

## Mitigating Counterparty Credit Risk

*"One ought never to turn one's back on a threatened danger and try to run away from it. If you do that, you will double the danger. But if you meet it promptly and without flinching, you will reduce the danger by half."*

Sir Winston Churchill (1874–1965)

### 3.1 INTRODUCTION

In this chapter, we discuss ways of mitigating counterparty credit risk. The methods for doing this predominantly focus on reducing current credit exposure and potential future exposure. They often do not change the probability of suffering a loss but do reduce the resulting exposure (for example, by increasing the amount that would be recovered in the event of default). The main methods discussed will be:

- *Default-remote entities.* Whilst this has become a rather laughable concept in recent years, the most simple and commonly used method of mitigating counterparty risk has always been to trade with an institution or vehicle with an underlying default probability that is very small. The "too big to fail" mentality discussed in Chapter 1 has somewhat fuelled this practice and led to clear problems which will be discussed in later chapters.
- *Termination events.* This represents the opportunity to terminate a transaction at some point(s) between inception and the maturity date. It may exist as an option or be conditional on certain conditions being met (ratings downgrade, for example).
- *Netting.* This refers to the ability to offset all transactions (both in an institution's favour and against it) when a counterparty is in default.
- *Close-out.* This allows the termination of all contracts between the insolvent and a solvent counterparty without waiting for the bankruptcy to be finalised (which can take many years).
- *Collateralisation.* The agreement that cash or securities will be "posted" as a guarantee against an exposure according to pre-defined parameters.

#### 3.1.1 Two-way or one-way agreements

The above methods are rather distinct but, with the exception of default-remote entities, share one commonality in that they might be applied to one or both parties to a transaction. Hence, it may be worthwhile for both parties to agree to these mitigation methods, bilaterally. Such bilateral arrangements can be extremely useful in allowing both parties to mitigate current and potential future exposure.

Risk mitigation is not always a two-way street though. In the case of a large difference in credit quality of two parties, the better quality party may demand strong mitigants highly skewed in their favour such as one-way collateral agreements and independent amounts (defined later). Historically, banks have always taken this stance when trading with hedge funds, for example. Monoline insurers have based their entire business model on skewed risk mitigation in that their triple-A status supports the fact that they will not agree to post collateral (covered in more detail in Chapters 8 and 13). However, events such as the bankruptcy of Lehman Brothers and failure of monoline insurers are reminders that the justification for one-way risk mitigation may not be always valid.

### 3.1.2 Standardisation

A key high-level aspect of risk mitigation is standardisation. Many OTC derivatives contracts have become standardised in their contractual terms, which reduces transaction costs and improves liquidity. Likewise, the standardisation of collateralisation has reduced the costs related to managing collateral. Organisations such as ISDA have also worked to reduce legal uncertainty through the use of standardised contract language and terms. It is standard practice for financial institutions to enter derivatives contracts documented using ISDA Master Agreements. ISDA contract holders are ranked *pari passu* to senior debt in terms of potential claims on the defaulted counterparty. The credit support annexes (CSAs) cover in detail the risk mitigation features and aspects such as bilateral marking to market of contracts.

## 3.2 DEFAULT-REMOTE ENTITIES

### 3.2.1 High-quality counterparties

The concept of high-quality, “too big to fail” counterparties for years created an illusion in financial markets that counterparty risk was not particularly prevalent. This was particularly the case with smaller institutions trading with bigger and, supposedly, less risky counterparties. Triple-A ratings given to some institutions exaggerated this problem since triple-A was perceived by many market participants to be almost default-free. Unfortunately, triple-A entities have included Icelandic banks, monoline insurance companies, Fannie Mae and Freddie Mac. The failure (or bailout) of these and other high-quality institutions such as Lehman Brothers has very much pulled the rug out from under those who relied on the “our counterparty will never fail” (or perhaps the “our counterparty will not fail before us”) style of counterparty risk mitigation.

### 3.2.2 Special purpose vehicles

A special purpose vehicle (SPV), sometimes called a special purpose entity (SPE), is a legal entity (for example, a company or limited partnership) created typically to isolate a firm from financial risk. A company will transfer assets to the SPV for management or use the SPV to finance a large project without putting the entire firm or a counterparty at risk. Jurisdictions may require that an SPV is not owned by the entity on whose behalf it is being set up.

SPVs essentially change bankruptcy rules so that, if a derivative counterparty is

thought of as an extreme and discrete form of collateralisation, which can be made more subtle via a more continuous posting of collateral.

More recently, with the advent of bilateral counterparty risk pricing, break clauses have an interesting role in mitigating possible severe costs in unwinding transactions with a counterparty with an impaired credit quality, with the unwind cost being a recognition of mark-to-market losses due to this impairment (CVA as it is known). We discuss this point in more detail in Chapter 7.

### 3.3.2 Additional termination events

Break clauses are often linked to specific events, normally termed additional termination events (ATEs) which enable an institution to terminate and close out a particular transaction or transactions with the counterparty only if the ATE event occurs. There is no ISDA standard ATE and events are therefore a result of negotiations between the parties concerned. Some common ATE events include:

- ratings triggers (the ATE is often then referred to as a credit trigger);
- merger;
- change of management;
- net asset value (NAV) declines (in the case of funds);
- a key person event (again in the case of funds where a key person ceases to make investment decisions for the fund).

Whilst ATEs of this type have been popular and might seem a useful risk mitigation feature, consider the case of American International Group Inc. (AIG), which failed in September 2008 due to liquidity problems. The liquidity problems stemmed from the requirement for AIG to post an additional \$20 billion<sup>3</sup> of collateral (relating to CDS trades) as a result of its bonds being downgraded. An institution trading with AIG may have thought the requirement for AIG to post collateral as a result of a downgrade would provide a safety net. However, since the downgrade was linked to the extremely poor performance of AIG's positions and collateral would be required to be posted to many institutions, in retrospect it is unlikely that a feature such as this would do anything more than catalyse a counterparty's demise.

