

Understanding the ISDAfix Controversy and Its Potential Impact

By Jack Chen
Ezra Zask
Jean-Baptiste Carelus

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Introduction

Market participants experienced déjà vu at Bloomberg News' report in April of this year that the Commodity Futures Trading Commission ("CFTC") issued subpoenas to Wall Street banks and broker dealers regarding ISDAfix, a little known set of swap rates that affect the pricing of hundreds of trillion dollars in swaps. As with the LIBOR controversy, regulators are examining whether banks and brokers manipulated ISDAfix for their own gain. Despite its relative obscurity, reportedly some 6,000 banks, derivatives dealers, corporate treasurers, money managers, and other institutions monitor ISDAfix rates. Essentially anyone who uses swaps to hedge interest rate risk or who price fixed-rate assets and liabilities monitors these published rates. Because the payments under swaps are based on ISDAfix rates, any manipulation would impact large segments of the financial markets, beyond the \$379 trillion swaps market.

We have received a number of inquiries from clients regarding the LIBOR controversy and the ISDAfix investigation and the relationship between the two developments. This report serves as a resource for the reader to understand what ISDAfix is, how it relates to LIBOR, why the ISDAfix rates matter and how they can assess any potential impact on their own portfolios and liabilities.

ISDAfix

The International Swaps Dealers Association ("ISDA"), in cooperation with Thomson Reuters and ICAP Plc ("ICAP"), established ISDAfix in 1998 to serve as a benchmark of swap rates for all trades using ISDA documentation. Each ISDAfix rate represents "a rate which is the mean of where that dealer would itself offer and bid a swap in the relevant maturity for a notional equivalent amount of US \$50 million or whatever amount is deemed market size in that currency for that tenor to an acknowledged dealer of good credit in the swap market. The rate should not be where the dealer sees mid-market away from itself, but should be a function of its own bid/offer spread."¹

ISDAfix rates are calculated as average mid-market swap rates for six

Like LIBOR, ISDAfix is quoted in a number of currencies, a number of which overlap.

LIBOR	Currency	ISDAfix
X	AUD	
X	CAD	
X	DKK	
X	EUR	X
X	HKD	X
X	JPY	X
X	NZD	
X	GBP	X
X	CHF	X
X	SEK	
X	USD	X

¹ <http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix/>.

major currencies at selected maturities (starting at one year and extending out to 30 years) on a daily basis. ISDAfix rates are based on mid-day and, in some markets, end-of-day polling of mid-market rates. This formula also discards some of the outliers. Standard ISDA documentation incorporate by reference ISDAfix for settling interest-rate options and canceling swaps contracts.² Due in part to the ubiquitous nature of ISDA documentation in the derivatives world, ISDAfix has become the leading benchmark for annual swap rates for swap transactions worldwide.

ISDAfix rates are displayed and updated daily on Thomson Reuters, Bloomberg and Telekurs. The Thomson Reuters Screen Pages are ISDAFIX 1 through ISDAFIX 5. The rates provided by the contributing panel members are also correspondingly updated and can be found at Thomson Reuters Screens ISDA10 through ISDA61.

Composition of the contributor panels

According to ISDA, ICAP, Thomson Reuters and ISDA select contributing firms based on each applicant’s: reputation among dealers, credit standing, scale of activity in the relevant market, and expertise in the currency concerned. ISDA may remove a contributor for various reasons, including failure to provide rates or submissions deemed to be off market.

Polling window

Contributors submit rates to Thomson Reuters for the full set of designated maturities of the given ISDAfix currency (or ICAP, with respect to USD rates) within a polling window. While the quotes may be submitted to five decimal places, the published rate will be to three decimal places. Contributing banks that do not provide submissions for the full set of maturities within their designated currency will have all of the other submissions for that currency disregarded for that day. During the polling window of approximately 15 minutes, panel members may update or amend a submission. Following the window, they may not amend or withdraw their contributed rates.

The polling window opens at 11 AM when contributors may—using a secure website—begin to submit the swap rates as defined by ISDA for each maturity of their respective currencies. To start the

A number of banks and broker dealers contribute to the settings of both USD LIBOR and ISDAfix, while the exact composition of contributing banks may vary from time to time. For example, various media sources reported in April that HSBC and Mizuho have stopped contributing to ISDAfix.

