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**Legitimacy in financial markets:
Credit Default Swaps in the current crisis**

Abstract

The current financial crisis appears to be a moment of epochal change, an archetypal ‘legitimation crisis’. The paper examines the impact of this collapse on one particular section of the financial markets – that concerned with Credit Default Swaps (CDSs). The paper shows how and why the markets for these products expanded and why they were integral to the financial crash. The consequence of the crash was a huge loss of legitimacy for these markets. The paper examines the processes whereby this legitimacy is being reconstructed. In particular it distinguishes between the reestablishment of pragmatic legitimacy which is the primary concern of the market participants and the reestablishment of broader political legitimacy which concerns governments and regulators. It argues that these two forms of re-establishing legitimacy work in different ways and proceed at different rates. It explores the tensions to which this leads in terms of reconstructing the financial system.

Keywords: financial markets, power, regulation

JEL classification: Z13 economic sociology

Introduction

The current financial crisis appears to be a moment of epochal change. The G20 meeting in London reported that ‘we face the greatest challenge to the world economy in modern times...major failures in the financial sector and in financial regulation and supervision were fundamental causes of the crisis. Confidence will not be restored until we rebuild trust in our financial system’ (G20, 2009). Gillian Tett, of the *Financial Times* wrote on March 10, 2009 that ‘the pillars of faith on which this new financial capitalism were built have all but collapsed. That has left everyone from finance minister or central banker to small investor or pension holder bereft of intellectual compass, dazed and confused’ (Tett 2009, March 10, p.9). From an institutionalist perspective, what we are seeing is a case where established practices and processes have been undermined. Following Fligstein (2001), we can see the current period as a phase in the ‘politics of the creation of market institutions’ where private and public actors, national and international in their range and scope, are engaging in power struggles to shape the future. This crisis provides social scientists with an excellent opportunity to examine the politics of markets *in situ* as they are developing and in this way to clarify the sorts of concepts and frameworks which should be applied in an understanding of this process.

I address this task through focusing in detail on one particular part of the financial market that concerned with credit default swaps (CDS). This part of the market is interesting not just because of the fact that it was measured in terms of a notional value of \$57 trillion by the end of 2007 (Bank for International Settlements, 2009b, p. 7) but for three other reasons. Firstly, this market, as it came into existence in the late 1990s, embodies the idea of a financial market that is ‘free and efficient’, predominantly shaped by private actors rather than states and public regulators (Morgan, 2008). Secondly, this constitutes what Quack refers to as a ‘transnational market’ in the sense of involving ‘regularised relationships of competition over exchange opportunities which interconnect a growing number of economic actors from multiple political jurisdictions across the world’ (Quack,

forthcoming, p.9). Thirdly, for reasons described later in the paper, CDS products have been integrally involved in the financial crisis itself.

The paper consists of the following parts. The first part presents the theoretical framing for the analysis in terms of the politics of market creation, crisis and re-creation. I explore the significance of legitimacy claims in developing and sustaining markets, the nature of the actors who make those claims and the different audiences which they address. I distinguish in particular the way in which market participants construct and understand the nature of and the audiences for legitimacy claims from the way in which politicians and regulators understand the same processes. The second section describes the nature of the financial market and the politics of regulation from the 1990s to the onset of the financial crash in 2008. The third section looks at the same period from a market participant perspective focusing in particular on the over-the counter (OTC) market for CDS, how it developed and with what effect. The fourth section describes the debates emerging around reconstruction of the market in the light of the crisis and how actors are formulating, articulating and embedding their interests in the emergent new structure. The conclusion of the paper draws out the general lessons of this study for an understanding of the current financial crisis and for further analyses of processes of transnational market creation and market governance

In methodological terms, the paper relies on publicly available sources to reconstruct the details of these markets and the evolving debates on how to re-regulate in the light of the financial crisis. These sources range from the press releases and publications of companies and industry associations, through to the reports and statistics on aspects of financial markets which are produced by central banks, financial regulators, national treasuries, legislators and international regulators. This can be supplemented by the study of the financial press, websites and blogs as well as insider and journalistic accounts of these processes. This variety of sources requires careful and critical sifting and sorting particularly in a context such as that under study where all actors have an interest in legitimating and rationalizing their own role as part of the ongoing debate about how to rebuild the financial system and its regulatory framework. What follows is based upon

such a process of sifting and sorting in an effort to make sense of one aspect of a complex set of circumstances. Furthermore, it should be noted that these circumstances are still evolving at the time of writing (September 2009) and therefore conclusions have to be considered as tentative and time-bound, an inevitability where social science seeks to engage with contemporary events

The politics of market creation

Fligstein argues that governments together with various social actors produce ‘general institutional arrangements (both laws and informal rules) around property rights, governance structures and rules of exchange for all markets in capitalist societies’ (Fligstein, 2001, p. 27; see also the discussions of the social embeddedness of the market in Krippner *et al.*, 2004). Neo-institutionalism contributes to a further refinement of this argument in its focus on legitimacy. In the classic formulation of Scott, there are the three dimensions to legitimacy which reflect three pillars of institutions – the cognitive, the normative and the regulative (Scott, 2008). As these take shape, they exert a powerful influence over organizations and social actors to conform (Deephouse and Suchman, 2008). Therefore, in examining how markets are created and re-created, we are looking at the cognitive basis for markets (the technical knowledge and understanding which makes them work), the normative basis (the underlying beliefs of market actors about the best way in which the market should work) and the regulative framework (how the rules for markets are developed and shaped).