### 3.3.3 Walkaway features

Walkaway clauses (also called limited two-way payments and one-way payments) allow a surviving institution to avoid (walk away) from net liabilities to a counterparty in default whilst still claiming in the event of a positive MtM (exposure). A walkaway clause therefore allows an institution to benefit from the default of a counterparty. They were common prior to the 1992 ISDA Master Agreement, have been less common since and are not part of standardised ISDA documentation. However, they have sometimes been used in transactions since 1992. Whilst walkaway features do not mitigate counterparty risk per se, they do result in potential gains due to counterparty risk aspects.

Walkaway agreements were seen in the Drexel Burnham Lambert (DBL) bankruptcy of 1990. Interestingly, in this case the counterparties of DBL decided not to walk away and chose to settle negative MtMs. This was largely due to relatively small gains

<sup>3</sup> AIG 2008 Form 10-K.

compared with the potential legal cost of having to defend the validity of the walkaway agreements, although the reputational cost of being seen as taking advantage of the DBL default may have also been an issue.

Another interesting case is that between Enron Australia (Enron) and TXU Electricity that traded a number of electricity swaps which were against TXU when Enron went into liquidation in early 2002. Although the swaps were not traded with a walkaway feature, TXU was able to avoid paying the MtM owed to Enron by not terminating the transaction (close-out) but also not making payments to their defaulted counterparty. The Enron liquidator went to court to try and force TXU effectively to settle the swaps but the court found in favour of TXU.

Walkaway features seem to have been present in some Lehman Brothers transactions following their bankruptcy in 2008 but seem more limited and at risk from litigation and reputational aspects. There has been criticism of these features by market participants and bankruptcy litigants since they cause additional problems for a bankrupt party. Walkaway features are rather unpleasant and should be avoided (and possibly legislated against) for the following reasons:

- They create an additional cost for a counterparty in the event of default.
- They create *moral hazard* since an institution is given the incentive to contribute to their counterparty's default due to the financial gain they can make.
- A walkaway feature may be "priced in" to a transaction. The possible gains in counterparty default will then offset the negative component due to potential losses that may ultimately "hide" some of the risk (see Section 7.3.8).

### 3.4 NETTING AND CLOSE-OUT

In most business relations, netting (or set-off as it is sometimes called) is not a significant issue. Generally, an institution either buys from or sells to another firm, but rarely does both simultaneously. Therefore, in the event of bankruptcy, few if any contracts could be netted or set off. However, derivatives markets often generate large numbers of bi-directional transactions between counterparties. Close-out and netting consist of two separate but related rights, often combined into a single contract:

- (1) The right of a counterparty to terminate contracts unilaterally under certain specified conditions (close-out).
- (2) The right to offset amounts due at termination of individual contracts between the same counterparties when determining the final obligation.

Bankruptcy proceedings are by their nature long and unpredictable processes. During such proceedings, likely counterparty risk losses are compounded by the uncertainty regarding the termination of proceedings. A creditor who holds an insolvent firm's debt has a known exposure, and while the eventual recovery is uncertain, it can be estimated and capped. However, this is not the case for derivatives where constant rebalancing is typically required to maintain hedged positions. Once a counterparty is in default, cashflows will cease and an institution will be likely to want or need to execute new replacement contracts. Furthermore, netted positions are inherently more volatile than their underlying gross positions and require continuous monitoring and management.

#### 3.4.4 The birth of netting

Of all risk mitigation methods, netting has had the greatest impact on the structure of the derivatives markets. Without netting, the current size and liquidity of the derivatives markets would be unlikely to exist. Netting means that the overall credit exposure in the market grows at a lower rate than the notional growth of the market itself. This has historically allowed dealers to build a large book on a limited capital base. The expansion and greater concentration of derivatives markets has increased the extent of netting from around 50% in the mid-1990s to close to 100% today.

#### 3.4.5 Netting agreements

A netting agreement is a legal agreement that comes into force in the event of a bankruptcy. It enables one to net the value of trades with a defaulted counterparty before settling the claims. As such, netting agreements are crucial in order to recognise the benefit of offsetting trades with a defaulted counterparty. We will use the concept of a "netting set" which will correspond to a set of trades that can be legally netted together in the event of a default. A netting set may be a single trade and there may be more than one netting set for a given counterparty. Across netting sets, exposure will then always be additive, whereas within a netting set MtM values can be added.

**Example.** Suppose we have five different transactions with a certain counterparty with current MtM values given by +7, -4, +5, +2, -4. The total exposure is:

+ 14 (without netting)

+ 6 (with netting)

**Spreadsheet 3.1.** Simple netting calculation

#### 3.4.6 The ISDA Master Agreement

Central to the ISDA approach to netting is the concept of a Master Agreement that governs transactions between counterparties. The Master Agreement is designed to eliminate legal uncertainties and to provide mechanisms for mitigating counterparty risk. It specifies the general terms of the agreement between counterparties with respect to general questions such as netting, collateral, definition of default and other termination events, documentation and so on. Multiple individual transactions can be subsumed under this general Master Agreement to form a single legal contract of indefinite term, under which the counterparties trade with one another. Individual transactions are incorporated by reference in the trade confirmation to the relevant Master Agreement. Placing individual transactions under a single Master Agreement that provides for netting is intended to avoid any problems netting agreements may encounter under differing treatments of bankruptcy. Netting legislation covering derivatives has been adopted in most countries with major financial markets. ISDA has obtained legal opinions supporting their Master Agreements in most relevant jurisdictions.