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Contractual terms and CDS pricing[1]

Contractual terms related to the definition of trigger events and deliverable obligations on single-name CDSs are priced into CDS spreads. Pricing of the differences in contract terms appears to have generally converged over time, although there still seems to be evidence of a degree of regional fragmentation.

JEL classification: G12, G13.

In recent years, the market for credit default swaps (CDSs) has expanded dramatically. In these financial contracts, a sequence of payments is promised in return for protection against the credit losses in the event of default. By offering investors the chance to gain or sell risk exposure to a reference entity without buying or selling the underlying bond or loan, credit default swaps have greatly increased liquidity in credit markets.

In parallel with the rapid growth of the CDS market, the menu of contractual terms available to the parties to a CDS contract has expanded as well. One major issue is the definition of a credit event that merits payout by the protection provider; another is the definition of deliverable obligation in the event of payout. The terms of the contracts as set out by the International Swaps and Derivatives Association (ISDA) have expanded over time; at present, for instance, at least four distinct clauses related to restructuring events are available in standardised form.

In this special feature, we examine the effect of different restructuring clauses on the pricing of CDSs. Using data available by obligor across contracts taken from a major market data provider, we find that CDS spreads tend to be significantly higher for those contracts with a broader definition of trigger events and/or less restriction on deliverable obligations. Depending on the contract comparison, changes in the expected probability of default (or credit event) and changes in the expected losses-given-default both appear to have a significant role on pricing, as theory would suggest.

The price changes associated with contractual distinctions can have significant implications for both markets and regulatory practice. Given the

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widespread use of credit derivative instruments, one major concern is whether the credit risk has been priced accurately. While this special feature does not directly address this issue, it offers evidence that the different degrees of protection upon restructuring are incorporated into CDS spreads. In addition, our quantitative estimates of the impact of contract terms may shed light on certain bank capital requirements for credit derivative instruments. In particular, the observed premia associated with restructuring clauses may be informative for determining the appropriate level of capital relief.[2]

The remainder of this special feature is organised as follows. In the next section, we briefly discuss the CDS market and the type of prevailing contractual arrangements. We then review the CDS data used for the project. In the fourth section, we present and test various hypotheses about the impact of contract terms on the pricing of CDSs, and in the fifth we present evidence that the valuation of contract term differences has converged over time. The final section concludes.

Contractual terms: definitions of restructuring and deliverable obligations

Since the original ISDA agreement in 1999, there have been six general categories of credit events under which payments from the protection seller to the protection buyer can be mandated: bankruptcy, failure to pay, repudiation/moratorium, obligation acceleration, obligation default and restructuring. In practice, the three principal credit events for corporate borrowers are bankruptcy, failure to pay and restructuring.

Difficulties in contracting for restructuring in a CDS

There is widespread agreement that the restructuring credit event is the toughest contingency to contract for in a CDS. Broadly speaking, this is due to two factors. First, the restructuring can often constitute a "soft" credit event, in which the loss to the owner of reference obligations is not obvious. Second, restructuring often retains a complex maturity structure for the firm's obligations (in contrast to a default or bankruptcy, where debt is accelerated), so that debt of different maturities may remain outstanding with significant differences in value. Thus, the "cheapest to deliver" option,[3] which is standard under normal CDS events, is often more valuable during a restructuring, and can present opportunistic protection buyers with the ability to earn a profit unrelated to a fundamental change in the credit quality of the obligation. In defining the scope and the degree of the protection upon restructuring, four different types of contract terms for restructuring events have evolved.

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[2] The Basel II framework states that "restructuring" must be included as a credit loss event in order to receive full capital relief. Otherwise, only partial recognition of up to 60% of the hedge can be recognised as covered (BCBS (2004)). This treatment is tentative and subject to further review.

[3] Another factor that affects the value of the "cheapest to deliver" option is the settlement mechanism, ie whether delivery of physical assets is required (so-called physical settlement) or not (known as cash settlement). This issue cannot be addressed in this special feature because of data limitations.