These arguments have been generally developed in contexts where legitimacy issues are confined within limited, usually national, boundaries. As Quack points out, many markets are transnational in scope and therefore ‘likely to be populated by actors with heterogeneous cultural and institutional orientations’ (Quack, forthcoming, p.9). Black has also emphasized the significance of polycentric regulatory regimes (Black, 2008). She argues that as the rule-making process becomes more transnational, it becomes subject to multiple regimes of accountability, creating a polycentric system where multiple agencies and actors (public and private; national and international) are competing for legitimacy. She states that ‘faced with incompatible legitimacy claims,

organizations face a legitimacy dilemma: what they need to do to be accepted in one part of their environment, within and outside the regulatory regime, is contrary to how they need to respond to another' (Black, 2008, p. 153).

However, it becomes clear at times of crisis in markets that there are two levels of legitimacy that need to be distinguished: the political and the pragmatic. The first level occurs when there is a broad social consensus that something has gone wrong and government and/or intergovernmental institutions should intervene. Frequently, this has to do with so-called negative externalities or market failures which have been generated by private actors leaving to the public the costs of dealing with these failures. This invariably spills over into issues of normative commitment as such crises inevitably have elements of moral panic and scapegoating about them and discourse becomes moralized, a question of good and evil. Similarly the cognitive basis of the institutions may also be challenged as actors rethink their assumptions. In terms of this political dimension, the politicians and regulators are addressing their claims primarily to national electorates. A market crisis inevitably puts governments under strain; their claim to be exercising authoritative control over markets through appropriate regulatory mechanisms is undermined. Their efforts to restore legitimacy involve claiming to the public that the conditions which led to crisis can be controlled and regulated. However, where market crises are transnational in nature, governments and regulators have to engage in complex negotiations and improved cooperation to deal with the polycentric range of audiences. The politics of institutional change and repair which is invariably time consuming and complex even when conditions may seem propitious (Mahoney and Rueschemeyer, 2003; Pierson, 2004; Streeck and Thelen, 2005) reaches new levels of complexity. Interests, discourses, practices are divergent, particularly in contexts of international markets and pulling them together is slow, requiring compromises and adjustments even in the most successful of such reconstructions.

However, if we focus solely on this level, we miss an equally important set of responses to the crisis. This set of responses occurs amongst the market participants themselves, for whom a resolution to the crisis or a repair to the institutions is an urgent practical issue.

Following Suchman (1995), we can approach them from the notion of ‘pragmatic’ legitimacy – a rather fragile form of legitimacy that rests predominantly on the self-interested calculations of corporate actors about the expectations of their peers. Pragmatic legitimacy is also linked to the idea of ‘output legitimacy’ in the sense that it requires that the system continues to produce rewards for the participants. The institutional stability that emerges also sends a message/signal to wider audiences in society and government that what is occurring is acceptable and legitimate, a signal which again is stronger where the output of the processes appears beneficial. A crisis at the level of pragmatic legitimacy occurs when social practices which previously worked defining roles, processes and expectations within a certain sphere appear to have temporarily collapsed and positive are no longer being generated. In this context, the question arises as to how the market participants put the system back together. The pragmatic legitimacy crisis deepens as output legitimacy declines.

For market actors, time is of the essence since if the market collapses their investment in it is lost. The value of firms and of the skills of individuals declines. These actors have an incentive to make quick repairs if they possibly can, whatever is happening at the political level where negotiations are likely to be slow and difficult. They will undoubtedly have an eye on the broader domain of political legitimacy but the urgency of their task means that they will aim to make their own decisions on repair, inevitably setting a marker for politicians and regulators.

Differentiating in this way enables us to consider the tension between these two agendas – that of the market participants repairing the pragmatic legitimacy of the market and that of the politicians and regulators attempting to find a new balance between the interests of market participants and the wider societal constituencies affected by the crisis. How do the two agendas mesh, how do these agendas themselves develop over the course of a crisis and its aftermath and to whose benefit?

A pragmatic legitimacy crisis turns our attention to social practices of market participants, what they were, what has been lost, what actors are doing to repair them. In order to pursue the issue of legitimacy at this level, therefore, we have to examine the

market itself and the actions of the members of the market. Here the recent work emanating from the social studies of markets research stream is helpful. These studies encourage a focus on the detail of market making, how actors, processes, technologies, distribution systems are assembled into distinctive technostuctures in particular contexts and the consequences of this process of assembling (Callon, 1998; MacKenzie, 2006, 2009; Callon *et al.*, 2007; MacKenzie *et al.*, 2007). It is at this level, where particular markets are being assembled, enacted and performed, that the dynamics of market creation and re-creation can be seen. At this level, actors do not just give up when conditions become tough and delegitimation threatens; on the contrary, they start again with the materials at hand and see whether they can reassemble them in new ways - what Campbell refers to as 'institutional bricolage' (Campbell, 2004, pp. 69-74). If we see markets as systems of routines, assemblages of actors, technologies and networks, then it is important to specify exactly how ruptures have occurred, how the market has broken down, how they are being repaired and, who is influencing this process. In this context, the tension between market participants seeking to restore pragmatic legitimacy amongst themselves by getting the markets going again and politicians and regulators from various jurisdictions concerned to embed new mechanisms to control risk and prevent further crises is likely to emerge.

