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The war scars of the credit derivative documentation

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There has been extensive press coverage on the various Libor fixing scandals and the difficult process of setting a benchmark interest rate has attracted a lot of attention. This article describes the eventful history of consolidating the credit market using the credit derivative contract. One of the realisations of this financial infrastructure work is a credit index, which takes the form of a universal definition for financial default as well as a settlement protocol for the contract. In this process which span over a 15 years period, there were accidents and the documentation still bears the marks of individual situations which did not fit the definition (the "war scars"). This shows how idiosyncratic events can get in the way of the formation of an idealized financial concept. This article also shows the role played in financial markets by a certain form of legal and financial knowledge and it can be seen as a contribution to the social studies of finance as defined by MacKenzie, (2006): "drawing on, and developing the intellectual resources of the social studies of science and technology in order to embark on a conversation about the technicality of financial markets."

Nowhere were the financial markets more heterogeneous than in the credit markets. Credit risk, which is the non-performance on a financial obligation, affects loans, bonds, commercial paper, letters of credit, derivative payment obligations, … The credit derivative "revolution" meant that those various products are now viewed as different vectors of assuming credit risk in a similar way that swaps, forward rate agreements and futures transform interest rate risk. Those various risks are made fungible through the creation of a synthetic contract: a credit default swap. By breaking away from any underlying instrument and defining a set of various deliverable obligations, the credit derivatives market is the ultimate expression of this trend for integration.

"*The only productive invention to come out of the banking industry over the past generation was the ATM machine.*"
-- Paul Volcker

The CDS was the financial engineering innovation of the 90's. Their responsibility in the recent financial crisis and consequently their financial efficiency has been widely documented and is not our focus. The aim of this note is not to go through an exhaustive historical study of the legal documentation of credit derivatives. While describing the difficult process, which led to the devise of a protocol that is now accepted by the markets, we want to highlight the difficulties, which are inherent in the creation of an index. The construction of an index is the result of a complex piece of engineering. Its study looks more like geology and the analysis of the accumulation sedimentary layers than a pure intellectual idea that can be distilled to a simple and pure financial concept. History plays a role in the design of financial contracts; the credit derivative definitions look more like common law based precedent rather than the intellectualized civil law.

Few debates are as old as the one around the nature of the correspondence of our intellectual categories to the thing they represent. There are broadly two schools of thought (See MacLeod & Rubenstein, 2006). The proponents of nominalism make the case that categories are linguistic devices that are useful to describe the world; but one should not lose sight from the fact that categories are mostly arbitrary. They are not static. The proponents of universalism on the other hand

prone the existence of stable categories; they may be figments of our imagination but they have an ideal and maybe even universal value.

This classical philosophical debate has an echo in the financial markets. On the nominalist side lies the insurance market; on the universalist side, the derivative markets. Both markets deal with risks. The fundamental difference between the financial and the insurance contract lies in the nature of their respective settlement. The insurance contract acts as a compensation commensurate to a loss. The financial derivative contract on the other hand would pay on the basis of an objective pre-defined index.

Let us take the voluntarily extreme and grotesque example of seismic risk. If you subscribe to an insurance contract on your house, and it is destroyed during an earthquake, you should be compensated by the insurance company. The amount of your claim will be based on estimation of your loss, which will be the price of reconstruction of your home. If we were to define an equivalent derivative contract, it could pay based on the severity of the earth quake at a particular geographical point: you would get paid a fixed amount if the magnitude of the earthquake measured on Leicester Square is more than 7 on the Richter Scale. Your house may not have been destroyed by the catastrophe; equally, the earthquake could have been on a lower magnitude and your poorly built Victorian house might be in ruins.

Among other fields, the two markets overlap for credit risk: typically the performance risk of a mining company could be covered by an insurance contract. This risk is similar to the default risk that a financial investor would take holding an obligation issued by the company. Thus it can also be covered by a financial credit derivative contract. The insurance contract compensates for a damage. The buyer of insurance would need to demonstrate that they have realized an actual loss: the mining company failed to deliver the ore which was already paid for and as a result the insurance buyer has realized a loss. The insured would then be entitled under the insurance contract to be compensated for an amount commensurate with their loss.