Full restructuring (FR)

Initially, any restructuring qualified as a credit event

The full-restructuring clause was the standard contract term in the 1999 ISDA credit derivatives definitions. Under this contract option, any restructuring event qualifies as a credit event (and any bond of maturity up to 30 years is deliverable). The problems with this arrangement became clear in 2000, when the bank debt of Conseco Finance, restructured to include increased coupons and new guarantees, and thus not disadvantageous to holders of the previous debt, still constituted a credit event and triggered payments under the ISDA guidelines.[4] Some banks delivered long-dated bonds to profit from buying discounted lower-priced bonds and receiving par value in return, which was perceived as a distortion of the CDS market.

Modified restructuring (MR, introduced in 2001)

In 2001, to limit the scope of opportunistic behaviour by sellers in the event of restructuring agreements that did not cause loss, ISDA published a modified restructuring clause. While restructuring agreements still counted as credit events, the clause limited the deliverable obligations to those with a maturity of 30 months or less after the termination date of the CDS contract. Under this contract option, any restructuring event (except restructuring of bilateral loans) qualifies as a credit event.

Modified-modified restructuring (MM, introduced in 2003)

In 2003, a further modification of the modified restructuring clause was introduced, in response to the perception on the part of some market participants (particularly in Europe) that the modified restructuring had been too severe in its limitation of deliverable obligations. Under the modified-modified restructuring term, the remaining maturity of deliverable assets must be shorter than 60 months for restructured obligations and 30 months for all other obligations.

No restructuring (NR)

A popular option is to exclude all restructuring events

Under this contract option, all restructuring events are excluded under the contract as "trigger events". The advantage to this contract is that so-called "soft" credit events under restructuring that do not constitute a true loss for the protection buyers, but still might encourage opportunistic behaviour on their part, are ruled out. In August 2002, JPMorgan Chase announced that it would no longer include restructuring clauses in its non-sovereign CDS contracts used for hedging purposes (see CGFS (2003)). In addition, some of the most popular CDS indices in North America (for instance, the DJ.CDX.NA.IG and DJ.CDX.NA.HY indices)[5] are traded under the no-restructuring definition.

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[4] For further discussion on the Conseco episode and its impact on the CDS market, and more broadly on ABS markets, see Box 4 in CGFS (2003) and Appendix 5 in CGFS (2005).

[5] CDS indices first appeared in 2003 and have developed rapidly since. See Amato and Gyntelberg (2005).

Data source

The main data source for this special feature is Markit, to which a network of leading market participants contribute price information across several thousand credits on a daily basis. Based on the contributed quotes, the company constructs daily composite quotes, which reflect the average CDS spreads offered by major market participants.[6]

Quotes on both CDS prices and expected recovery rates

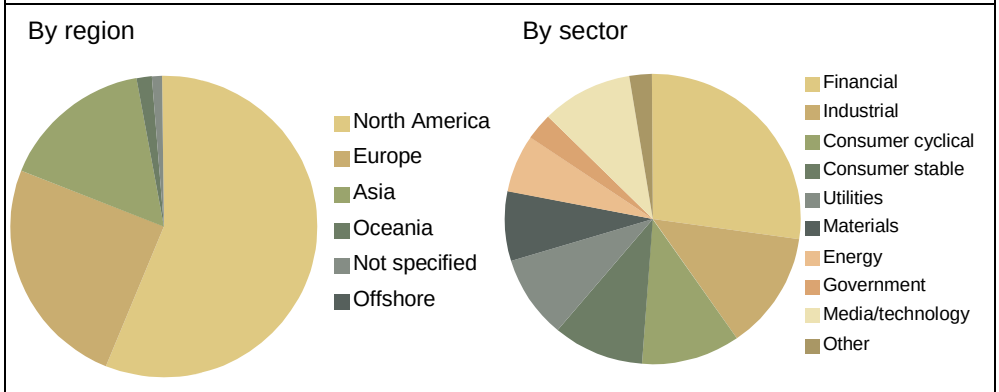
While these prices are averages of market quotations rather than transaction-based, there are two main advantages of using them for our study. First, the data set covers a wide range of CDS contracts in terms of restructuring clauses, currency denomination and maturity. Whereas some of the contracts are not liquid in the market, the indicative quotes provide a broad picture of market activity and demonstrate how leading participants value the differences in contract arrangements. Second, the company also provides expected recovery rates used by contributors. Presumably those expected recovery rates reflect the view of contributors on the severity of expected losses if the reference entity defaults. As a result, spread differentials between contracts on the same entity can be decomposed into that part that is due to changes in expected recovery in case of a trigger credit event (eg default), and that part due to changes in the likelihood of such a credit event.