Financial markets, derivatives and the politics of regulation

In the period from the 1970s, the emergence of financial markets was driven from a variety of sources. The rise of financial markets involved a cognitive revolution in terms of the development of financial economics as an academic discipline associated with the development of theories of capital market efficiency and risk management (MacKenzie, 2006, 2009; MacKenzie *et al.*, 2007). Such theories became embedded in actual market practices and technologies as described by Mackenzie, performing the markets and making new ones. The cognitive bases of these changes went along with a normative commitment amongst politicians, regulators, economists, market practitioners and others to the idea that free markets were essential to economic growth (Blyth, 2002; Prasad, 2006; Fourcade, 2009). Regulatory institutions were recast in order to provide market

participants with more of a role and to act in a permissive rather than a restrictive way (Vogel, 1996; Levy, 2006; Panitch and Konings, 2009). In the US and the UK, in particular, corporations became increasingly bundles of financial assets to be traded and evaluated according to their capacity to deliver shareholder value (Froud *et al.*, 2006; Erturk *et al.*, 2008; Langley, 2008; Davis, 2009). Financial booms and busts characterized this process both within the advanced economies and the developing and emergent economies (Kindleberger and Aliber, 2005; Minsky, 2008). Nevertheless, after each cycle, the financial system seemed capable of rebuilding itself, getting on with business, identifying new opportunities and meeting new regulatory challenges with ingenuity and renewed bouts of innovation.

One of the key areas of innovation central to the expansion of the financial system was the development of derivative products. Mackenzie defines a derivative as ‘a contract or a security, such as a forward, future, option or swap, whose value depends on the price of another “underlying” asset, or on the level of an index or interest rate’ (2006, p. 298). Derivatives are ways of managing risk as they enable buyers to exchange uncertainties (about interest rates, currency fluctuations, equity prices, commodity prices) for certainties. In principle, risks are diversified across the system, migrating to those institutions which have the expertise to calculate them and the capital to hold them and away from those organizations which wish to concentrate on other things than potential financial instabilities.

Derivative contracts, as described by Mackenzie (2006) and Mackenzie and Millo (2003), were first developed in the 1970s on regulated exchanges such as the Chicago Board Options Exchange and the Chicago Mercantile Exchange. Regulated exchanges are embedded within national systems of regulation and are characterized by firstly open and transparent pricing in specified products, secondly by membership criteria that require certain levels of capital, thirdly by rules on the provision of collateral in trades and finally by the exchange taking on the role of the counterparty to each trade. Because the exchange is counterparty to each trade and collecting collateral as and when necessary, in the event that a buyer or seller cannot at some point meet the terms of the trade, the loss

is taken by the exchange rather than being transmitted automatically to another company. In this way, an exchange limits the degree of contagion which can occur if any particular buyer or seller goes bankrupt.

However, not all derivatives have been traded on exchanges. Indeed the larger proportion in value of derivative contracts have been traded over-the-counter (OTC). Measured by amounts outstanding in US dollars, the OTC derivatives market in December 2007 was worth approximately \$595 trillion dollars (Bank for International Settlements, 2009b) compared to around \$79 trillion dollars outstanding on organized exchanges (Bank for International Settlements, 2009a). OTC contracts, as invented in the 1980s, were bilateral, between two parties who determined the nature of the product traded and the price for the product. OTC contracts raised new risks in comparison to trades on regulated markets. From the point of view of regulators, the most serious concern was that if one of the parties to the contract could not fulfill its obligations, then losses could be transmitted across all its counterparties. If that party had multiple large contracts with multiple counterparties, and caused some of these counterparties to fail, this then would affect these counterparties in their ability to fulfill other trades, potentially leading to a system wide crisis that crosses national boundaries and rapidly spreads beyond the control of any one national regulator. Further, because these trades were bilateral and only reported at the aggregate level, there was little information on how risks might be becoming concentrated in particular institutions or how market movements were affecting the level of risk being held in particular contracts. The sudden collapses at Barings (Leeson and Whitley, 1996), LTCM (MacKenzie, 2003) and Enron (McLean and Elkind, 2003) were all substantially related to trading in OTC derivatives markets, a point recognized particularly within the US Commodity and Futures Trading Commission during the late 1990s which under its Chair, Brooksley Born became an advocate of closer control and regulation of the OTC markets (Born 2001).

In the US, the OTC derivatives market had developed during the 1980s and 1990s in a state of legal uncertainty about the enforceability of the contracts through the courts. Stout argues that this was because ‘American common law has long refused to enforce

off-exchange contracts of sale not intended to be settled by delivery of the good or service in question.’ (Stout, 1999, p. 768). In the US, such contracts were therefore seen as a form of gambling. By contrast, she argues that the Financial Services Act of 1986 in the UK eliminated ‘the old rule against difference contracts....making all financial derivatives, whether used for speculation, legally enforceable’ (Stout, 2009, p. 3). This left US derivative traders at a potential competitive disadvantage compared to those based in the UK and in the period up to 1998 debate grew in the US about how to resolve this situation. OTC traders in the US were keen to regularize the situation and make OTC derivatives legally enforceable rather than occupying a shadowland of uncertainty. Although this uncertainty did not stop the market growing, it occasionally revealed itself when organizations outside the financial sector (most notably Gibson Greetings, Proctor & Gamble and Orange County) lost large amounts of money on speculative OTC derivatives trading and then went to the US courts filing law suits challenging the enforceability of these agreements (Stout, 1999, p. 779).

