



Introduction to Interest Rate Swaps and Their Termination Under the 1992 Master Agreement

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Executive Summary: The financial crisis of 2008 has resulted in termination of a number of swaps and derivatives transactions. As can be expected, the termination payments for these transactions are facing increased scrutiny.

This article provides legal practitioners an introduction to interest rate swaps and uses interest-rate swaps as an example to discuss issues related to determining termination payments. Although the International Swaps and Derivatives Association (“ISDA”) issued an updated version of its Master Agreement in 2002 (the “2002 Master Agreement”), this article focuses on termination payments under the 1992 version of the ISDA Master Agreement (the “1992 Master Agreement”) as adoption of the 2002 Master Agreement has been slower than expected and the 1992 Master Agreement is still the governing contract for a large number of transactions. Additionally, the 1992 Master Agreement offers two alternative methods to calculate the termination payment, increasing the potential for disputes. These two methods were replaced by a single method in the 2002 Master Agreement.

I) Introduction to Interest Rate Swaps

ISDA defines a swap as a “derivative where two counterparties exchange streams of cash flows with each other. These streams are known as the “legs” of the swap and are calculated by reference to a notional amount.” An interest-rate swap is a swap in which the payments between the parties are determined based on specified interest rates and a notional amount of principal. The most common form of an interest rate swap is a fixed-for-floating rate swap in the same currency, although other variations also exist.² For the purposes of this article, I focus on single-currency, fixed-for-floating rate swaps.

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² For example, each leg of an interest-rate swap can be in a different currency. Counterparties can also enter into swaps to exchange two sets of floating-rate payments or two sets of fixed-rate payments. Because



In a single-currency, fixed-for-floating rate swap, one counterparty agrees to make periodic payments denominated in a particular currency to the other counterparty based on a fixed interest rate (also known as the swap rate), for an agreed upon length of time. In return, the counterparty receives payments based on a variable referenced rate (or floating rate) that is not known at the time of the swaps' initiation, but is known prior to each payment date. For the purposes of this article I refer to the counterparty making payments based on the fixed-rate as the fixed-rate payer and the counterparty making payments based on the variable referenced rate as the floating-rate payer.³ The amounts of the fixed- and floating-rate payments are calculated by multiplying each rate by a notional principal amount, but this principal amount is not exchanged between the parties.

Each future fixed-rate payment is the product of the notional principal amount and the fixed interest rate specified in the agreement. Each future floating-rate payment is the product of the notional principal amount and the value of an observable variable market interest rate that is named in the agreement, or on a formula that references such a rate. On each of the swap's scheduled future payment dates, the counterparties determine the fixed-rate payment and the floating-rate payment. If the two payments are equal, no cash is exchanged. If the two payments differ, the party with the smaller incoming payment pays the other counterparty the difference between the two payments. This net payment is referred to as the difference check.

In a typical interest rate swap, the floating rate is based on a market-determined, variable interest rate, such as the London Interbank Offered Rate ("LIBOR") or the Securities Industry and Financial Markets Association ("SIFMA") Municipal Swap Index.

II) Valuation of Interest Rate Swaps

The value of a swap at any date is equal to the net difference between the expected present values of the remaining fixed- and floating-rate payments. Therefore, valuing an interest-rate swap requires estimation of the remaining expected fixed- and floating-rate payments and discounting each stream of expected payments to present value. When the present value of the stream of payments that a counterparty expects to receive is larger than the present value of the stream of payments that the counterparty expects to pay, the counterparty is said to be "in the money," and the swap is an asset to that counterparty worth the net of the two present values. Conversely, the other counterparty is "out of the money," and views the swap as a liability in the same amount.

Calculating the future fixed-rate payments of an interest rate swap is a simple exercise. Since the fixed rate is known, the fixed-rate payment for each payment date is simply the product of the notional principal amount times the fixed interest rate. The challenge is to estimate the amounts of the future

swaps are traded in Over the Counter (OTC) markets, many adjustments can be made to the terms to suit the parties' needs.

³ By market convention the fixed-rate payer is referred to as the payer or the seller, while the floating-rate payer is referred to as the receiver or the buyer. Since both parties make and/or receive payments over the life of the swap, I use the terms fixed-rate payer and floating-rate payer to reference the counterparties in order to avoid confusion.



floating-rate payments. By definition, the floating rate for each future payment is not known and therefore must be estimated using appropriate market projections. While capital markets do not possess a crystal ball to determine precisely what a specified reference rate will be at some time in the future, markets do possess a considerable amount of information about the relationship between interest rates and time that can be used to determine the market expectation of future interest rates.

