to a lesser degree, pushing lease rates from a range of 5-15bps (basis points) up to 20-30bps. Then, in September 2008, LIBOR-OIS blew even higher (period 2), and although mirroring this move initially, GOFO-OIS spreads then moved lower, coinciding with the peak in 3-month lease rates at 2.93 on 8 October 2008. This period of high lease rates was characterised by the explosive move higher in LIBOR.

This sharp move higher in the LIBOR-OIS spread reflected several underlying parameters, the two most important being the short-term credit of the borrowing bank and a pure liquidity risk premium. The latter occurred at the start of the current crisis when banks wanted to keep their cash to meet potential liquidity back-stop obligations on some structured investment vehicles (SIVs). LIBOR became the focus of intense scrutiny last year and suggestions were abound that banks were understating their true borrowing costs in an attempt to cloak their desperation for funds. There were even claims that banks were actively manipulating LIBOR rates in a concerted fashion.

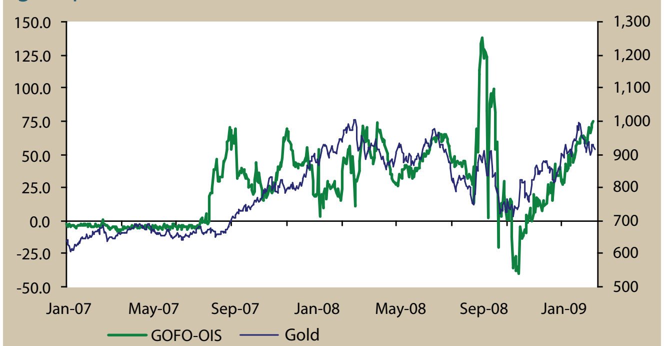
While the occurrence of such manipulation remains to be evidenced,[1] it is likely however that the spread between GOFO and LIBOR embedded unusual factors, such as the creditworthiness of LIBOR contributors and cash hoarding. A separate empirical analysis, taking the average of the five-year credit default swap (CDS) spread of LIBOR-contributing banks as an explanatory variable for the LIBOR-OIS spread, suggests that pure creditworthiness was probably less instrumental in determining the LIBOR risk premium than cash hoarding, but that it accounts for a significant share of the widening spread nonetheless. As banks suffered from deteriorating creditworthiness to varying degrees, the rate at which they could obtain US dollar funding would differ, having a knock-on effect on their respective lease rates. This is because lease rates are partly a function of LIBOR, so any spectrum in contributory LIBOR rates from the BBA's panel will also be manifest in lease rates.

Could the differing compositions between the panels of GOFO contributors and LIBOR contributors be a source for varied pressures upon the respective rates? The GOFO panel has fewer contributors and has a lower proportion of US versus non-US banks at 1:2, whereas the LIBOR panel's ratio is 1:3 (see Table 2). It is worth recalling that GOFO and LIBOR rates cover different credit spectrums and, in general, credit spreads on US banks (Citibank, BoA, JP Morgan Chase, etc.) have widened more than credit spreads on European banks (UBS, Barclays, HSBC, etc.).

However, by contrast, with the significant explanatory power of CDS spreads for the LIBOR-OIS spread, the linkage between the GOFO-OIS premium and CDS spreads has limited statistical significance; it is especially the case if the price of gold is added as an exogenous variable for the GOFO-OIS spread. This probably reflects gold prices and CDS spreads exhibiting some common component indicative of risk aversion.

Overall, there is no strong evidence that counterparty risk is a prominent factor determining GOFO-OIS spreads, in contrast to the detected impact on LIBOR-OIS spreads. Therefore, the rise in credit concerns was a factor in opening up the gap between LIBOR and GOFO and to higher lease rates.