The financial derivative contract on the other hand would pay based on idealized index; the buyer of protection does not have to hold any risk to be paid. His payoff is linked to a predefined index: the recovery value of the cheapest obligation. If the buyer was intending to hedge an exposure, there could be a discrepancy between the loss on this exposure and the payoff under the financial contract. The insurance market has a nominalist approach, which is fundamentally linked to an effective and specific individual loss. The financial market on the other hand has a universal approach and defines idealized value that is linked to a standard and objective index.

The definition of the default events that will trigger the contract needs to be carefully crafted to design a credit derivative. The intellectual concept is easy to conceive: a company fails to honour its financial obligations. But like every encyclopaedic effort, the devil is in the details. The documentation is typically standardized by the International Swaps and Derivative Associations (ISDA). The standardization of the legal wording is critical to ensure the liquidity of the market: no dealer wants to spend time reviewing legal nuances before trading. There were originally 5 distinct credit events in the original 1999 ISDA credit derivative definitions: bankruptcy, failure to meet payment obligations, obligation acceleration, repudiation/moratorium, and material adverse restructuring of debt. The exact definitions of those events can be found in the references (ISDA 2014 Credit Derivatives definitions). The event needs to be publicly observable (typically from a public source like a newspaper). These definitions have attracted a lot of interest in the industry. They have also widely evolved since their first introduction in the mid 90s.

The settlement process has also been fiercely debated. The first contracts were settled based on a physical delivery, whereby the protection buyer would physically deliver an obligation against a cash payment. To integrate the various vector of credit risk, a set of deliverable obligations is defined. This aggregation is achieved through the notion of "cheapest to deliver"; the cheapest asset can be delivered on the contract against a par payment in case of a credit event. Since then the

industry has evolved to a cash settlement, which is based on the result of an auction. This auction is organized by ISDA itself for the purpose of settling the credit derivative contracts.
We will now review the accidents that the conception of those definitions encountered. Like a tortuous tree, which shows the marks of the elements, the current protocol bears the wounds of those case studies. Far from a limpid financial concept, the definition of financial default has become a legal monster, described through a combined set of documents that spans more than 89 pages of fiddly legal jargon. It all started with the 1999 ISDA credit derivative definitions. Some events in 2001 led to a re-examination of certain issues and to the 2003 ISDA credit derivative definitions. In 2009 they were completed by the "Big Bang" supplement, which defined the settlement protocol. The latest definitions date from 2014.

1999 ISDA Credit Derivatives Definitions
1999 Rite Aid and moral hazard
2000 Conseco and the restructuring event
2001 National power and the successor issue
2001 Rail track and convertible securities
2001 Enron (large volume and counterparty)
2003 ISDA Credit Derivatives Definitions
2003 Tracx introduced
2005 Collins & Aikman first ISDA conducted industry wide CDS settlement
2005 Delphi shows the weakness of the auction process
2009 Big Bang supplement
2012 Greece is the biggest sovereign default in history
2013 The Dutch government nationalizes SNS Bank and expropriates its subordinated bond holders

+ Rite Aid: *In October 1999, Rite Aid announces that it has completed a restructuring by extension of all $2.7 billion of its outstanding banking facilities.* The restructuring only involved the banking debt and not the bonds. Banks faced an extension of maturity for their asset, but in exchange they also benefited from increased pricing and additional collateral. The additional comfort meant that the banks were not materially worse off after the restructuring. For the banks, which were hedged on their loan, they could still trigger their CDS hedge and pocket a premium based on the low price of the longer dated bonds. This underlined the danger of a moral hazard by which the banks could restructure a loan favourably and still make money on their hedge. They could also engineer the restructuring to make sure that the hedge would trigger. The default swap, which had been invented by the banks, was too partial, putting the asset management community at a disadvantage. This led to a standard that excludes bilateral obligations as part of the pool of debt products that can trigger an event; bilateral obligations would still be deliverable if an event had been triggered by a multiple holder obligation. This and the Conseco case study also led to a modified definition of restructuring. Some practitioners already commented that restructuring was the problem child of credit derivatives.