By 1998, it was clear that there was going to be some sort of clearing up of the legal position on OTC markets with Born and the CFTC proposing an end to OTC and OTC traders themselves supporting the legal enforceability of the contracts. According to an article in the New York Times (Goodman, 2008), Born’s efforts in 1997-98 to institute regulation over OTC derivatives were fiercely opposed by key figures such as Alan Greenspan at the Fed, Robert Rubin and Larry Summers in the Clinton Treasury department and Arthur Levitt at the SEC who in turn were strongly supported in their opposition by the industry. Born’s original proposal to include the banning of OTC markets in a new law was rejected and she left the CFTC in 1999. A report from the President’s Working Group on Financial Markets (consisting of Summers, Greenspan, Levitt and Rainer) was published in November 1999 (President’s Working Group on Markets, 1999). This report argued in favour of clearing up the legal position of OTC derivatives in the US system and further, of legally taking them out of the purview of any of the US regulators, particularly the CFTC; both of these recommendations were followed in the Commodity Futures Modernization Act (CFMA) 2000. Stout states that ‘the CFMA not only declared financial derivatives exempt from CFTC or SEC oversight,

it also declared all financial derivatives legally enforceable. The CFMA thus eliminated in one fell swoop, a legal constraint on derivatives speculation that dated back not just decades, but centuries. It was this change in the law – not some flash of genius on Wall Street - that created today's \$600 trillion financial derivatives market' (Stout, 2009, p. 3). Glass also describes this Act as a 'famous victory' for swap dealers who 'have historically opposed increased regulation of OTC derivatives' (Glass, 2009, p. S85). Tett states that CFMA specifically 'stressed that "swaps" were not futures or securities and thus could not be controlled by the CFTC or SEC or any other single regulators. "Congress nailed the door shut in 2000 [on unified regulation], with the passage of the Commodities Futures Modernization Act" observed ISDA lobbyist Mark Brickell. The derivatives sector was jubilant' (Tett, 2009, p. 87).

These decisions meant that the OTC derivatives traders were free to develop the market without constraints from national regulators and indeed could rely on the courts in the two main jurisdictions (the USA and the UK) where such contracts were sold to enforce the contracts if necessary. This did not mean that issues of systemic risk disappeared entirely from the debate. Rather the arena of debate shifted from national regulators to those international institutions concerned with global financial stability. In 1998, the year in which it first started publishing statistics on the global OTC derivatives market, the Bank for International Settlements (BIS) published a report in which it raised concerns about back office clearing facilities for these products, about the lack of clear rules regarding collateral and the need for clearing houses which would mitigate risk by standing between the two sides to a contract and thus hold the main risk, reducing the potential for system contagion. In 2007, a follow up report from the same body again emphasized the need to reduce confirmation backlogs and mitigate system risks in some way (Bank for International Settlements, 1998, 2007). In 2003, another body within BIS, the Financial Stability Forum (FSF), also raised issues concerning the impact on financial stability of credit risk transfer (CRT) through OTC derivatives (Basel Committee on Banking Supervision: The Joint Forum, 2005), a point still concerning the FSF when it began a follow-up report in 2007. This report was published in March 2008 after the financial crisis had begun (but before the Lehman crash) and was more assertive of the

need for action though still relatively circumspect (Basel Committee on Banking Supervision: The Joint Forum, 2008).

In so far as there was order in the system, it came from the actions of the industry association, the International Swaps and Derivatives Association (ISDA). By the early 1990s, nearly all the participants in OTC derivatives markets were members of ISDA. ISDA was a form of private governance of trading relationships. It developed a standard contract that covered all transactions in derivatives and swaps markets. This contract was made responsive to changing circumstances by the continuous oversight exercised by ISDA's committees where market participants brought problems as they arose and aimed at achieving a consensus in how to settle them. ISDA also lobbied national governments to make sure that its Master Contract was legal in different jurisdictions (Flanagan, 2001; Morgan, 2008). It thus provided a form of transnational private rule-making which it ensured was consonant with and enforceable by national laws. ISDA also responded on behalf of the industry to the issues raised by the Basle committees as will be described in the next section.

In terms of the broad relations between states, regulators and participants in the financial markets in the period from the passage of CFMA to the crash of 2008, the market for OTC derivatives was left to grow in spite of ongoing concerns of international regulatory bodies about their impact on systemic financial stability. Why did this happen? Firstly, the most acute and informed critics of the system (Born and colleagues in the CFTC) had been crushed by a combination of industry pressures and political and personal rivalries in the Clinton administration – a situation which suited the following Bush administration which was no less supportive of these markets. There was therefore no serious intellectual leadership amongst key national regulators arguing for an end to the OTC markets even if Basel supervisors were expressing concerns about the potential risks to systemic stability. Secondly, this was reinforced by a context in which a dominant free market discourse continued to shape economic policy-making (Djelic, 2006; Simmons *et al.*, 2008; Fourcade, 2009) and made any arguments about regulating these difficult to sell particularly in the US and the UK. Thirdly, the OTC derivatives markets were hugely

profitable for the major financial institutions at this time (for reasons which are explained in more detail in the next section) and therefore the industry was always going to defend this market to the utmost degree. Fourthly, politicians were content for the financial markets to continue to boom since that provided jobs, taxes, and consumer credit, contributing to the overall feel-good factor which was essential to staying in power and winning elections.

The market in action

The rest of this paper narrows down on one particular part of the OTC derivatives markets - that of credit default swaps (CDS). Credit default swaps were 'invented' very recently. Tett (2009, ch. 1) describes how in 1994 JP Morgan bankers first put together the concept of a contract which would protect it against the default of loans which it held on its books. Over the following few years, they worked through some of the technical details of such a product, first selling it in late 1997 (see also Phillips, 2008). The first separate entry for CDS contracts in the BIS quarterly reports on OTC derivatives market occurred in 2005 and it stated that notional amounts outstanding on these contracts were approximately \$10 trillion by mid 2005. By December 2007, the notional amount outstanding on OTC credit default swaps was around \$58 trillion, an almost 6 fold increase in the space of just over two years (BIS, 2009b).