Chart 4 3m GOFO-OIS spread (bp, LHS) and gold prices (USD, RHS)



Source: Bloomberg

Table 2: Contributing Banks to GOFO and USD LIBOR

GOFO	USD LIBOR
Bank of Nova Scotia-ScotiaMocatta	Bank of America
Barclays Bank	Bank of Tokyo-Mitsubishi
Deutsche Bank	Barclays Bank
HSBC	Citibank
Goldman Sachs	Credit Suisse
JPMorgan Chase	Deutsche Bank
Royal Bank of Canada	HSBC
Société Générale	JPMorgan Chase
UBS	Lloyds TSB
	Rabobank
	Royal Bank of Canada
	Norinchukin Bank
	Société Générale
	RBS
	UBS
Source: LBMA/BBA	WestLB

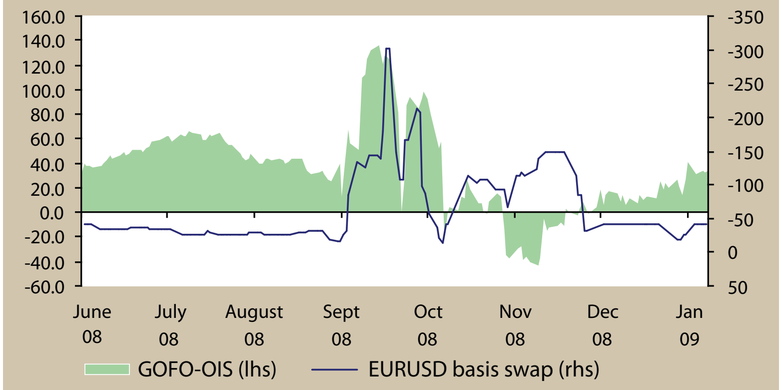
GOFO-OIS Spreads Appear Directional with Gold Prices

Indeed, factors other than the credit of contributing banks might have had an impact on GOFO rates. As we have underlined, GOFO rates are the interest rates associated with the lending/ borrowing of cash against gold. In a way, it is similar – although not exactly – to General Collateral Repurchase Agreements (GC Repo) where cash is borrowed against the posting of some collateral. Such repos sometimes depend on the value and demand of the underlying collateral. Collateral that is highly in demand will typically be associated with low interest rates on the cash leg. Also, repos offer protection for the lender as collateral is posted at a discount ("haircut"); were the cash borrower to fail, the lender could dispose of the collateral with a good chance to be in the money.

By contrast with repos, however, gold versus cash swaps do not involve the posting of

[1] In a LIBOR consultation paper, the BBA found that respondents from a wide cross-section of the market considered LIBOR "a fundamentally robust and accurate benchmark". However, it was noted that "many respondents referred to the poor market conditions as having an adverse effect on all benchmarks aggravated by the global shortage of US Dollars."

Chart 5 3m GOFO-OIS spread (LHS) and EURUSD basis swap (bp, RHS)



Source: Bloomberg

collateral, meaning that the counterparties to the swap receive full ownership of the gold/cash during the swap. Because the swap is cash against a volume of gold, the price of gold is not a factor in the swap per se: a volume of gold is borrowed, the same volume of gold is returned.

Yet the lender of gold might not recover its gold if the counterparty fails, and will incur the full marked-to-market risk of gold if it has to use the cash to repurchase its gold – there is no "haircut". As a result, counterparties entering a gold-for-cash swap will be exposed to the price of gold and also perhaps to the volatility – either realised or implied – of gold prices in the event of a default. It is therefore not surprising if gold prices tend to influence the GOFO-OIS spread, which as we showed, exhibits some directionality in gold prices.

This risk has a cost, which should be associated with a positive basis between GOFO rates and REPO rates or OIS rates. Higher gold prices might be associated with higher GOFO-OIS spreads because: (1) higher gold prices illustrate some cautious stance on risky assets and therefore some caution on any form of unsecured lending; and (2) the increase in gold prices has been so prompt and sustained that any counterparty lending gold to a failing counterparty would have incurred a substantial cost to buy it back had it been left with cash.

An important feature of the market for borrowed gold is the role of the central banks, which are primary lenders. Central banks' gold is lent to intermediaries, which in turn can lend it on. Intermediaries receiving gold deposits from central banks will provide high-quality collateral in return – so that the availability of collateral might play a role at the early stages of gold "sourcing". Central banks lend gold to earn some return on their holdings, but also enter gold swaps with other monetary authorities in order to have access to alternative reserve assets. GOFO rates might therefore be affected by cross-border funding issues.

The Spike in Lease Rates: Period 2

GOFO-OIS spreads were host to some extreme moves in the second half of 2008, the first of which occurred following the Lehman Brothers bankruptcy in mid September. The spread reached a high of 140 bps at the end of September, but then began to ease, whereas LIBOR-OIS did not peak until 10 October. The period between these two dates saw lease rates at their 2008 highs.