Yield curves reflect the relationship between the interest rate (or cost of borrowing) and time to maturity (or term). For example, consider the US Treasury yield curve. The standard maturities for Treasury securities are 1 month, 3 months, 6 months, 1 year, 2 years, 3 years, 5 years, 7 years, 10 years, 20 years and 30 years. These securities are traded in the market and the prices that the securities are traded at reflect the yield (i.e. prevailing interest rate) on the securities. For example, if the yield on 10-year US Treasuries is 2.01%, it means that the market is charging the US Government 2.01% per year to borrow money for a period of 10 years. The yield curve for these securities is a graph of the yields for each of the different durations, arranged by maturity. If it is necessary to evaluate yields at maturities that fall between the maturities typically included in the yield curve, an interpolation procedure is utilized. **Figure 1** shows the yield curve for Treasury securities on July 5, 2012.

Figure 1

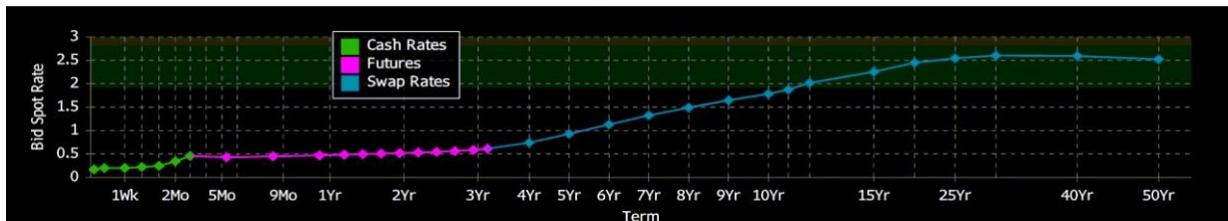


Determining the appropriate yield curve for the reference interest rate (the swap yield curve) is the first step in estimating the amount of the floating-rate payments. The method used to determine the swap yield curve depends on the reference rate that the floating rate payments are based on, and the information that the market possesses on the reference rate. For example, as discussed above, the US



Treasury yield curve is based on yields derived from the prices that US treasuries are traded at in the market. Markets often have other sources of information to determine a swap yield curve such as money rates, futures markets, and market swap rates. Often combinations of these sources of information are used to determine the swap yield curve. **Figure 2** below shows a swap yield curve for a LIBOR- based swap based on the Eurodollar futures market and LIBOR swaps rates on July 5, 2012.

Figure 2



As can be seen in **Figure 2**, the swap yield curve for a LIBOR- based swap is determined using a combination of information from the money market (referred to as Cash Rates in **Figure 2**), Eurodollar futures market and LIBOR swaps rates from the swap market. Eurodollar futures contracts trade on the Chicago Mercantile Exchange and are based on the US dollar 3-month LIBOR rate. The prices of Eurodollar futures contracts provide the market’s expectations of what the 3-month LIBOR rate on the settlement day will be and these contracts extend for up to 10 years. LIBOR swaps rates are the fixed rates for LIBOR-based swaps that have been transacted by market participants. A yield curve constructed using the swap rate (as opposed to yields calculated based on prices of debt securities in the market) is referred to as a swap curve. Data vendors such as Bloomberg and Reuters collect these data from market participants, aggregate the data and publish swap curves for various reference rates. For interest rates that are commonly used for interest-rate swaps, such as LIBOR, swap curves are continuously reported and updated.

The swap curve derived for the reference rate must be a zero-coupon yield curve. A zero-coupon yield is the yield to maturity on a debt that has a single cash flow payable at maturity.⁴ If the yield curve is determined using yields that include coupon payments, these yields must be converted to zero-coupon rates using a process known as bootstrapping.

The swap yield curve provides information on the interest rates for different terms to maturity. However, a swap is based on a reference rate for a particular maturity. Consider the LIBOR swap yield curve presented in **Figure 2**. It presents data on LIBOR rates for maturities of 1 year, 3 years, 5 years, etc. However, the floating rate for a swap is tied to a reference rate for a particular maturity, such as the 1-month LIBOR rate. In order to value the swap, one must forecast the referenced floating rate for the remaining maturity of the swap. The forecast of floating rates for each remaining payment date is known as the forward curve and is derived from the swap yield curve based on the “Pure Expectations Hypothesis.”

⁴ Zero-coupon bonds are also referred to as “discount bonds.” Instead of paying periodic coupons, such securities always sell at a discount to par and pay par at maturity.



In simple terms, the Pure Expectations Hypothesis postulates that the yields for longer maturities must equal the average shorter maturity yields expected to prevail over the longer-term maturity⁵ In other words, under the Pure Expectations Hypothesis, investors would be indifferent towards making a two year loan versus making a one year loan today and a second one year loan a year from today, as the total interest that they would earn on the two one year loans would be the same as the total interest they earn on one two year loan. Since the swap yield curve provides information on the interest rates for various maturities, it is possible to calculate the interest rates on shorter maturities based on the Pure Expectations Hypothesis. The forward curve thus calculated provides an estimate of the referenced floating rate for each of the remaining payment dates. The stream of floating-rate payments are then calculated by multiplying the estimated floating-rate by the notional amount.