We use only contracts of five-year maturity written on senior obligations

We use a sample of daily CDS prices for 1,682 reference entities over a sample period from 11 February 2003 to 3 June 2004.[7] Our sample covers a wide range of entities in terms of geographical locations and sectors (Graph 1). We only include contracts with a maturity of five years because they are the

Distribution of sample entities

1,682 reference entities in total



Source: Markit. Graph 1

[6] Markit adopts three major filtering criteria in creating composite quotes: (i) an outlier criterion that removes quotes that are far above or below the average prices reported by other contributors; (ii) a staleness criterion that removes contributed quotes that do not change for a very long period; and (iii) a term structure criterion that removes flat curves.

[7] The start is the date when ISDA published its new credit derivatives definitions, in which the four choices related to restructuring were clarified. Our sample coverage ends on 3 June 2004 because filtering criteria were changed thereafter.

Breakdown of CDS quotes				
	FR	MR	MM	NR
Total number of quotes	260,351	248,453	59,032	58,098
By region[1]				
Asia	53,934	3,868	72	317
Europe	118,972	18,931	58,066	1,716
North America	81,518	218,506	240	55,220
Oceania	4,490	4,987	32	0
Offshore	506	1,143	104	435

[1] The numbers do not add up to the total because there are some quotes without regional information. Table 1

most liquid. In addition, we only include those CDS contracts written on senior obligations to avoid the bias due to differences in seniority. In total, we collect more than 625,000 CDS spread quotations, which are concentrated on entities in the rating classes single-A (about 33%) and triple-B (about 41%).

Table 1 summarises the distribution of CDS quotes across the four types of contractual terms. Apparently the full restructuring and modified restructuring contracts have been more popular types, partly because they were introduced earlier as standardised contracts in the market. A further regional breakdown shows that full restructuring has been the prevailing contract form in Europe and Asia. Similarly, the other three contract forms, which were introduced into practice at a later stage to address the restructuring issue, have had differing degrees of popularity across regions. For instance, the modified-restructuring and no-restructuring terms have been mainly adopted for entities based in North America. By contrast, the modified-modified restructuring contract term, which was first issued in July 2003, has so far been widely accepted in Europe only.

We calculate the pairwise price differences between any two CDS contracts that are written on the same entity, in the same currency of denomination and on the same day, but differ only in the types of restructuring clauses. This comparison allows us to control for other factors that could move CDS prices. Moreover, we remove the top and bottom 1% of the pairwise differentials in calculating means to avoid any undue influence from extreme observations.[8] At the end of the filtering process, we are left with about 200,000 pairwise spread differences (Table 2, first row).

Hypotheses and empirical results

Though the CDS restructuring clauses differ along many dimensions (see Fitch (2004)), we expect that their principal impact on CDS spreads will be through a varying degree of payout due to restructuring. As discussed in the box on page 95, this impact can broadly be attributed to two types of effects. First, the

[8] Another reason to remove those observations is because they are likely to be linked with hidden upfront payments, which are not reported in the database but tend to cause substantial bias in empirical results.