A CDS can be described as a form of protection purchased in an OTC market by one party from another party on what is known as a reference entity with a reference obligation. The reference entity is a company which has issued bonds or taken out a loan and in return has promised to pay a coupon on the value of the bonds at specified times each year and to repay the capital sum by a certain date (the reference obligation). Credit events can take a variety of forms according to the specific terms of the contract including bankruptcy, failure to pay the coupon, debt restructuring and acceleration (Glass, 2009). The company to which the obligation is owed may buy a credit default swap in order to guarantee that even if the reference entity fails in its reference obligation it will receive back the capital sum on which the CDS has been taken out. In return for this guarantee, it pays the seller of the CDS a regular charge over the course of the

contract. This sum of money is known as the 'spread' and is calculated in terms of base points and the total debt. Spreads widen and narrow according to the judgement of the market participants concerning the likelihood of default. The more likely default is the higher the spread, i.e. the cost for the purchaser of the CDS.

It was not necessary to have an 'insurable interest' in order to purchase a CDS contract. In other words, any firm could buy or sell a CDS contract on the bonds of any other firm whether they held the bonds of that firm or not. This reflects the fact that the CDS market was not simply a way of hedging risks that had been taken on as a result of a credit deal. It was also a way of speculating on price movements in the markets both in terms of the value of the underlying asset and the in terms of the changing spreads of the CDS contract. The total amount of CDS contracts outstanding far outweighs the total amount of credit bonds issued and the value at risk in the original assets. Zabel, for example, calculated that the 'corporate bond, municipal bond and structured investment vehicles market totaled less than \$25 trillion' and therefore \$20 trillion of the total \$45 trillion notional value of CDS contracts in 2007 were speculative 'bets' on the possibility of a credit event of a specific credit asset not owned by either party to the CDS contract (Zabel, 2008). Stout states that 'by the end of that year [2008], the notional value of the CDS market had reached \$67 trillion. At the same time the total market value of all the underlying bonds issued by US companies outstanding was only \$15 trillion' (Stout, 2009, p. 3).

How did this market grow so large? On the supply side, CDS products required initial high levels of investment in expertise, model building, calculating systems, back office and IT support. Once such investments were made, however, the marginal costs of selling more contracts was practically zero whilst in the boom years, the gains to be achieved could be huge. Central to this was the successful use of leverage in that the seller was making a very low outlay in the first instance in return for a steady stream of payments over the term of the contract. This low outlay, however, had a huge potential downside since it could involve the seller in paying back to the buyer the whole amount of money which the buyer had lost if a credit event occurred in the reference entity. In the

circumstances of the boom years, when credit was easy, interest rates were low, economic conditions good, sellers concentrated on the revenues which were coming in from the CDS contracts being sold. In so far as they were concerned about the potential downside, they simply hedged their risk themselves by buying CDS contracts from others.

Where did demand come from in this market? Clearly if a company was holding bonds, it was holding credit risk (i.e. that the bond seller would default on payments) and therefore it might want to hedge the risk through buying a CDS contract. However, as has been stated, alongside those who were genuinely hedging, there were many who were buying for speculative purposes, lacking any insurable interest in the underlying asset. How were CDS products useful as speculative investments? Insider accounts of the market (see e.g. Das, 2006; Ishikawa, 2009; McDonald 2009; Tett, 2009), blogspaces and newspaper articles reveal some of these processes. One strategy, for example, would relate to anticipating a credit event. So, for example, a hedge fund might take out a CDS contract on a particular reference entity that it anticipated was heading towards bankruptcy. During the summer of 2008, for example, as rumours of problems at Lehman Brothers spread, CDS contracts on Lehman increased (Burns, 2008). Much more complex strategies existed where the purchase of a CDS contract could be combined with an effort to force a company into bankruptcy by, for example, shorting its shares. In this sort of market trading environment, innovation, pricing and timing was crucial (Engelen *et al.*, 2008). Under the existing system, all the actors in the market had the incentive to increase the number of CDS contracts in circulation and to trade them as frequently as possible since bonuses and profits could only be earned by the gains on deals being 'booked' and (preferably) a profit made.

Within the market itself, the main limit to this expansion was the issue of collateral. It is helpful to contrast the process of collateral management in CDS markets with what occurs in insurance markets (since in some ways CDS contracts are an 'insurance' against default; see Stout, 1999, 2009; Glass 2009 for further analysis of this comparison). Insurance companies work on the basis of matching assets to calculable

risks. Insurance supervisors specify the reserves that are required to cover the risks taken by the insurance company and to link this to the premiums to be paid for cover. Insurance companies are therefore relatively low on leverage and high on reserves. A CDS contract, however, was explicitly not defined as an insurance contract and therefore not subject to insurance regulation. A CDS was created as a contract on a financial market which was constructed on the basis of finance theory and the mechanisms of these markets (Huault and Ranelli-Le Montagner, 2009; Stout, 2009). The guarantee that a seller of a CDS contract could meet the obligations of this contract was not vested in any state regulator but in the mechanisms of the market and in particular in the system of collateral depositing. Rules on collateral depositing were the province of ISDA and embedded in the Master Agreement and the various guidelines issued by ISDA. In principle, the seller would deposit with the buyer collateral (usually cash and government securities) as a demonstration of its ability to meet the terms of the contract. ISDA set out rules concerning how the level of collateral should move up or down depending on changing market conditions (Morgan, 2008).

How the collateral system developed in practice over the decade before the financial crisis reveals a rather complex and changing picture. One particular group of companies who guaranteed bonds, the so-called 'monolines' (the biggest of which were Ambac and MBIA) posted no collateral at all on the contracts which they struck. Monolines had emerged initially as insurers of municipal bond issuers and were regulated by the New York Insurance Department. The rules of this regulator would have made the posting of collateral prohibitively expensive but rather than not enter the market, the monolines, in Glass's words 'for years fought pitched battles with the risk departments of the swap dealers and when the dust settled the rule was established that AAA-rated monolines did not post collateral on CDS' (Glass, 2009, p. S88). The AAA rating was given to the monolines by the rating agencies on the grounds that they had never defaulted and their financial underpinnings were sound. A similar rating was given to American International Group Financial Products (AIG FP), the London based arm of the large US insurance group which sold large numbers of CDS contracts. Therefore, AIG FP was also not asked to post collateral. Another group of companies selling CDS consisted of hedge funds.