The final step in valuing a swap is to discount the fixed- and floating-rate payments to present value. Swaps are discounted using the referenced floating-rate for the swap and thus the discount rate is different for each remaining payment date. Additionally, because the set of discount rates is based on the projected floating-rates, they are a set of zero-coupon rates and the set of discount rates used to discount each fixed- and floating-rate payment to present value is referred to as the zero curve.

Changes in the expectations of future interest rates cause changes in the expected future floating-rates as well as changes in the rates used to discount the expected future fixed- and floating-rate payment streams to present value. Accordingly, the present values of the expected future difference checks change. The difference between the present value of the floating-rate payments and the present value of the fixed-rate payments is called the mark-to-market value of the swap. The process of determining the mark-to-market value is referred to as marking-to-market.

Both counterparties periodically incorporate the new expectations of interest rates by marking the swap to market using the new rates. When the present value of the stream of payments that a counterparty expects to receive is larger than the present value of the stream of payments that the counterparty expects to pay, the counterparty is said to be “in the money,” and the swap is an asset worth the net of the two present values.

At the inception of an interest-rate swap the counterparties usually agree to set the fixed rate so that the present value of the stream of fixed-rate payments is equal to the present value of the stream of expected future floating-rate payments, excluding fees. Such a swap is referred to as an “on-market” or “at-market” swap. Since the present values of the fixed- and floating-rate payments are equal, the mark-to-market value of the swap is zero, and neither party is required to make a payment to the other at inception.

If the fixed rate on the swap is set such that the present value of the stream of fixed-rate payments is not equal to the present value of expected future floating-rate payments, the swap is referred to as an

⁵ For example, under the Pure Expectations Hypothesis, the interest rate for two year debt today, is equal to the square root of the compounded interest rates on one year debt today and one year debt a year from today. This is the “geometric average” of the short term rates.



“off-market” swap. In such instances, the counterparty that is out-of-the money must make a payment to the party that is in-the-money equal to the amount of the net present value of the swap.

Most often companies enter into swaps with a swap dealer, such as an investment bank. Swap dealers charge fees to enter into the transaction. These fees are calculated in terms of basis points⁶ and are charged by adjusting the fixed rate of the swap, thereby increasing or decreasing the fixed-rate payment for each payment date by the amount of the fee times the notional amount of the swap. For example, a market maker may decide to charge a fee of five basis points for a particular swap. If the swap dealer is the floating-rate payer and receives the fixed-rate payment, the five basis point fee is added to the swap rate that is set such that the net present value of the swap is zero. Similarly, if the swap dealer is the fixed-rate payer, the fee would be deducted, thereby reducing the fixed-rate payments that the market maker must make. The adjustment to the swap rate results in the swap being slightly out of the money to the non-market maker counterparty at initiation. However, payment for swap fees charged by the market maker does not usually involve an up-front exchange of cash. Rather, the market maker is effectively paid a portion of the fee on each payment date as the swap rate is adjusted to reflect the fee.

III) Users and Uses of Interest-Rate Swaps

Interest-rate swaps are used by a broad range of different entities, including investment banks, commercial banks, non-financial corporations, mortgage companies, insurance companies (including monolines), investment trusts, sovereign, municipal and regional governments, government agencies and municipal or regional governments. These entities rely on interest rate swaps for one or more of the following functions:

A) Hedging Interest Rate Exposure

Hedging interest rate exposure can be as simple as entering a fixed-to-floating swap to offset exposure to interest rate fluctuations from variable-rate debt obligations. Or hedging could involve a “macro-hedge” such as that done by financial institutions, where asset-liability management may involve hedging net interest income against interest rate fluctuations.⁷

B) Reducing Funding Costs

Interest rate swaps can reduce funding costs as a component of a synthetic rate financing deal. Instead of issuing fixed rate debt, institutions may choose to issue variable-rate debt and simultaneously execute a fixed-to-floating interest rate swap that effectively fixes their debt cost at a lower rate than the cost of issuing fixed rate debt.⁸

C) Speculating on Interest Rates

⁶ A basis point is one hundredth of one percent.

⁷ Smithson, Charles, W., 1998, “Managing Financial Risk: A Guide to Derivatives Products, Financial Engineering and Value Maximization” (McGraw Hill), p. 170.

⁸ See Kuprianov, Anatoli, 1994, “The Role of Interest Rate Swaps in Corporate Finance,” Federal Reserve Bank of Richmond, *Economic Quarterly*, Vol. 80/3, pp. 49 – 68.