USD LIBOR	Bank	ISDAfix
X	Bank of America	X
X	Barclays	X
	BNP Paribas	X
X	Citibank	X
X	Credit Suisse	X
X	Deutsche Bank	X
	Goldman Sachs	X
X	HSBC	X
X	JPMorgan Chase	X
X	Lloyds Bank	
	Mizuho	X
	Morgan Stanley	X
	Nomura	X
X	Norinchukin Bank	
X	Rabobank	
X	Royal Bank of Canada	
X	Royal Bank of Scotland	X
X	Tokyo-Mitsubishi	
X	UBS	X
	Wells Fargo	X
X	WestLB	

² See, e.g., Supplement number 20 to the 2000 ISDA® Definitions and Annex to the 2000 ISDA Definitions (published on January 3, 2005).

process, with respect to USD swap rates, ICAP will, at 11:02 AM, indicate on the secure website a USD swap spread and USD swap rate to serve as a reference point for contributors. According to ISDA, ICAP generates the reference point using (i) “most recent swap spreads from completed trades and executable bids and offers in market size done/posted at ICAP” and displayed on Reuters page 19901 at 11:00 AM and (ii) “executed trades and executable bids and offers at 11 [AM] for US Treasury securities from ICAP’s BrokerTec US Treasury electronic trading platform.”³ Contributors may submit their rates until 11:15 AM or they may accept the reference swap spread and/or rate provided by ICAP.

Publication

At the end of the polling window, ICAP or Thomson Reuters, depending on the currency, will review the submissions and publish the calculated rates based on the following process. For each currency and each maturity, the highest and lowest rates submitted are eliminated, and as long as the minimum number of contributions has been received, the remaining submissions are averaged, resulting in the ISDAfix rate, which is then published.

ICAP’s dual roles

Readers following the developments in the LIBOR controversy will recognize the name ICAP, an inter-bank swaps broker whose traders have been mentioned in investigations regarding both LIBOR and ISDAfix. With respect to ISDAfix rates, ICAP plays two roles. First, it calculates the daily submissions for USD ISDAfix swap rates. As part of this fixing process, ICAP will offer reference points for the various maturities based on, among other things, its own trade data. Second, it also acts as a broker by matching swap dealers based on trades. As a broker, the firm is paid commissions based on the size of the trades it matches.

Confusion between Screens 19901 and ISDAFIX 1 through ISDAFIX 5

Perhaps partially due to ICAP’s dual roles as a calculation agent and as a broker, a number of media sources and commentators have confused the various screens and the information published on each. ISDAfix rates are published on screens ISDAFIX 1 through ISDAFIX 5. Screen 19901, on the other hand, contains “the most recent swap spreads from completed trades and executable bids and offers in market size done/posted at ICAP.”⁴ In other words, swap spreads on Screen 19901 reflect only those trades executed or otherwise posted at ICAP and are not necessarily representative of the entire market. A distinguishing difference between the two screens is that, while ISDAfix rates are set daily after the end

³ According to ISDA, “By their nature, because both sources of information reflect completed transactions and/or at-risk trading interest, ICAP considers them to be a useful and meaningful reference point for where the market may be at that point in time.” <http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix/>

⁴ <http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix/>.

of the polling window, swap spreads on Screen 19901 are updated periodically as ICAP enters trade information.

Markets and products that depend on ISDAfix

ISDAfix affects the costs of a large number of financial instruments, placing staggeringly large dollar amounts at risk. For example:

- The U.S. Federal Reserve uses ISDAfix as the source for USD swap rates in its H.15 Statistical Release.⁵
- ISDAfix is used to determine the exercise values for hundreds of billions, if not trillions, in notional of cash-settled swap options under standard ISDA documentation used around the world.⁶ For example, the 2006 ISDA Definitions refer specifically to ISDAFIX rates as a means of settlement of over-the-counter derivatives transactions.
- Banks use ISDAfix rates to value their own portfolios, with the resulting unrealized gains or losses from those portfolios then incorporated into the banks' reported financial results.
- Counterparties in the global \$379 trillion swaps market use ISDAfix as a reference rate for calculating the cash settlement for early termination.⁷
- ISDAfix swap rates may also be used in pricing some of the \$550 billion of bonds backed by commercial real estate mortgages ("CMBS").
- Various exchange products also use ISDAfix rates as a rate or curve source.
 - LIFFE uses ISDAfix as the source of the swap curve in calculating the settlement price of its billion-dollar market for Swapnote futures contracts.

CMBS Ranking	2013 Q1 Issuance	Market Share (%)
1	Credit Suisse	21.6
2	Jefferies & Co.	18.9
3	Bank of America	14.0
4	Barclays	9.6
5	Morgan Stanley	8.8
6	JP Morgan	8.7
7	Wells Fargo	6.1
8	Nomura	4.8
9	Deutsche Bank	2.4
10	RBS	2.2
11	Citigroup	1.8
12	Goldman Sachs	1.2

Of the top twelve CMBS underwriters for 2013 Q1, seven contribute to both LIBOR and ISDAfix while four contribute to ISDAfix.