They would have to post large collateral because they were entirely unregulated and high risk. Collateral between investment banks was even more complex because of the huge multiplicity of contracts between such banks and the degree of interdependence across the range of products.

ISDA, under pressure from BIS, became more active from the late 1990s in firstly tracking the amount of collateral being posted and secondly in encouraging members to post more. It began to conduct regular Margin and Collateral Surveys which were published on the ISDA website. These surveys indicate that there has been a gradual rise over the period in collateral agreements from an estimated 12000 in 2000 to around 150000 in 2009 (ISDA, 2009, p. 2). Up until 2007, the total estimated collateral in the whole OTC market according to ISDA was approximately \$1.3 trillion, though since then it has tripled, an indication of the more cautious attitude to collateral which has emerged after the crisis. This compares to a total notional commitment for CDS contracts alone of \$57 trillion and a total of \$516 trillion for the market as a whole according to BIS data (Bank for International Settlements, 2009b, p. 7). The ISDA Margin Survey in 2009 shows that in the period from 2004 to 2007, the total reported collateral went up from \$1.017 trillion in 2004, to \$1.209 trillion in 2005 to \$1.329 trillion in 2006 and to \$1.335 in 2007 (ISDA, 2009). At the same time the OTC global market had more than doubled from \$251.823 trillion in December 2004 to \$595.341 trillion in December 2007 (Bank for International Settlements, 2009b, p. 7).

CDS contracts included conditions under which the levels of collateral required could move sharply upward or downward. Most contracts linked the level of collateral to be posted with the credit rating of the CDS seller since this indicated to other actors in the market whether the seller had the capital to meet any obligations potentially arising from defaults in the assets which underlay the CDS. In structured finance of the CDS sort, it was essential that most of the assets were triple A rated by the main rating agencies (see Coval *et al.*, 2008; on rating agencies more generally, see Sinclair, 2005) since this made it possible for many institutional investors who were constrained in the risks which they could take to buy these products. If the rating was lowered, the seller would suddenly

become subject to a potentially heavy call for collateral (as eventually happened to AIG in September 2008, leaving a huge hole in AIG's balance sheet and requiring a massive injection of capital from the US government, AIG, 2009). This potential for collateral shift would be exacerbated because institutional investors would have to sell off the underlying assets if the rating changed causing a further fall in their value, requiring further posting of collateral by the CDS sellers to meet the gap between the guaranteed price and the market value. The collateral system for CDS products, therefore, was characterized by two crucial features. One was that as conditions in the financial markets moved from stable to unstable, collateral requirements would kick in that would require companies to post more collateral just at the time when they would find it increasingly difficult to do so, creating further uncertainty. The other was that the whole system of collateral in the OTC markets was opaque, a situation that suited most of the participants in the market and was feasible at the transaction level as the bilateral nature of the contract meant that ultimately the contracting parties could reach their own agreement on this. At the system level, however this was more problematic since whilst a contract would specify the collateral in a single trade, it was impossible to tell the total collateral which a particular seller had already committed, the sensitivity of the collateral to regradings or mark to market changes, or to reference entities that might be on the verge of default. There was no central agency processing information on the amounts owed between different parties. Nor was there any central location for posting collateral. It was here that regulators and analysts saw the development of systemic risk building up (Hellwig, 2008; FSA, 2009; Haldane, 2009).

In spite of these issues, by 2007, a massive market in CDS had developed. One reason for this was the expansion in potential reference entities, a process associated particularly with the expansion of asset backed securities. In particular the huge expansion of the mortgage market in the UK and the US was fuelled by the ability of financial institutions to repackage the original loans into Collateralized Debt Obligations (known as CDOs). As these were sold off, purchasers of CDOs bought CDS contracts on them to protect against potential default, whilst other more speculative investors bought CDS contracts on these reference entities without actually holding the CDOs.

The CDO and CDS markets therefore expanded together. In a massive game of pass the parcel, risks were being transferred, cut up and repackaged in new ways, and traded across many different entities. Often, the players in this market place lined up on both sides of the contracts. They were sellers and buyers. Many different parts of the bank would pick up on the action involved and would be set targets to achieve in terms of bond issuance, CDS sales, underwriting fees, market making fees, trading gains (Das, 2006; FSA, 2009; Tett, 2009). Individuals within these parts would also be incentivized to sell their products and make gains if they wanted to earn the massive bonuses which were available. Hedge funds, as more specialized actors in the market, would lubricate this process, searching out arbitrage opportunities amongst these products, identifying trading opportunities, and at the same time using the investment banks as primary brokers, borrowing through them for their short selling activities (Irturk and Leaver, 2008). In developing CDOs and CDSs in this way, actors were responding pragmatically to opportunities which were opening up for them. In the process, however, they were creating new interdependencies and systemic risks which were not fully revealed until the financial crisis emerged (Hellwig, 2008; FSA, 2009; Haldane, 2009).

Once the value of the sub-prime mortgage based assets in CDOs began to decline, this triggered a range of changes in the CDS contracts built on and around them. In particular, collateral demands which had been relatively low suddenly rose massively as underlying CDOs began to look more vulnerable to default. Sellers of CDS contracts found themselves unexpectedly having to put up large sums of collateral which they did not have available. It looked as though CDS sellers were going to have to meet huge calls for recompense from the buyers of these products as defaults grew in the underlying asset base. The scale of these calls was impossible to predict. The value of the contracts went way beyond the value of the underlying assets even at their peak because of speculative trading. Furthermore, as CDOs had become more complex, synthetic and hybrid, their actual value became difficult to predict. This in turn made calculations about how much the seller of the CDS contract had to put in to collateral and reserve from their capital base increasingly difficult. The result was a seizing up of the credit markets in which the

financial institutions which had the highest dependency on short term lending such as Northern Rock, Bear Stearns, Lehman Brothers became the most vulnerable (Tett, 2009).