Interest-rate swaps allow investors to speculate on interest rate movements. For example, an investor who believes that market interest rates will increase faster than the market consensus can enter into a fixed-to-floating interest rate swap. Should the investor's prediction come to pass, as market interest rates rise, the investor will earn more on the variable leg while continuing to pay the same fixed rate.

D) Managing Assets or Liabilities⁹

There are several strategies that institutions may adopt to manage their assets or liabilities. For example, as noted by Bicksler and Chen:

... many U.S. financial institutions have assets the returns of which are denominated in fixed rates of interest, with relatively long maturities (e.g., mortgage and consumer installment loans) and liabilities with relatively short maturities (e.g., money market deposit accounts and variable-rate certificates of deposit) which are re-priced frequently. On the other hand, some typical European financial institutions have assets with relatively short maturities and liabilities with relatively long maturities. These differences in inter-firm asset/liability composition represent opposite kinds of gaps in balance sheets. Interest rate swaps provide an economic mechanism whereby both financial institutions can benefit from a reduction in their respective balance-sheet gaps and a decrease of exposure to interest rate risk.¹⁰

IV) ISDA and the 1992 Master Agreement Termination Payment Calculations

Swaps and derivatives became popular and commonly used financial tools in the 1980s. However, individual dealers developed and adopted different contracts with different terms and conditions, which required lengthy negotiations. As a result, in 1985, dealers and market participants chartered ISDA. Since its formation, ISDA has published standardized "Master Agreements" that define the relationship and rights of parties engaging in swaps and derivatives transactions.¹¹ The Master Agreements are designed to allow the parties to engage in multiple transactions under the terms of the Master Agreement. Parties can supplement and customize the terms of their relationship through a Schedule to the Master Agreement. For example, Master Agreements and their related schedules define the payment terms and provisions, representations and warranties, events of default, termination rights, and methods to calculate payments on early termination, that best suit the parties' needs. The terms of

⁹ Bicksler and Chen also detail how interest-rate swaps can be utilized to restructure an organization's debt mix between fixed- and floating-rate obligations, and to manage interest basis risk.

¹⁰ Bicksler, James and Chen, Andrew H., 1986, "An Economic Analysis of Interest Rate Swaps," *Journal of Finance*, Vol. 41, No. 3, p.

¹¹ There are different formats of ISDA Master Agreements, such as the Local Currency-Single Jurisdiction version and the Multicurrency-Cross Border version. Users can choose the Master Agreement best suited to the anticipated transactions that they plan to engage in. Additionally, ISDA has revised these Master Agreements over time. For example, the 1992 Master Agreements was revised in 2002 with the publication of the 2002 Master Agreements. See Vrana, Paul E., Enochs, Craig R. and Mwamba, Fundi A. *How to Use the ISDA Master Agreement*, 28th Annual Ernest E. Smith Oil, Gas and Mineral Law Institute, March 22, 2002, pp.3-6; <http://www.isda.org/press/press010803.html>.



each individual swap or derivatives transaction are memorialized in a “Confirmation” that references the Master Agreement and specifies the details of each transaction, including, for example, payment dates, the fixed rate and the index/benchmark for the floating rate.

The 1992 Master Agreement is the first Master Agreement published by ISDA. It specifies two alternative methods, Market Quotation and Loss, to calculate the payment due from one counterparty to the other in the event of an early termination of a swap. In response to a series of crises in the 1990s that tested the strength of existing ISDA documentation, ISDA published 2002 Master Agreement. In recognition of the issues surrounding the Market Quotation and Loss methods due to the market stress in the 1990s, one of the major changes under the 2002 Master Agreement was to replace the two methods of calculating termination payments with a single method for calculating the termination payment – the “Close-Out Amount.”

Upon the publication of the 2002 Master Agreement, ISDA encouraged counterparties to amend their existing agreements to adopt the provisions of the new agreement. However, many parties chose to continue to operate under the 1992 Master Agreement, as a result of which Market Quotation and Loss continue to be the governing methods to calculate termination payments.

The financial crisis of 2008 has resulted in the termination of a large amount of swaps and derivatives transactions and the calculation of termination payments is undergoing greater scrutiny. Since most disputes are settled out of court through negotiation between the counterparties, case law, especially in the US, is scarce. Each of the methods specified in the 1992 Master Agreement and their relationship with one another is discussed in greater detail below.