⁵ The currently reported swap rates are available on the Federal Reserve Board's website, <http://www.federalreserve.gov/releases/H15/data.htm>.

⁶ See, e.g., Supplement number 20 to the 2000 ISDA® Definitions and Annex to the 2000 ISDA Definitions (published on January 3, 2005).

⁷ According to the Bank for International Settlements, the notional amounts outstanding for interest rate swaps were upwards of \$364 trillion at the end of 2010. For the American market, the Depository Trust & Clearing Corp., which operates a central trade repository, reported \$28.4 trillion of swap contracts outstanding as of April 4, 2013. <http://www2.isda.org/asset-classes/interest-rates-derivatives/isdafix>.

- Both the Chicago Mercantile Exchange and the Chicago Board of Trade use ISDAfix as the settlement price in their swap futures contracts.
- ISDAfix swap rates may also be used to set the payouts of some state pension annuities.⁸
- Interest rate swaps that use ISDAfix rates are also commonly embedded in hybrid securities known as structured notes that are popular with high net worth investors.

Possible impact of any ISDAfix manipulation on LIBOR damages

The LIBOR controversy has been thoroughly covered by various news media, academia and market observers. Here are the highlights of the latest legal and regulatory developments:

- Regulators around the globe are conducting multiple investigations into the alleged manipulation of LIBOR and Barclays, UBS and Royal Bank of Scotland have paid more than USD\$2.5 billion in fines with more potential penalties to come from other banks.
- On March 29, Judge Naomi Reice Buchwald of the U.S. District Court of Southern District New York dismissed plaintiffs' federal antitrust and RICO claims.
- Partially in response to Judge Buchwald's dismissal, a number of financial institutions have filed individual lawsuits in both state and federal court, including—among others—Freddie Mac, the Charles Schwab entities, The Berkshire Bank, Regents of the University of California and Salix Capital, alleging various fraud and contractual claims.⁹

Fixed to floating swaps—ongoing payments

The following example of a simple interest rate swap demonstrates how the manipulation of LIBOR and ISDAfix can together affect the value of a swap.

Assume that there is a \$500 million swap that matures in 20 years, where a bank (Party A) makes a floating payment based on the LIBOR rate (3-month USD LIBOR paid quarterly) and receives a fixed rate of 5.9% (which was determined using ISDAfix) paid quarterly by a pension fund (Party B). Party A,

⁸ We do not know at this time whether ISDAfix rates are considered in determining the values and benefits of the annuities market generally, estimated to be nearly \$2 trillion.

<http://www.standardandpoors.com/ratings/articles/en/us/?articleType=HTML&assetID=1245337430189>

⁹ See, e.g., *The Federal Home Loan Mortgage Corporation v. Bank of America Corporation et al.* (filed March 14, 2013 in U.S. District Court for the Eastern District of Virginia); *The Charles Schwab Corporation et al. v. Bank of America Corporation et al.* (filed April 29, 2013, Case No. CGC-13-531016 filed in California Superior Court, San Francisco County); *The Berkshire Bank v. Bank of America Corporation, et al.* (filed in U.S. District Court for the Southern District of New York, Case No. 12-cv-5723); *Regents of the University of California v. Bank of America Corp. (BAC)*, U.S. District Court, Northern District of California, Case No. 13-2921) and *Salix Capital US Inc. and Salix Capital Ltd. v. Banc of America Securities LLC, et al.* (filed May 20, 2013 in New York State Supreme Court for New York County).

would receive the same fixed quarterly payments from Party B for the life of the swap. This fixed payment is \$7,273,972¹⁰. Assume further that on day 90, the end of the first quarter, the current 3-month USD LIBOR rate is 6.2%. This would mean that Party A would pay Party B \$7,643,835¹¹ and would receive \$7,273,972. In net terms, the bank owes the pension fund \$369,863. If, however, the bank had manipulated the fixed rate and increased the relevant ISDAfix rate by five basis points (0.05 percent) to 5.95% at the beginning of the swap, *the bank would have received an ill-gotten gain each quarter in the amount of \$61,645 or \$246,580 annually for a total manipulated gain of \$4,931,600 for the life of the swap.*¹²