Reforming and rebuilding the market

In this section of the paper, I examine how private actors and public actors responded to the crisis. I consider this in three parts. The first part examines the immediate response of the political actors in September and October 2008. The second part considers the actions of the private actors in the market over the period from September 2008 to September 2009. The third part examines responses of politicians and regulators in the period from the end of October 2008 to September 2009.

In September and October 2009, the global financial system came close to collapse. When Lehman Brothers declared bankruptcy for lack of funds to cover its debts, the possibility arose that the same thing could happen to many other large financial institutions. The interdependencies in the system would rapidly cause systemic contagion and collapse. In order to avoid this, national governments in cooperation with their central banks began to devise ways to place a floor under the level of losses for financial institutions. After some initial uncertainty, the model for rescue became the provision of taxpayers' money in order to strengthen the financial base of the institutions and therefore provide reassurance that any potential liabilities could be met. In the US, the Troubled Asset Relief Program (TARP) was put in place in early October 2009 and earmarked \$700 billion to be provided to banks to improve their capital. In the UK, the government committed £500bn to the financial system. In France, a fund was set up to refinance credit institutions with the power to lend up to 320 billion Euros (Banque de France, 2008).

Three features of this process are relevant to the current discussion. Firstly, whilst the institutional mechanisms differed across countries, the amounts involved were huge and it soon became clear that the massive expenditure required particularly in the UK and the US would be likely to lead to major changes in the pattern of government spending and taxation that would shape the political agenda for many years to come. Secondly, these initial emergency measures were predominantly national. They involved the commitment

of governments to use taxpayers' funds to save nationally based financial institutions. Thirdly, in return for this funding, governments now exercised a direct and indirect power over some key financial institutions and the financial markets more generally. This was partly through the positions which they now held in some banks as majority owners. It also reflected public expectations that the amounts involved and the impact of the crisis on employment and credit meant that the hands-off style of regulation that had previously prevailed should be reversed. Moving from these emergency measures to a response which tackled the underlying problems, however, took longer.

At the same time, however, private actors also rapidly involved themselves in seeking to re-establish the market once it became clear that key governments had pumped sufficient capital into the system to keep the central financial institutions afloat. This can be seen very clearly in the case of the collapse of Lehman Brothers. The ISDA Master Agreement ensured that CDS contracts could be dealt with in advance of any other calculations regarding creditors and debtors in a liquidation procedure (Bliss and Kaufman, 2005; Glass, 2009). The provisions of the Master Agreement have been carefully constructed so that they are enforceable in the legal systems of most countries, a process which ISDA itself has promoted by taking legal opinions and lobbying governments for changes in legislation where necessary (Morgan, 2008). CDS contract holders do not have to wait through the potentially prolonged bankruptcy procedure in order to have their accounts settled. They expect to deal with the consequences of a 'credit event' very rapidly. This is demonstrated in the Lehman case where bankruptcy was declared on Sunday, 14 September, 2008 and by 21 October of the same year, all CDS contracts referencing Lehman (in notional total \$400bn) had been settled, following a procedure organized by ISDA.

This was done through two mechanisms – netting and auctioning. Netting describes the mechanisms whereby counterparties net out their obligations to each other over the range of contracts which they have. This is a complex procedure but one which has emerged over recent years in these markets as an intermediary function with a number of third party firms such as DTCC (the Depository Trust and Clearing Corporation) and

TriOptima providing these services. Netting refers to the process whereby two parties aggregate all the OTC contracts with each other that they hold – whether they are on the buy side or the sell side. In this way they identify which party is the net debtor and for how much and they cancel out all the other contracts leaving just this net figure as a set of contracts still in force. The result of this netting in the period from the Lehman bankruptcy to the ISDA sponsored auction was to reduce the total amount of active CDS contracts in the Lehman case substantially (as well as reducing the notional amounts more broadly across the industry by over \$25 trillion: see ISDA, 2008a).

ISDA then arranged an auction in order to determine how much sellers of protection on Lehman referenced contracts owed buyers of protection. The Lehman's Chapter 11 Petition filing (a preliminary statement of assets and liabilities required under US bankruptcy law¹) showed that Lehman had more than \$130 bn outstanding in bonds. CDS contracts on this debt had increased substantially in number through the summer as fears for Lehman's creditworthiness grew. It was crucial that the sellers of CDS contracts on Lehman know the extent of their liability to the buyers who were now in theory eligible to receive the full total of the notional value of the bonds on which they had purchased CDS contracts. The auction of \$130 billion Lehman bonds on 21 October gave a value for every \$1 of bond of 8.5 cents, meaning that the sellers of CDS contracts on those bonds owed buyers 91.5 cents in the dollar. However, the value of Lehman's bonds had already been falling over the summer and credit default swap margins rising (Burns, 2008). At the start of September 2008, the value of Lehman bonds was already down to 80 cents in the dollar and in the immediate period of the bankruptcy they were trading as low as 32 cents though hopes were expressed that the final value might be 60 cents on the dollar (Kuo, 2008). At the final mark to market before the auction, they were at only 13 cents in the dollar (New York Times Deal Book, 2009). These falls, therefore, had already precipitated massive moves of collateral from the sellers to the buyers of protection. Therefore the final fall to 8.5 cents was relatively small. ISDA announced that the auction had resulted in a transfer of only \$6bn in an attempt to allay public fears about the CDS markets (ISDA, 2008b) but this did not take account of the previous shifts in collateral.