A) Market Quotation

According to the 1992 Master Agreement, in order to calculate a termination payment using the Market Quotation process, quotations must be taken from dealers serving as Reference Market-Makers (“RMMs”) in the relevant market for the cost of entering into a transaction “that would have the effect of preserving for such party the economic equivalent of any payment or delivery ... by the parties ... that would, but for the occurrence of the relevant Early Termination Date, have been required after that date.”¹²

To conduct the Market Quotation process, the party conducting the process¹³ (the determining party) contacts four RMMs and asks them to submit quotes representing how much they would expect to pay or receive to enter a replacement transaction with the determining party. The expected payment implies that the swaps are off-market swaps, i.e. they are in-the-money to one counterparty and out-of-the-money to the other. In effect, the Market Quotation process preserves for the determining party an identical or near identical transaction (i.e. the same notional amounts, and fixed- and floating-rates of

¹² 1992 Master Agreement, §12.

¹³ If the swap is being terminated due to an event of default, the non-defaulting party is responsible for determining the amount of the termination payment.



the original transactions). The swap is an off-market swap since it is extremely unlikely that interest rates are unchanged from the initiation of the original transactions that are being terminated.

If four RMMs provide quotes, then the highest and lowest quotes are discarded, and the termination payment is based on the average of the two remaining quotes. If exactly three quotes are provided, then, again, the highest and lowest are discarded and the remaining quote provides the basis for the termination amount. In the event that at least three RMMs cannot be found from which to obtain quotes, or if the party seeking the Market Quotation reasonably determines that the process will not produce a commercially reasonable result, the termination payment method defaults to the Loss method.¹⁴

The advantages of the Market Quotation process are that the method is objective and based on pricing information from independent third parties (the RMMs). As noted in a 2002 article by Richard Tredgett and John Berry, “The set procedure that underlies the Market Quotation mechanism has led many market participants to consider it a more objective measure of damages than Loss and also a measure that is more susceptible to verification.”¹⁵ The authors go on to note that “Many have also considered Market Quotation to constitute a valid liquidated damages provision on the basis that it represents, at the time the contract is entered into, a reasonable pre-estimate of damages.”^{16 17} Accordingly, ISDA has endorsed the Market Quotation process as the preferred method for calculating a termination payment.

The primary disadvantage of the Market Quotation process is that in times of market stress it may not be possible to obtain quotes from RMMs, or the quotes may lead to commercially unreasonable results. Due to this possibility, the 1992 Master Agreement allows for Loss as an alternative method to calculate the termination payment.

B) Loss

According to the 1992 Master Agreement, “Loss” means ... an amount that a party reasonably determines in good faith to be its total losses and costs (or gain, in which case expressed as a negative number) ... including any loss of bargain, cost of funding or, at the election of such party but without duplication, loss or cost incurred as a result of its terminating, liquidating, obtaining or reestablishing any hedge or related trading position (or any gain resulting from any of them).¹⁸ The User’s Guide to the 1992 Master Agreements states that Loss “is a payment measure in which a party reasonably

¹⁴ 1992 Master Agreement §12; ISDA, “Market Review of OTC Derivative Bilateral Collateralization Practices”; Release 2.0; March 1, 2010; p.14. See also Gooch, Anthony and Klein, Linda, *Documentation for Derivatives*, p. 251.

¹⁵ Tredgett, Richard and Berry, John, 2002, “A New Master Agreement for the New Millenium: The Development of the 2002 Master Agreement,” *Journal of International Banking & Financial Law*, Vol. 1, Issue 5, p. 3.

¹⁶ Tredgett, Richard and Berry, John, 2002, “A New Master Agreement for the New Millenium: The Development of the 2002 Master Agreement,” *Journal of International Banking & Financial Law*, Vol. 1, Issue 5, p. 3.

¹⁷ Section 6(e)(iv) of the 1992 Master Agreement states, “The parties agree that if Market Quotation applies an amount recoverable under this Section 6(e) is a reasonable pre-estimate of loss and not a penalty.”

¹⁸ 1992 Master Agreement, §12.



determines in good faith its total losses (expressed as a positive number) and gains (expressed as a negative number)” in connection with the terminated transactions.¹⁹

ISDA does not provide specific guidance regarding what constitutes “loss of bargain,” “cost of funding,” or “loss or cost incurred as a result of its terminating, liquidating, obtaining or reestablishing any hedge or related trading position...” Rather, the determining party is left to calculate its total losses or gains due to the termination. Accordingly, when swaps are terminated due to events of default, practitioners generally understand that Loss is “a general indemnification measure of damages and give the Non-defaulting party considerable discretion, subject only to the requirements of reasonableness and good faith.”

The advantage of the Loss provision is that it can be used to calculate the termination payment in situations where the Market Quotation process fails. However, the Loss method is inherently subjective, leaving it open to manipulation by the determining party, as well criticism from the non-determining party.

C) The Relationship Between Market Quotation and Loss

Although Market Quotation and Loss are separate methods and seem to be independent of each other, both are subject to certain subjective constraints. The Market Quotation method must produce commercially reasonable results (although there is little guidance from ISDA as to what constitutes commercial reasonableness), while the Loss method is subject to a good faith requirement. Neither method is meant to be punitive to one party and result in a windfall to the other.