+ Conseco: *On the first of September 2000, Conseco announces an agreement with Chase Manhattan Bank and Bank of America to extend to Sept. 22, 2000, $155 million in loans to Conseco, and $145 million of guarantees by Conseco with respect to loans made to directors and officers of Conseco in connection with a stock purchase program.* In a similar occurrence, the restructuring included a deferral of the loan's maturity by a few days but also a better pricing as well as additional guarantees and additional covenants in favour of the lenders. So even though the restructuring was not really materially adverse to the banks, some delivered long dated bonds as part of their CDS hedge and pocketed the difference between their

low price and par. Some hedgers benefited financially even though for example Moody's did not consider the restructuring to be a default because it did not really impact the credit standing of the obligations. This led to the re-drafting of the definition of the restructuring event for most standards. The new "modified restructuring" event essentially limits the population of deliverable obligations to a few months after the latest restructured obligation. This means in this example that one would not be able to deliver the long dated bonds, as they were not affected by the restructuring event.

+ National Power: *On the 29th of September 2000, the Board of National Power announces that at the Extraordinary General Meeting of the company held the resolution to approve the demerger of Innogy from National Power.* The merger was cancelled on the 2nd of October. The successor company was ambiguous under the 1999 definitions. Again this led to the redrafting of the successor definition and added 6 pages to the overall definition document in the form of a supplement: so much for the idea of a crisp definition for financial default. Essentially the new CDS Succession language follows the debt; if the debt is transferred to only one of the companies, the CDS reference entity will switch to the new indebted entity. If the debt is split among the different successor entities, the CDS contract would be split between several entities in a proportion reflecting the debt distribution.

+ Railtrack Plc: *On the 8th of October 2001, Railtrack, the company that controls Britain's rail infrastructure, is put into administration.* This case study raised the issue as to whether convertible bonds are deliverable under a standard CDS. The usual definition excluded "contingent" obligation because it can be difficult to compare them with straightforward obligations. So typically a deliverable obligation has to be "not contingent".

Some protection sellers challenged the fact that the Railtrack convertible obligation was deliverable. ISDA made the call that even though the option to convert the securities into equity made the obligation technically contingent; the options lied with the holder of the convertible. ISDA published a statement to that effect on the 18th of October 2001. Again, this case study led to the drafting of a "Supplement Relating to Convertible, Exchangeable or Accreting Obligations". Although the ISDA memorandum are not legally binding, market participants tend to follow their recommendations as an industry wide consensus makes the delivery process for easier to handle.

+ Delphi: *On the 8th of October 2005, the company filed for Chapter 11.* By 2005, the market would tend to follow wholesale type settlement whereby ISDA would organize an auction for deliverable obligations. The results of this auction would then be used to cash settle CDS contracts. Although this was not necessarily the contractual settlement method (physical settlement was still the standard), an ISDA organized auction was seen as a significantly more transparent as well as operationally far easier. For end investor the process of an auction was seen as more transparent. For dealers, operational issues were significant. A CDS contract would typically follow a chain: intermediaries would typically need to know what obligation they would be delivered to notify they protection seller. This could lead to significant operational risk as a substantial flow of information would basically flow at the same time and the timeframe for delivery is limited in time.

The physical settlement also had another drawback: it is the onus of the protection buyer to find a deliverable obligation in a nominal amount of the CDS contract. If he fails to deliver, the protection buyer is typically not entitled to receive its cash payment and although its contract may have been triggered, it may end up worthless. This could typically lead to a squeeze of the price of defaulted obligations: those market participants who had bought naked protection (without having a corresponding exposure) would scramble to find deliverable obligations to deliver under their CDS contracts and would as a result drive the price up. One could see a technical rally in defaulted debt after a credit event, which would reflect more the amount of CDS, which was written on the name rather than the fair recovery value of the company.

This is what happened with Delphi. The price of the company's bonds rose from $58 to $72 after it declared bankruptcy. The current auction process is supposed to deal with this issue. The volume of defaulted debt sold at the auction may only represent a small fraction of the outstanding CDS contracts. The CDS contracts are then settled based on the auction settled price. Of course, this means that a large CDS seller may be better off bidding artificially high at the auction if it means that this will minimize its losses on its CDS contracts.

+ Bradford and Bingley: *On the 30th June 2009, Bradford and Bingley failed to pay a coupon on its 6.625% 2023 notes.* The so-called "Big Bang" amended the market practices to bring more standardization in the credit derivative market. From its implementation in 2009, a Determinations Committee now decides whether a credit event has actually happened. It is composed of a total of 15 members: 10 from the dealer community and 5 from the investment management community. The committee must reach a 80% majority to declare a credit event. This means in particular that counterparties no longer decide on a bilateral basis whether credit events had occurred. This obviously brings more standardization and transparency into the market place.