The unusually wide GOFO-OIS spread throughout September and October was contemporaneous with a sharp rally in gold prices, although this cannot be seen as the cause of the wider GOFO-OIS spread. At that time, funding markets were highly dysfunctional, with high LIBOR-OIS spreads as well, although the pattern of the LIBOR-OIS spread cannot be exactly matched with that of the GOFO-OIS spread. Above all, cross-border interbank lending froze, inducing a sequence of responses.

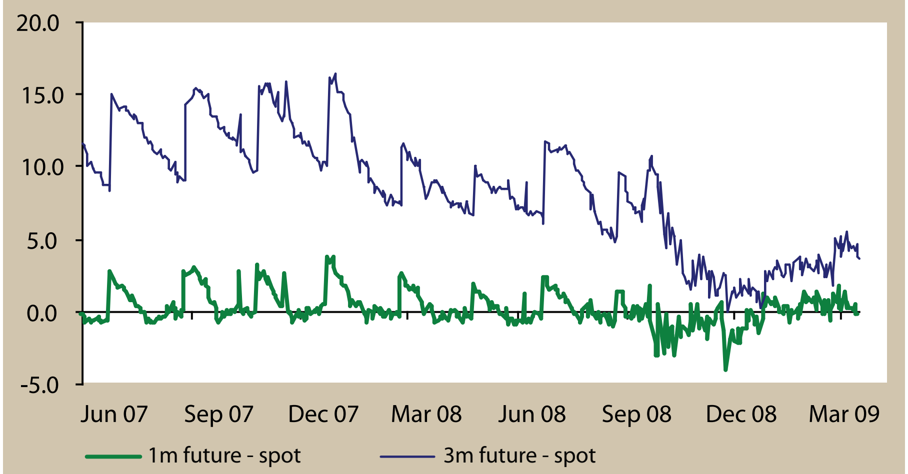
On 24 September, the FOMC established new swap lines with the Reserve Bank of Australia and the Sveriges Riksbank for up to US$10 billion each and with the Danmarks Nationalbank and the Norges Bank for up to US$5 billion each. On 26 September, it increased existing swap lines with the ECB by US$10 billion and the Swiss National Bank by US$3 billion. On 29 September, it authorised a US$330 billion expansion of swap lines with Bank of Canada, Bank of England, Bank of Japan, Danmarks Nationalbank, ECB, Norges Bank, Reserve Bank of Australia, Sveriges Riksbank, and Swiss National Bank. Swap lines outstanding then totalled US$620 billion. On 13 October, it increased existing swap lines with the foreign central banks again.

In spite of central banks' actions, it is fair to assume that during this three-week period, dollar funding for non-dollar banks was difficult to get; basis swaps (LIBOR versus EURIBOR currency swaps) became increasingly expensive, and it is likely that, at that time, using gold to obtain US dollars became attractive. As a result, it appeared that market participants were ready to pay much to borrow US dollars using gold as the need for dollar funding was pressing and no other sources of funding were available. As this need diminished, GOFO-OIS began to move lower, leading to the final leg higher in lease rates as LIBOR peaked some days later.

Backwardation: Period 3

Lease rates partly recovered to 160 bps by 7 November, a month or so after the 290 bps high, only to rise sharply again above 200bps (period 3) during the second half of the month, this time driven solely by action in GOFO, since LIBOR was relatively steady at this time. 3-month GOFO rates fell as low as 5bps (1-month GOFO rates even turned negative) and GOFO-OIS spreads reached -40bps. During the resultant backwardation, market participants were paid to borrow money using gold – which is the opposite of the usual regime, when creditors are remunerated. The extent to which normal trading parameters were distorted is illustrated in chart 5 above, which shows the premium of 1-month and 3-month futures

Chart 6 Near dated COMEX futures minus spot prices



Source: Bloomberg

over spot prices. The two-month cycle observed up until September 2008 reflects the roll between the bi-monthly active contracts, of which there are six each year, yet this completely broke down.

Importantly, GOFO rates were lower than OIS rates during this period; OIS rates were already depressed by expectations of future cuts in the Federal Reserve target rate, yet GOFO rates were even more depressed. It came as a sharp contrast with the positive spread that had prevailed since the beginning of the crisis. The analogy with repos helps to explain how this change happened; in a repo, collateral that is highly in demand will typically be associated with low interest rates on the cash leg.