Disputes usually arise when the termination payment determined using the Market Quotation method is significantly different from the value of the swaps determined using the method described in **Section II** above. This occurs because the RMMs charge new fees for entering into the replacement transaction. These fees can be significant, especially for off-market swaps, as they can include charges to finance the up-front payment required. Often the protection offered by the termination transactions can be replaced with on-market swaps. Under these circumstances, the termination payment calculated using the Loss method can be closer to the value of the swaps.

Court opinions on this subject are limited. While there are no court opinions in US courts, there are two opinions issued by courts in England that deal with this subject. In *Peregrine Fixed Income Ltd. v. Robinson Department Store Public Company Ltd. (“Peregrine”)*, the court found that “the Market Quotation measure and the Loss measure are intended to lead to broadly the same result.” The court in *Peregrine* also references *Australia and New Zealand Banking Group Ltd v. Société Générale*, where members of the court also reached the same conclusion.²⁰ However, neither court addressed the issue of how large the difference between the Market Quotation and Loss methods must be in order for the Market Quotation to be considered commercially unreasonable. Such a determination is to be made on

¹⁹ ISDA, User’s Guide to the 1992 Master Agreements (1993 Edition), p. 25.

²⁰ *Peregrine Fixed Income Ltd. v. Robinson Department Store Public Co. Ltd.*, 2000 WL 1027115, at ¶ 30 (Q.B. 2000).



a case-by-case basis, and depends on a number of factors, including the terms and structure of the transaction, as well as the timing of the termination and the market conditions prevalent at that time, among others. For example, because interest rate swaps are OTC instruments, they can contain provisions that substantially affect the fees charged (and therefore the discount to the value) for the swap. Similarly, the reference interest rate also affects the fees charged. Swaps based on LIBOR typically have lower fees associated with them than those based on the SIFMA Municipal Swap Index.

However, it is now generally recognized that the results of Market Quotation and Loss method can be compared to each other. Simon Firth in *Derivatives Law and Practice* states that the decision in *Peregrine* "suggests that the commercial reasonableness of the Market Quotation provisions must be tested against the result of applying 'Loss' whenever they are used"²¹ and that "it seems entirely correct to say that Market Quotation and Loss are intended to lead to broadly the same result, so that one should be tested against the other."²²

V) Considerations Using the Market Quotation Process

The Market Quotation process is intended to be more objective than the Loss calculation. Due to its reliance on quotes from third parties, it is also believed to be more independent and thus more reliable. This has led to the Market Quotation process being the preferred method to calculate the amount of the termination payment under the 1992 Master Agreement. However, it is important to understand the assumptions embedded in the Market Quotation process and its limitations.

A) Liquidity, Price Discovery, and the Market Quotation Process

In order for any market to function reliably, there must be a mechanism to communicate price information to prospective buyers and sellers. Economists refer to this function of markets as "price discovery," which the International Monetary Fund defines as follows:

The process of establishing a market price at which demand and supply for an item are matched. By bringing buyers and sellers together and making the process transparent, financial markets facilitate price discovery.²³

It is generally recognized by economists and regulators that price discovery is facilitated by liquid markets containing many buyers and sellers of standardized financial contracts. In periods of financial distress, such as those experienced by financial markets over the past several years, such markets can "freeze" due to a lack of credit and liquidity, or can exhibit other anomalous behavior that is inconsistent with a well-functioning market that facilitates accurate price discovery.

In essence, the Market Quotation process is designed to facilitate price discovery under specific conditions, namely, the termination of an over-the-counter derivative contract such as an interest rate

²¹ Firth, Simon, *Derivatives Law and Practice*, Release 15 (Thomson); December 2010; §11-150.

²² Firth, Simon, *Derivatives Law and Practice*, Release 15 (Thomson); December 2010; §11-149.

²³ International Monetary Fund, *Compilation Guide on Financial Soundness Indicators*; Appendix VII, Glossary; 2004.



swap. However, in an illiquid market, the Market Quotation process is naturally constrained in this function due to the dearth of buyers and sellers of the particular derivative contract in question. As noted by Weeber, Hoffman and Robson in an article published in the *American Bankruptcy Institute Journal* in 2009, "The market-quotation method assumes a liquid derivatives market that can quickly and efficiently replace any agreements breached by a defaulting counterparty."²⁴ Likewise, according to Simon Firth in *Derivatives Law and Practice*:

Market Quotation is only suitable ... if representative transactions are available in the market. If the market is very illiquid, any quotations that are available may diverge from each other considerably and so might not accurately reflect the actual loss or gain that has accrued to each party as a result of the close-out. Such a situation might arise if the transactions are complex or exotic or, even in the case of "plain vanilla" transactions, in times of market stress.²⁵