Fixed to floating swaps—termination payments

Any manipulation of the ISDAfix rates would also likely impact the termination costs of a fixed to floating swap, depending on the facts and the terms of the trade. The calculation of the termination value of a fixed-to-floating swap is based on the following variables: (i) the swap's fixed rate; (ii) the value of the referenced floating rate; (iii) the notional amount; (iv) the remaining term of the swap contract; (v) the forward curve as of the valuation date; and (vi) the discount rate to be used to calculate the present value. The forward curve is updated daily based upon market trading conditions. Any manipulation of ISDAfix rates (or LIBOR, for the purposes of our example) most likely would have also affected the forward curve. A party assessing its damages from any potential rate manipulation should account for this in its analyses. *Using the swap example above, if that trade was terminated after one year, a ten basis point (0.1 percent) manipulation of the interest rate could increase the termination payment paid by the pension fund to the bank by nearly half a million dollars.*¹³

¹⁰ The 5.9% fixed rate payment is on annual basis. To convert to a quarterly rate the convention is to use a 90/365 day count. So the quarterly rate is equal to $[5.9\% \times (90/365)] = 1.45\%$. Multiplying this rate with the notional value of \$500 million yields a quarterly cash flow of \$7,273,972.

¹¹ $[6.2\% \times (90/365)] \times \$500,000,000 = \$7,643,835$

¹² In our review of the available literature discussing the ISDAfix developments, we came across one example cited in a number of different articles: "On a \$500 million swap that matures in 20 years, for example, a delay that prevents the instrument from moving one basis point (0.01 percent) equals \$1 million in profit for the dealer." This hypothetical overstates the dealer's profit, as it does not take into account the time value of money. Rather, the value of the swap is based on the discounted future cash flow of the swap. Using our example swap, if a bank is making fixed quarterly payments based on an ISDAfix rate of 5.9%, for 20 years on a notional value of \$500 million, the present value of its payments is \$332,185,938 (for simplicity, we assume the 3-month LIBOR stays at 6.2% for purpose of calculating a discounting factor). If the true rate that bank should have paid was a basis point higher, 5.91%, the present value of its payments would have been \$332,748,965. So in present terms the bank made a profit of \$563,072.

¹³ As discussed, the termination payment owed by one party to another is highly specific to the facts. Please contact the authors for a detailed explanation in the calculations involved.

Potential double dipping

If the bank in the above example was manipulating both LIBOR and ISDAfix, it was essentially double dipping, creating a “manipulation-on-manipulation” situation whereby the swap customers would have been paying for two different layers of price-fixing corruption. *Using the same swap example to illustrate this potential double dipping, assuming that LIBOR stays constant but is manipulated by 5 bps to the advantage of the bank and the fixed rate at the time the swap was entered into was also manipulated by 5 bps, the bank in our hypothetical would have received ill-gotten gains of \$123,290 quarterly, \$493,160 annually and \$9,863,200 for life of the swap.*

Evaluating the impact of ISDAfix manipulation

The example we used above was a fixed to floating swap but the potential impact from any ISDAfix manipulation is not limited to swaps. To state the obvious, all of the markets and products that rely on ISDAfix are potentially affected.

A financial institution that wants to conduct an internal assessment of any potential impact from ISDAfix manipulation would need to undertake an extensive review that would generally include:

- Review of the firm’s derivatives portfolio and ISDA documentation, including all trade confirms.
- Analysis of the firm’s interest rate exposure in its swap book based upon currency and duration.
- Categorization of the firm’s cash portfolio composition by asset types and identifying those with interest rate risk and potential exposure to ISDAfix.
- For public pension funds and any institution with liabilities in the form of annuities, a review of its pricing practices and procedures.

Possible areas of focus in the CFTC investigation

While the LIBOR controversy appeared in the mainstream with the Wall Street Journal’s April 16, 2008 article,¹⁴ the CFTC’s investigation into the ISDAfix rate setting process was only first reported this year. In fact, regulators have released no details about the full scope of the investigations, and, indeed, there may be no finding of any wrongdoing. Nonetheless, regulators are plowing ahead with the ISDAfix inquiry, with the CFTC reportedly having issued subpoenas to ICAP and as many as fifteen Wall Street banks¹⁵ and reviewing one million emails and instant messages looking for evidence of manipulation and wrongdoing.¹⁶

¹⁴ <http://online.wsj.com/article/SB120831164167818299.html>

¹⁵ <http://www.bloomberg.com/news/2013-04-08/cftc-said-to-probe-icap-treasure-island-brokers-on-swap-prices.html>

¹⁶ <http://www.bloomberg.com/news/2013-05-20/cftc-said-to-review-1-million-e-mails-in-isdafix-investigation.html>

We have identified two areas of potential interest to the CFTC. First, the CFTC may be looking for evidence of manipulation of the ISDAfix rates. This case would be fairly straightforward in following the blueprint of the LIBOR investigations. The two indices follow a similar setting process in their daily reporting and share some common characteristics. Second, the CFTC may be examining whether ICAP delayed the reporting of swap rates to Screen 19901, for trades it has executed or matched, in order to provide a trading advantage to itself or another swap broker. While ICAP's Screen 19901 is widely followed in the swaps market, this information differs from a reported index that holds itself to be representative of the market generally.