During this period of low GOFO rates, it appears investors were happy to lend cash at negative rates in order to benefit from the safety of holding gold; in other words, gold as quasi-collateral was so much in demand that investors were ready to pay to hold it. Such a financial oddity – the "safety premium" – also took place on short-term US bills, which on 4 December 2008 paid negative interest rates. This rush to safety pressured GOFO lower and resulted in a mini up-tick in lease rates once more, although to levels below the October high.

Lease Rate Volatility Should Be Confined to the Past

Financial market convulsions commencing in August 2007 radically altered the normal relationships between LIBOR, GOFO and OIS, which culminating in the epicentre of the crisis in September and October 2008, resulted in lease rates spiking to levels not seen since 2002. Since then, notwithstanding the numerous policy-induced waves of volatility and occasional bout of extreme risk-aversion, lease rates have trended back lower and are now at pre-September 2008 levels.

We believe lease rates will first stay at these levels and then gradually ease lower once more:

- Elevated concerns regarding the creditworthiness of counterparts in the interbank lending market had varying impacts on LIBOR and GOFO; we believe a repeat of these conditions is unlikely in light of the multitude of policy measures enacted to enhance liquidity provision.
- The major catalyst for these interbank concerns was the Lehman Brothers bankruptcy and it appears unlikely for now that the US authorities will allow another systemically important institution to fail.
- Negative 1-month GOFO rates and the resultant backwardation, related to the similarly odd "safety premium" that befell the bond markets, is a rare event. The positive relationship between GOFO-OIS spreads and gold prices exhibited since 2001 should buoy GOFO rates in light of our outlook for higher gold prices over the longer term.

In the absence of any further large credit events in the banking sector, we think lease rates will trend lower as LIBOR slowly normalises. ■

Christophe Duval-Kieffer *received economics and finance degrees from HEC and IEP Paris in France as well as from Pompeu Fabra University in Spain.*

His expertise includes the use of modelling tools and statistical back testing to create fixed-income, FX and commodity trading strategies.

David Barclay *received a BSc in Business Administration from the University of Bath and joined Lehman Brothers as part of the capital markets graduate programme. He then moved into metals research, covering uranium and steel, before joining Standard Chartered as a commodities strategist.*

Obituary JACK SPALL

Honour, Integrity, Respect and Liquidity

By Alan Baker

Jack Spall started his career in the City in 1947 at Wallace Brothers, becoming a soft commodities broker, primarily in wool, before moving to Merrill Lynch in 1961.

His introduction to the bullion market came in 1967 with the termination of sales of silver by the US Treasury at $1.29 per ounce. It was then that he switched from broking in wool to silver, at the birth of the era of speculative opportunities in bullion. This brought him in contact with London bullion houses by providing the link to arbitrage against the fledgling silver contract on COMEX, followed by an invitation to join Sharps Pixley in 1970, where he remained until he retired in 1988.

Jack's early exposure to silver arbitrage left him well placed to steer Sharps, taking advantage of opportunities on the Winnipeg Commodities Exchange when it opened its gold contract in 1972, Hong Kong when import and trading restrictions were lifted in 1974 and the opening of the COMEX gold contract in 1975. The move also introduced him to the institution and camaraderie that is the London Bullion Market, something for which his natural conviviality was eminently suited.

As a boss he was "hard but fair!" Not one to suffer fools gladly, his "corrective interviews" with erring dealers who had raised his ire became legend, although he did, rumour has it, have a softer underside. He was also one to let the dealers have their heads and make their own mistakes, but not too often! His greatest obsession was undoubtedly liquidity: "Never be in a position where you can't satisfy your creditors and so put the firm at risk." His approach has perhaps gone out of vogue, to the detriment of all of us today!

In his career Jack dealt on the basis of honour, integrity and respect. Happy to work on the basis of "my word is my bond" and of a set of rules for the market that could be contained on one piece of paper. The necessity of the introduction of vast tomes of regulations with the passing of the Financial Services Act in 1986 left him happy to leave the market when he did, for it was changing more than he cared for. He would also not have been one for the electronic trading of today, for he came from a time when daily personal contact was the norm and he revelled in it.

Jack leaves his wife Kay, his children Jonathan and Claire and four grandchildren. It has been a source of great pride for Jack that Jonathan followed in his father's footsteps, helping to keep him in touch with a part of his life that had become so important to him. ■