CDS spread differences				
	FR–MR	MM–MR	FR–NR	MR–NR
Number of observations	98,833	14,511	34,431	52,232
Mean[1]				
Percentage difference (%)	2.77*	1.33*	7.49*	4.25*
Level (basis points)	3.36*	1.42*	7.65*	4.68*
Median[2]				
Percentage difference (%)	3.06*	1.22*	7.52*	4.33*
Level (basis points)	1.70*	0.65*	4.58*	2.60*
λ[3]	1.00	1.35	0.38	–0.30

[1] * shows that the mean is different from zero at a significance level of 95% based on the t-test. [2] * shows that the median is different from zero at a significance level of 95% based on the sign rank test. [3] Defined as the ratio between the percentage change in expected losses-given-default and the percentage change in CDS spreads. Table 2

clause can change the probability of receiving a protection payment because of different definitions of trigger events. Second, the clause can affect the value of protection in the event of restructuring due to variations in the flexibility of the delivery option.

A clear ordering of expected spreads by contract

This framework offers an intuitive insight on the relationship among the spreads of the four contract types. First, under the no-restructuring (NR) term, protection buyers get no compensation at all for their credit losses upon restructuring. The narrower scope of the protection suggests that its spread should be lower. Second, in the three contract terms that include restructuring as a credit event, protection buyers are equally likely to receive protection payments. However, the amount of expected payout varies with the value of the cheapest-to-deliver option. As discussed above, among these three contract forms, full-restructuring contracts (FR) are the most flexible and modified restructuring contracts (MR) the least. Therefore, the spreads of the four contract terms should satisfy the following relationship: FR>MM>MR>NR.

The framework also suggests differences across contracts in the relation between spread differentials and expected losses. Given that the probability of a credit event should be similar for the three restructuring-inclusive contracts on the same entity (FR, MR and MM), any difference in CDS spreads should be driven by the difference in conditional expected losses. Thus, defining a contribution measure (λ) as the ratio between changes in expected losses-given-default and changes in CDS spreads (see the box), we expect this measure to be roughly equal to one for the pairwise spread differentials FR vs MR and MM vs MR. By contrast, spread differentials between these three contracts and the no-restructuring form are the combined results of different default probabilities and different expected losses. Thus, when switching to or from contracts with the no-restructuring clause, we expect the contribution of expected losses to a change in spreads to be substantially smaller than one (perhaps even negative).

The impact of restructuring clause arrangements on the pricing of credit default swaps: a theoretical perspective

The price of a credit default swap can be derived easily in the risk neutral framework. Following Duffie's (1999) simplified analysis, the risk-free rate (r_t) is assumed to be constant over time.[①] Define $q(t)$ as the risk neutral default probability for the underlying asset at time t, and, accordingly, $S(t)=1-\int_0^t q(s)ds$ as the risk neutral survival probability until time t. A credit default swap consists of two legs. The protection buyer agrees to make periodic premium payments (the annual rate is p) until the contract matures (at time T) or a credit event occurs. In return, the protection seller agrees that, once a credit event occurs, he will pay the difference between the face value (one unit) and the market value of the underlying asset, which is also known as the loss-given-default (LGD).

In an efficient market, the present value of the two legs should be equalised so that no arbitrage opportunity exists. That is,

$$\int_0^T e^{-rt} S(t) p\, dt = \int_0^T e^{-rt} q(t) \cdot LGD\, dt \qquad (1)$$

The left-hand side of the above equation represents the present value of CDS premium payments,[②] and the right-hand side the present value of protection payments. Equation (1) implies that, when the risk-free rate is exogenously given, the price of a CDS is determined by two factors, ie the risk neutral default probability and expected losses. Assuming that the probability of default (q_t) is constant over time (or equivalently that it represents the average probability of default over the contract period), it can be easily shown that

$$\frac{dp}{p} = \frac{dLGD}{LGD} + \frac{p}{q \cdot LGD} \cdot \frac{dq}{q} \qquad (2)$$

Equation (2) suggests that the change in the CDS premium is attributable to changes in either risk neutral default probabilities or expected losses. In practice, changes in risk neutral default probabilities could reflect the variation in both physical default probabilities and investors' risk attitude, and changes in expected losses can result from differences in exit strategies, bankruptcy procedure, the characteristics of reference obligations and their valuation method.