Conclusion

Quick glance of key publicly reported indices subject to regulatory investigations around the world:

Index	USD LIBOR	ISDAfix	Crude Oil Market	WS/Reuters FX Rates
Estimated Market Size	\$350 trillion in derivatives	\$379 trillion	USD\$3.4 trillion	USD\$4.7 trillion-a-day
Investigation targets	LIBOR panel banks	ISDAfix contributors, ICAP	Royal Dutch Shell, BP and Platts	Unknown at this time

These indices and the markets to which they relate share a number of characteristics:

- Traders working in high-pressure environments where an unprofitable quarter or year can mean job loss.
- Markets where advance (and accurate) information could be translated into millions of dollars of profit.
- Indices that the market generally has trusted (and assumed) to be calculated in an objective manner and has therefore relied upon heavily.

Given the gargantuan sizes of the various markets that rely on ISDAfix for pricing, the temptation for manipulation can be overwhelming as even the smallest change could result in millions of dollars in ill-gotten gains. If the CFTC investigation reveals wrongdoing, the amount of damages in the ISDAfix controversy could rival and potentially surpass the LIBOR scandal.

About SFC

SFC Associates, LLC is an economic consulting firm specializing in litigation support and expert witness in complex securities litigation. Our staff and affiliates offer extensive experience and market participation in swaps, derivatives, financial and capital markets. We have been engaged in over 50 cases for law firms that include Sullivan and Cromwell, Sidley Austin, Quinn Emanuel, WilmerHale and others. For further information on the firm please visit our website at www.sfcassociates.com.

About the authors¹⁷

Jack Chen is an Affiliate of SFC Associates (“SFC”) and a finance professional who has testified in federal court on financial products and currently provides litigation support services on LIBOR and capital markets related matters. He is a recognized expert in structured finance where he has nearly 20 years of experience working in different roles in the capital markets. He started as a lawyer working at Willkie Farr & Gallagher then Sullivan and Cromwell before going to the business side rating structured products at Moody’s Investors Service. He subsequently worked in asset management firms before beginning his consulting practice. His product expertise includes credit default swaps, interest rate derivatives and total return swaps, cash, market value and synthetic collateralized debt obligations, collateralized loan obligations and structured investment vehicles. Mr. Chen has appeared on the CBS Evening News and has been quoted or cited in a number of newspapers and trade journals, including Wall Street Journal, Market Watch News Hub, Risk, Creditflux, St. Petersburg Times, Asset-Backed Alert and Structured Credit Investor.

Ezra Zask is a finance professional, litigation consultant, expert witness, educator, author and one of the country’s foremost authorities in complex matters involving hedge funds, private equity and investment management. He has more than 20 years of experience in five primary areas: Expert Witness/Litigation Support; Hedge Fund and Investment Management; Hedge Fund Trading and Management; Bank Trading in Securities and Derivatives; and Economics and Finance. In 1991, Mr. Zask founded SFC Associates, a financial consulting firm that provides litigation consulting and expert witness services; investment management services for hedge funds, fund of hedge funds, family offices and institutional investors; hedge fund due diligence and manager selection; and risk management services.

Mr. Jean-Baptiste Carelus is Senior Principal at SFC Associates. Mr. Carelus has experience in the analysis of structured products, including residential mortgage backed securities; cash, market value, and synthetic collateralized debt obligations; credit default swaps; Closed-end Funds; and Structured

¹⁷ The authors would like to thank Amanuel and Derek for their assistance in writing this report.

Investment Vehicles (SIV). He has more than 13-years of rating agency experience at Standard & Poor's. In addition, Mr. Carelus has significant litigation consulting experience working on behalf of both consulting and testifying experts on dispute-related engagements involving allegations of breach of fiduciary responsibility, standard of care of market participants in the structuring and rating of structure products, suitability of investments, and accounting for loss reserves at financial institutions.

For further information please contact Jean-Baptiste Carelus at jb.carelus@sfcassociates.com or at 1 212 201 1990.