Even the process of obtaining RMMs that are willing to provide quotations may be manipulated to the advantage of the party seeking quotations. As noted by Edmund Parker and Aaron McGarry in a January 2009 article, "Recently, there have been problems in finding reference market-maker banks willing to realistically price transactions following a major default."²⁶ Thus, a party seeking quotes may improperly incentivize RMMs to participate in the Market Quotation process when they otherwise would not have. Of course, this should call into question the reliability of the quotes provided by an RMM incentivized in this way, since its unwillingness to participate in the absence of incentives implies that the RMM felt they were not in a position to offer quotes that would result in a close-out amount that could be considered "commercially reasonable."

B) Potential Manipulation of the Market Quotation Process

Although the Market Quotation is considered to be more objective and independent than Loss, it can be manipulated by the determining party. The intent of this section is not to undermine the Market Quotation process, but simply to illustrate the results of a Market Quotation process cannot always be taken at face value. The determination of whether or not manipulation has occurred depends on the facts and circumstances surrounding the process in question.

The potential for manipulation arises as the 1992 Master Agreement allows both actionable as well as indicative quotes to be used in the Market Quotation process. An actionable quote, also referred to as a "firm" or "executable" quote, represents an offer to transact at the quoted price. Actionable quotes represent a contingent commitment of resources in the form of collateral and funding of the prospective payments. These commitments entail actual and opportunity costs to the entity offering

²⁴ Weeber, Phil, Hoffman, Matthew E. and Robson, Edward S. "Market Practices for Settling Derivatives in Bankruptcy: Part I," *American Bankruptcy Institute Journal*; Vol. 28, No. 8; October 2009.

²⁵ Firth, Simon, *Derivatives Law and Practice*, Release 15 (Thomson); December 2010; §11-146.

²⁶ Parker, Edmund and McGarry, Aaron, 2009, "The ISDA Master Agreement and CSA: Close-Out Weaknesses Exposed in the Banking Crisis and Suggestions for Change," *Butterworth's Journal of International Banking and Financial Law*, p. 18.



the quote and the process of offering an actionable quote involves analyses and approvals from several internal desks or managers, including the credit department. In contrast, an indicative quote, also referred to as a “soft” or “accommodative” quote, makes no commitments whatsoever, but is simply an indication of the price levels at which the entity would enter into the transaction. Often, the analyses and approvals required to provide an actionable quote are bypassed when providing an indicative quote or require less stringent criteria for approval if the quote to be provided is an indicative quote. RMMs usually do not charge a fee to provide quotes in the market quotation process.

It is common practice for the determining party to seek to reestablish its interest rate protection using replacement at-market swaps at the same time that it is conducting the market quotation process. Often the same RMMs are requested to provide quotes for the market quotation process as well the replacement at-market swaps. Under these circumstances, there may be an implicit or explicit quid pro quo agreement between the determining party and the RMM under which the RMM provides an indicative quote for the market quotation process that is beneficial to the determining party and in return is allowed to participate in the replacement at-market swaps. Since indicative quotes do not constitute a commitment to transact, there is no financial penalty for the RMM for providing a mispriced quote. However, the RMM’s can earn profits on the replacement at-market swaps.

Additionally, the provision of indicative quotes can result in a Market Quotation process that would have failed if actionable quotes were required. As previously stated, the Market Quotation process requires a minimum of three quotations from RMMs. However, the analyses and approvals required to provide an actionable quote are bypassed when providing an indicative quote or require less stringent criteria for approval if the quote to be provided is an indicative quote. Since actionable quotes have higher hurdles for approval, a sufficient number of RMM’s may not be able to provide an actionable quote for the Market Quotation method to be used.

Although the 1992 Master Agreement is silent on the issue, the use of actionable quotes is preferred by regulators and commentators. Alan Greenspan, during his tenure as Chairman of the Federal Reserve Board, strongly endorsed the requirement for actionable over indicative quotes in his well-known *Derivatives Address* given at the Federal Reserve Bank of Atlanta in 1996:

Transaction prices can be determined only by contacting potential counterparties and soliciting offers to transact. Moreover, when soliciting quotations it is essential that it be made clear to potential counterparties that a transactions price, rather than a fair market value estimate or a nonbinding “indicative” price quotation is desired. Likewise, counterparties that receive requests for quotations should determine clearly what type of quotation is desired before responding.²⁷

Simon Firth in *Derivatives Law and Practice* concludes that in order for the Market Quotation process to operate in a reliable manner, the quotes provided must be actionable, not indicative:

²⁷ Greenspan, Alan, “Derivatives Address,” *Federal Reserve Bank of Atlanta Financial Markets Conference*, February 1996. Reprinted in Schwartz, Robert J. and Smith, Clifford W. Jr., eds. *Derivatives Handbook: Risk Management and Control* (John Wiley & Sons, Inc.), 1997, p. 502.