This also has a slight twist on the nature of the credit derivative definitions: from an attempt to a purely objective set of definitions, the wording now implicitly recognizes that there could be different interpretations to the black and white occurrence of a credit event. The definition relies on the opinions of 15 market participants. Those are specialists and are likely to reach a consensus but still…

The Bradford and Bingley case is interesting to illustrate how difficult it can be to make a call as to whether or not an event has occurred. In September 2008, the UK treasury was rushed into taking control of the troubled financial institution. This was done quickly to avoid a bankruptcy of the company. The government then sold some of the best corporate parts and some the preforming assets of the company to a competitor. Although this was substantially imparing the credit quality of the company this was still not a default. Only the bad assets were left to cover for the debt.

In February 2009, the UK government, the new owner of the company passed a new law (a Statutory Instrument), which specifically allowed Bradford and Bingley to defer the coupon payment on its subordinated debt without triggering a default under the bond documentation. By an order specifically referencing the prospectus of the Bradford and Bingley subordinated bonds, the UK government amended the terms such that coupons could be deferred. This in itself did not constitute a credit event, though ISDA debated the situation at the time but decided against a credit event. The credit event wasn't declared until the payment was effectively not made on the 30th of June 2009. This constituted a Failure to Pay, which is a standard credit event under the ISDA credit definition.

+ Greece: *On the 29th of April 2012, the Greek government forces local law bond investors into a debt swap; the new instruments imply a haircut of about 60% through a combination of nominal and interest rate reduction.* The Greek default was the biggest sovereign debt restructuring in history. EUR152 billion of the EUR177 billion of the bond holders agreed

"voluntarily" to the term of the swap (after huge political pressure from their respective governments). The remaining EUR9 billion was forced into a debt swap after the Greek government changed the law to include collective action clauses into the bonds documentation: the minority of the bond holders who were not bullied into accepting the swap voluntarily had to accept the decision of the majority.

Another aspect of the restructuring was troubling: various supra-national institutions like the IMF and the European Financial Stability Facility (EFSF) benefited from senior priority status. Even though the EFSF was buying securities in the secondary market at below par in the months leading to the restructuring, it was not part of the debt swap and as a result did not suffer a loss. Effectively this meant that private creditors were subordinated to the supra national institutions. This is usually the case for any new funding that a nation receives during a crisis (like an IMF emergency loan); what was new was that the EFSF was buying Greek existing bonds in the secondary market; arguably, the more bonds it was buying in the market the more recovery value it was taking away from private investors. Again, ISDA took the view that the action of the EFSF buying bonds in the secondary market did not represent a credit event per se. The credit event was called after the minority of investors who turned down the debt swap offer got forced into the restructuring.

+ SNS Bank: *On the 1st of February 2013, the Dutch government nationalizes SNS Bank and expropriates the holder of subordinated debt.* As a result, the new ISDA 2014 definitions include a new event of default: Governmental Intervention. The nationalization was not explicitly taken into account in the definitions of restructuring. This additional event of default is therefore a useful complement to the existing definitions. It contributes to protect investors in case governments interfere with the credit market and take "bail-in" type actions; investors are then asked to contribute to the rescue of a financial institution. It is worth noting that the event "Government Intervention" can trigger a settlement of the CDS contract even in the case when the governmental intervention is not followed by a substantial worsening of the reference entity's credit standing.

Conclusion

The credit market community endeavoured to define an idealized definition of financial default. As the documentation was gradually tested by real life defaults, particular cases gradually found their way back into the documentation. Each time the financial community would respond with a new supplement to the definitions. The result is a series of definitions that bears the marks of the various bankruptcies of the last few years. This is a clear illustration that defining an idealized index is a difficult exercise. The definitions are more akin to a bricolage, which is more similar to case law and its aggregation of history rather than a distilled financial concept.