To examine the relative importance of the default probability effect and the expected losses effect, we can define a measure (λ) as the ratio between variation in expected losses and changes in CDS spreads, that is

$$\lambda = \frac{dLGD / LGD}{dp / p} \qquad (3)$$

This measure gives an intuitive indication of how much of the movement in the CDS premium can be explained by the variation in expected losses. Obviously, when a trigger event is equally likely to occur in two contracts, the price difference should roughly reflect the differing degree of expected losses (ie $\lambda = 1$).[③]

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① Allowing the risk-free interest rate to be stochastic does not change the analytical results. ② While in a standard contract the premium is paid on a regular basis (usually quarterly), the fact that accrued CDS premium needs to be paid by the protection buyer upon default implies that it is appropriate to use the continuous form valuation conditional on the survivorship of the reference entity. ③ For a simulation of the possible impact of restructuring terms on CDS pricing, see O'Kane et al (2003).

Calculating spread differentials across contracts

We test the above hypotheses using price quotes on the four types of contracts for a wide range of entities, and the recovery rate linked to each quotation.[9] We calculate four pairwise spread differentials: FR vs MR, MM vs MR, FR vs NR and MR vs NR. We focus on the percentage difference in spreads, since from a theoretical perspective (see the box) this measure

[9] Recovery rates used by contributors typically vary between 30% and 45%, but can be as low as 5% under extreme situations (eg when the entity is close to default).

should be directly linked to the difference in the value of the delivery option when the trigger events are identical. As a supplementary indicator of the pricing impact, we also report differences in spread levels.

Pairwise spread differentials

No-restructuring clauses reduce the premium by as much as 7% ...

The general pattern of the four pairwise spread differentials is consistent with our predictions. First, those contracts excluding restructuring from the definition of credit events charge lower spreads than the other three contracts. For example, the premium of an NR contract is on average 7.5% lower than that of an FR contract. When expressed as the difference in levels, the premium is on average 7.7 basis points lower.

Second, the sign of the spread differentials among the three contracts that include restructuring as a credit event reflects the differing degrees of restriction on deliverable obligations. On average, a full-restructuring contract (FR) is priced 2.8% (3.4 basis points) higher than a modified-restructuring contract (MR), and the modified-modified restructuring contract (MM) is priced in between the two. All of the price differences between contract types, while not particularly large economically, are statistically significant.

... and change the likelihood of a credit event

Third, the magnitude of the contribution measure (λ) for the pairs FR vs MR and MM vs MR (based on expected recovery rates) suggests that the valuation of those contract terms largely reflects the distinct value of the "cheapest to deliver" option (rather than variations in the likelihood of a trigger event). The percentage differences in premia are virtually identical to those in expected losses for the FR-MR pair, and very close for the other pair. By contrast, the contribution of recovery values to price differentials is much smaller when comparing the no-restructuring to other contracts, consistent with our expectation that variations in the probability of trigger events have an important role in explaining these price differences.

So far we have abstracted from the possibility that the pricing impact of restructuring terms might differ with the characteristics of reference entities, including their ratings, industry classifications and geographic locations. Such differences may arise for various reasons, discussed below. In the following subsections we examine price differentials across each of these three dimensions.

Is there a rating effect?

Credit ratings could affect pricing differentials in a number of ways. For instance, risk-averse investors might be more likely to invest in highly rated entities, increasing the sensitivity of spreads to uncertainties in protection coverage. We would also expect to see a rating effect were the likelihood of using restructuring as a default strategy, or the percentage change in expected losses (due to maturity restriction on deliverable obligations), to differ materially by rating class.

Rating class per se has little influence on contract effects

We divide the sample of premia differences into four rating groups, corresponding to entities rated by Moody's as Aaa or Aa, A, Baa and high-yield (Ba to C). As shown in Table 3, there appears to be little evidence of a separate rating effect on spread differentials. First, the spread differentials

Average spread differentials by rating, sector and region[1]