It is not uncommon for quotations that are provided to be expressed as "indicative quotations". In other words, they are provided for valuation purposes only and do not necessarily represent the price at which a Reference Market-maker is prepared to trade. For example, the Reference Market-maker, knowing the purpose for which the quotation has been requested, may not have analyzed the economics of the transaction in the same level of detail as in a normal trade. It is questionable, however, whether the use of indicative quotations is permitted by the ISDA Master Agreement if they have not been prepared with sufficient precision. For there to be a "quotation", it is submitted that there has to be a firm statement from the Reference Market-maker of the price at which it would be prepared to deal. An indicative quotation may be no more than a rough guide to this and could probably be challenged if it does not represent a proper trading price.²⁸

ISDA issued guidance on the use of indicative and actionable quotes in 2009. At the direction of the ISDA Board of Directors, the ISDA Collateral Committee developed a collateral dispute resolution procedure, publishing the new procedure in 2009.²⁹ In consultation with the ISDA Product Steering Committee, other industry associations and financial industry regulators, the dispute resolution procedure was viewed as necessary due to the increased occurrence of disputed collateral calls in OTC transactions.³⁰ According to ISDA, the new Collateral Dispute Resolution Procedure is intended to achieve the following:

- Ensure transparency and engagement in resolving disputes;
- Demonstrate that market-makers are acting as market-makers, and are committing to providing firm executable prices to be used in the resolution of disputes; and
- Establish a clear hierarchy of prices, ensuring that firm executable prices supersede indicative quotes for dispute resolution.³¹

According to ISDA's *Outline of the 2009 Protocol for Resolution of Disputed Collateral Calls*, the focus on executable prices "is intended to prevent potential abuse of the process by firms that may be tempted to give overly-aggressive or overly-conservative prices during any kind of polling process, safe in the knowledge that they will never be asked to trade at those levels."³²

Upon the release of the new Collateral Dispute Resolution Procedure, Matt Cameron wrote an article on *Risk.net* describing "price firmness," as one of the principles on which the new protocol is based and also noting that "executable prices will be more likely to be accurate than ... indicative prices."³³ One

²⁸ Firth, Simon, *Derivatives Law and Practice*, Release 15 (Thomson); December 2010; §11-131 [emphasis added].

²⁹ ISDA, *Guidelines for Implementation of the ISDA 2009 Collateral Dispute Resolution Procedure*; 2009; p. 3.

³⁰ ISDA, *Guidelines for Implementation of the ISDA 2009 Collateral Dispute Resolution Procedure*; 2009; p. 4. Note that the ISDA *Credit Support Annex* includes a provision for resolving disputes that involves a market quotation process with quotes obtained from RMMs.

³¹ ISDA, *Market Review of OTC Derivative Bilateral Collateralization Practices*, Release 2.0; March 1, 2010; p. 30.

³² ISDA, *Outline of the 2009 Protocol for Resolution of Disputed Collateral Calls*; 2009; p. 13 (fn. 15).

³³ Cameron, Matt, "Conflict's End," *Risk*; August 1, 2009.



collateral manager quoted in the article stated "... the use of indicative prices [for collateral disputes] was a bit like playing poker with play money."³⁴

The outcome of the ISDA review of collateralization practices demonstrates that market participants and regulators wished to impose rigor and reliability into the collateral dispute resolution process through a strong preference for actionable quotations. It is apparent from the commentary above that ISDA and other market participants agree that there is general concern over the incentives to "game" the process in order to achieve a desired outcome.³⁵

VI) Conclusion

The calculation of termination payments is undergoing increasing scrutiny as the financial crisis of 2008 has increased number of transactions being terminated, as well as increasing the differences between the value of the transaction and the termination payments. The 1992 Master Agreement allows termination payments to be calculated using two different methods, both of which allow some degree of subjectivity. Other than a finding that both methods should lead to "broadly the same result" there is very little precedent established by case law to determine which method should be used. In spite of being hailed as the more "objective" method, the results of Market Quotation cannot always be taken at face value. The ultimate determination of commercial reasonableness depends on the facts and circumstances of each case.

³⁴ Cameron, Matt, "Conflict's End," *Risk.net*; August 1, 2009.

³⁵ In the *Enron Australia Finance v. Integral Energy Australia*, there was evidence that one of the RMMs that provided quotes for the Market Quotation process had provided Integral with drafts of its quotation for "discussion." See Fernbach, Andrew, 2003, "Court Rules on ISDA Close-Out Calculations," *International Financial Law Review*, Vol. 22, Issue 3, p. 21.