In that sense, the credit derivative framework (the auction process, the reference obligations listings, the determination panel, legal opinions, mathematical formulas…) and its definitions in particular could be viewed as a legal fiction in the same way that Riles (2011) views collateral. "Examples of legal fiction include the notion that a corporation is a person, or the fiction that an adopted parent is the biological parent of the adopted child". Legal fiction is a very old device, which was already present under Roman law. Closer to the financial markets, hybrid capital structures could also be considered as a legal fiction: they could be viewed as equity capital, which is really debt. Pre-crisis, banks could issue perpetual instruments, which were callable by the issuer; the gentleman's agreement with the market was that those "preferred equity" type instruments would always be called, hence ensuring that they would indeed have a finite maturity date. With respect to the credit derivative framework, it is obviously a legal fiction as it considers a corporation, itself a fictional person. Furthermore, the credit derivative definitions define an idealized financial default by a corporation. This idealized category in the Universalists's tradition is a figment of the imagination.

As noted by Riles: "documentations help to format or standardize the market because of their unique ability to spread across boundaries… cultural boundaries, form of expertise, institutions, physical distances by virtue of their material and aesthetic form." The credit derivative project can not only be viewed as an effort to standardize

documentation in order to minimize transaction costs. This project puts in place a market infrastructure. As Callon (1998) has shown, the market requires to be able to make certain kinds of equivalence, to be able to operate. This effort to idealize the default definitions can be viewed as an ultimate "disentanglement". The creation of this legal fiction attempts to create a self-contained contract, which is meant to overarch over the existing credit products. It is taking the universalist's arguments made by Riles a step further by defining an idealized concept of default.

Riles's account of the collateral framework set-up shows how the legal fiction needs to find its expression in the existing legal framework. She shows that the problem of "how to fit this private law placeholder within the existing framework of [Japanese] law" is not a straightforward legal challenge. The credit derivative project, by defining an idealized framework attempts to tackle this issue by shifting the angle of the problem. Using a software analogy: each new version of a software needs to be backward compatible with previous versions; this can be tricky when new functionalities are introduced. In this analogy, the derivative market attempts to create a software at a higher level of abstraction (an object orientated language?). The fact that the credit derivative contracts are settled based on an index does simplify the legal framework: it goes around the difficulties of making this new legal fiction interact with the existing legal framework. The drawback of course is that the crafting of those definitions is not trivial, as we have seen.

Another interesting observation by Riles describes how the market deals with the uncertainty regarding legal frameworks. We have seen that the credit derivative definitions have seen quite a lot of changes in the recent years. Similarly collateral legal opinions typically have grey areas, especially when it comes to bankruptcy law, which widely depends on the jurisdiction. Those opinions are typically tens of pages long and tend to be highly technical. However the market mostly acts based on a sound bite: the contract is viewed simply as enforceable or non-enforceable. Practitioners typically take the view that collateral agreements are enforceable for the most legally stable jurisdictions (for example: the US, the UK…). As noted by Riles, the perceived complexity of legal definitions does not act as a deterrent to their use in the market. Rightly or wrongly, they are seen as part of the legal infrastructure of the financial markets. When one drives over a bridge, one rarely thinks about the solidity of the bridge (even if we know the relative weakness of financial infrastructure…).

Those fictions typically impose restriction on reality, hence influencing market players. For example, policy makers would view a trigger of the CDS as a possible escalation of the crisis. Therefore they would be mindful not to trigger a default according to ISDA as part of a potential restructuring (e.g. the case of Greece). Following Callon (1998), we could say that those definitions have become performative, i.e. they act on the behaviour of market participants. In the case of Greece, one should talk about counter-performativity (MacKenzie, 2006), as the policy makers will tend to try to avoid an ISDA default and therefore be tempted to design a restructuring so that it avoids being captured in the definitions.

References

Callon, M. (1998), *The laws of the Markets*. Oxford: Blackwell.

ISDA (2014) Credit Derivatives definitions: http://www2.isda.org/asset-classes/credit-derivatives/2014-isda-credit-derivatives-definitions/

MacKenzie, D. (2006), *An Engine, Not a Camera: How Financial Models Shape Markets*. Cambridge: MIT Press.

MacLeod, M. C. & Rubenstein, E. M. (2006), "Universals". In the *Internet Encyclopaedia of Philosophy* (http://www.iep.utm.edu/universa/).

Riles, A. (2011), *Collateral Knowledge. Legal Reasoning in the Global Financial Markets*. Chicago: The University of Chicago Press.