Percentage difference

	FR–MR		MM–MR		FR–NR		MR–NR	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
By rating								
Aaa/Aa	2.20*	2.82*	0.37*	0.43	7.21*	6.91*	4.23*	3.79*
A	2.84*	3.03*	1.04*	1.02*	7.69*	7.56*	4.65*	4.55*
Baa	2.57*	2.89*	1.33*	1.07*	7.54*	7.62*	4.85*	4.74*
Speculative grade[2]	3.81*	3.93*	2.11*	1.89*	7.23*	7.19*	2.77*	2.90*
By sector								
Industry	2.94*	3.19*	1.63*	1.37*	7.63*	7.65*	4.30*	4.42*
Financial	2.07*	2.52*	–0.60*	–0.35*	6.92*	6.97*	4.01*	3.96*
Government	2.87*	3.36*	–0.25	0.00	7.30*	7.22*	3.83*	3.85*
By region								
North America	2.62*	2.85*	–1.57*	–0.68*	7.31*	7.39*	4.19*	4.30*
Europe	3.97*	4.04*	1.39*	1.25*	10.55*	10.79*	6.28*	6.50*
Japan[3]	12.67*	15.53*	–	–	15.52*	17.25*	6.64*	10.19*

[1] * shows significance of the test statistics at 95% as in Table 2. [2] Refers to Moody's credit ratings from Ba to C. [3] Yen-denominated CDSs only. Table 3

between contracts still have the correct sign across rating classes. Second, the relative measure of price difference exhibits virtually no change when segmented by credit rating.

The absence of a rating effect suggests that restructuring is an equally likely choice for a financially distressed firm regardless of credit quality. Nor do rating-based "clientele effects" appear to influence the pricing of contract terms.

Sectoral effect

We next test for a sectoral effect by grouping the sample entities into three major groups: industrial, financial and government sectors. The statistical results show no obvious sectoral effect (Table 3). A further breakdown of the industry sector into nine subsectors does not change the findings.[10] One small exception is that the MM–MR spread differentials for government and financial entities are extremely close to zero and statistically insignificant in the former sector. The difference in the market valuation of the delivery option between these two contracts appears to be much less prominent for entities in these two sectors. We hope to explore this anomaly further in future research.[11]

[10] The nine subsectors are communications, communications and technology, consumer cyclical, consumer stable, energy, industrial, material, technology and utilities.

[11] Packer and Suthiphongchai (2003) find that the pricing of sovereign CDSs generally differs from the pricing of those written on corporate or bank entities, and the pricing difference exhibits a striking asymmetry by rating class.

Regional effects

Lenient contract terms are priced more dearly in Japan and Europe …

By contrast, there is some evidence of regional effects in the price impact of contractual terms. Namely, spread differentials across contracts for entities from North America (mostly from the United States) are smaller than those for their European counterparts, which in turn are smaller than those on Japanese obligations (Table 3).[12]

The regional effects may reflect differing valuation methods between the markets. The degree of regional fragmentation in the adoption of the four contract types, as discussed in the previous section, might allow different pricing practices.[13] If true, the above results are consistent with European and Japanese markets applying bigger adjustment factors for default probabilities and expected losses than their North American counterparts.

… perhaps due to moral hazard

Another possibility is that, for structural reasons, there may be a greater risk in Japan and Europe of moral hazard on the part of protection buyers, who also act as creditors to the reference entities and can trigger a "soft" credit event. An increasing likelihood of such opportunistic behaviour could yield a bigger impact of contractual arrangements on CDS spreads in those regions. For instance, some market observers have suggested that the full-restructuring contract, by far the most popular contract form in Japan, might allow for a particularly great risk of moral hazard given the dominance of bilateral loans in Japan's credit markets (Fitch (2004)).

The moral hazard hypothesis is modestly supported by a decomposition of changes in default probabilities and expected recoveries. For example, the implied change in default probability when switching away from no-restructuring contracts to those allowing for a payout upon restructuring is highest for Japanese entities, followed by European ones. Though this finding is consistent with moral hazard accounting for regional differences in spread differentials across contract, it does not rule out the market segmentation hypothesis discussed above.

Convergence of pricing practices?

The valuation of contractual terms evolved over the sample period. Graph 2 plots on a daily basis the average of the percentage differences in spread between the full-restructuring (FR) and modified-restructuring (MR) contracts, as well as the contribution measure as defined above. Several interesting observations stand out.

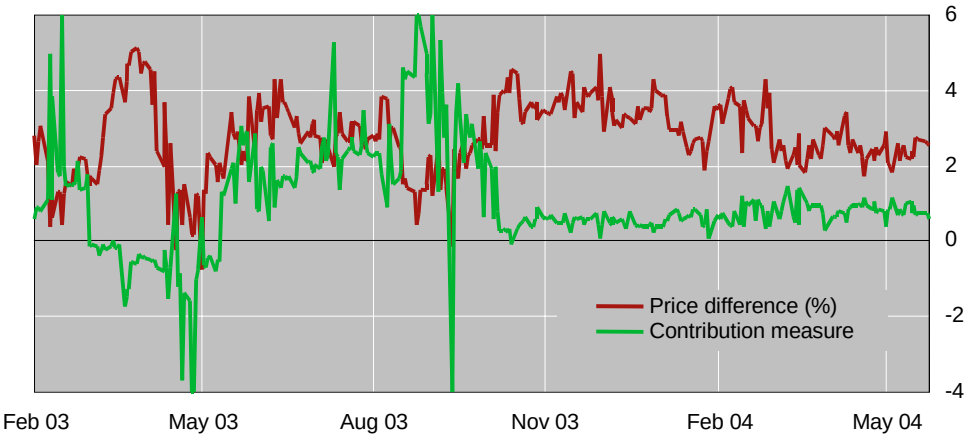
Spread differentials have stabilised …

First, spread differentials between the contracts have become more stable over time. The range of price differences narrowed from 1–5% in 2003 to 2–4% in the first half of 2004. Similar patterns are also observed by region, and for the other three pairwise spread differentials. While this could reflect the

[12] One exception is the MR–MM spread differentials, but the estimate for North American entities may not be reliable because there are very few matched observations.

[13] Zhu (2004) finds evidence of different responsiveness of CDS spreads to changes in credit conditions between the US market and the European market.

Spread differentials between full and modified restructuring



Note: The price difference is calculated as the average percentage change of CDS spreads between the two contractual terms. The contribution measure is defined as the ratio between the percentage change of expected losses perceived by data contributors and the price difference.

Source: Markit. Graph 2

improvement of credit conditions in the market, it is more likely to indicate the convergence of the valuation of contractual terms among market participants.

... consistent with more uniform valuation methods

Second, our contribution measure (λ), the ratio between variation in expected losses and changes in CDS spreads, has also stabilised. Before October 2003, although the average measure over time was very close to one, it was quite volatile. Thereafter, the measure fluctuated less and gradually converged to one. The pattern is consistent with the market gradually becoming more efficient in pricing the delivery option, and market participants adopting a more uniform valuation method for contract terms.

It is worth recalling that the convergence in valuation methods may take several years. Both FR and MR contracts were introduced before 2003, yet in their first two years the market showed clear evidence of greater disagreements on the value of contract terms and on the sources of relative valuation.[14] In addition, the contribution measure still shows relatively greater volatility for pairwise spread differentials that include the MM and NR contracts, which were introduced later than the FR and MR contracts.

Conclusion

In this article we have found evidence supporting the view that contractual terms matter in the pricing of CDSs, specifically those terms covering restructuring-related credit events. The difference is around 7 basis points on average for the two most divergent contracts. But even finer degrees of distinction in the specification of restructuring-contingent states appear to be priced. Associated quotes on expected recovery are consistent with the view that the cheapest-to-deliver option is the principal factor driving most of the spread differentials.

[14] For a further discussion of market practice during that period, see BIS (2003), pp 112–13.

We also detect a trend over the sample period towards a more uniform valuation of contractual terms. Nonetheless, we still see some evidence of a regional effect in the pricing impact of contract terms. Widely divergent popularities of different contract types across regions, as well as different characteristics of regional markets, may have resulted in a degree of market segmentation that allows for distinct valuation. We hope to shed light on the individual and collective significance of time series effects, regional distinctions and the estimated recovery values in future research.

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