Nevertheless, ISDA was quick to claim success for this settlement process. Robert Pickel, CEO of ISDA, declared that ‘the CDS market continues to operate efficiently and the ISDA framework on which the CDS market arranges settlement of trades is providing legal and operational certainty for the industry in a time of economic uncertainty’ (ISDA, 2008b). ISDA’s auction had wound down over \$400bn of CDS contracts in notional value in just over a month. Over the period since the Lehman auction through to the end of September 2009 there have been 14 other credit events in which ISDA has coordinated the rundown of CDS contracts by similar means. ISDA has also organized the netting down of many existing CDS contracts in order to reduce the notional sums at risk (see for example the details provided in the ISDA response to the Turner Review: ISDA, 2009a)

ISDA has also adapted its Master Agreement announcing in April 2009 its Big Bang protocol designed to make it easier for investors to know what will happen to credit derivative contracts when a credit event occurs. This Big Bang protocol has a number of elements to it. One element is described as ‘hardwiring’ the auction process into the ISDA Master Agreement process. In other words this builds in to the Master Agreement used by all ISDA members the compulsory requirement that parties to certain types of CDS contracts should engage in the auction process if a credit event occurs on the basis of a specified timetable, aimed at ensuring that from credit event to final settlement extends to no more than 120 days.

Clearly these private initiatives could not have taken place if states had not been willing to back some of the regulated financial institutions with the capital necessary to meet the collateral demands and absorb the losses on asset values. Nevertheless, private actors have congratulated themselves on the speed and success with which this was achieved. For example, Jones, writing in a report for the City of London on OTC derivatives states that the Lehman default was handled so well and so seamlessly by the CDS support mechanisms that it is slightly puzzling to see why they should now be so many questions about the future of this product’ (Jones 2009, p. 8; for similar arguments see the speeches of the ISDA Chief Executive, Robert Pickel, e.g. Pickel 2008).

Far from collapsing in line with the collapse of subprime based CDOs, CDS business is in fact surviving well with notional values outstanding at the end of 2008 of \$41.868bn (compared to \$57.894 trillion the previous year). This is primarily because the business is shifting from mortgage backed CDOs (where global CDO issuance has crashed from around \$481 trillion during 2007 to around \$61 trillion in 2008 and to only around \$2.5 trillion in the first two quarters of 2009 according to the Securities Industry and Financial Markets Association (SIFMA, 2009) to new areas such as sovereign and municipal debt and corporate loans and bond issuance which are expanding precisely because of the nature of the crisis. This in turn has encouraged market participants to tentatively re-enter the public debate by restating the argument that OTC CDS contracts specifically perform a positive function in financial markets (see Pickel, 2008; Jones, 2009; Smith, 2009) by protecting against credit risk and distributing risk in the system. From the viewpoint of market actors, the question is how to reform the current system so that these advantages can be retained and the mechanisms and processes which enabled them to grow and develop can be re-established.

How have governments and regulators responded to these efforts by private actors? From early on, a consensus emerged across the most important governments and regulators (the US, the UK and the EU, working through the G20) that the key mechanism to attack the problems arising from OTC derivatives and CDS contracts in particular was the forcing of more of this business onto regulated exchanges and central clearing houses (see Helleiner and Pagliari, forthcoming for a detailed account). The Turner Review published in the UK in March 2009 by the Financial Services Authority under the name of its Chairman, Adair Turner, argued that the OTC markets had become highly complex and that what was needed was a mechanism whereby trades between parties could be 'netted' out so that the real exposure (and therefore the real risks being held) would be visible, something which a central counterparty clearing system would facilitate (FSA, 2009). The Obama administration through the Treasury Secretary, Geithner, has been seeking legislation to require clearing of all standardized derivatives through regulated central counterparties (CCPs) as well as requiring what are described as robust margin requirements. Under the proposed system there would be more recordkeeping and

reporting requirements including an audit trail on all OTC derivatives as well as pressure to move as many contracts as possible not just into CCPs but if possible into regulated exchanges. The EU also supports the idea of CCPs (European Commission, 2009; Larosière, 2009). This agreement has been the basis of intensive international cooperation on the issue theme through the G20 which declared that ‘we will promote the standardization and resilience of credit derivatives markets, in particular through the establishment of central clearing counterparties subject to effective regulation and supervision’. (G20, 2009).

Through the course of 2009 (up to the time of writing in September 2009), market participants have been broadly willing to go along with the discussion of CCPs and more use of regulated exchanges. They are discussing greater standardisation of contracts which is a necessary requirement for the creation of central counterparties as well as for exchange trading of these products. However, there is a strong preference amongst OTC dealers for CCPs rather than regulated exchanges. Standardised CDS contracts can still be negotiated on a bilateral basis and therefore prices remain opaque in a way which is not the case at exchanges. The CCP proposal does nevertheless also offer advantages to regulators. Under the CCP proposal, contracts will be registered with the central counterparty (CCP). This provides a record of the trade and considerably simplifies from any regulators’ point of view the task of calculating the total liabilities of any one market participant since this can be done simply by contacting the CCP. The CCP will intermediate between the buyer and the seller in the sense that there will in effect be two contracts; one between the buyer and the CCP and the other between the seller and the CCP. As a result, the collapse of either side will impact on the CCP but not on the initial counterparty. Collateral movements will be also standardised and managed by the CCP. This should reduce the potential contagion effects arising from a failure – so long as the CCP has the capital backing sufficient to meet such crises (Glass, 2009, p. S89).

However, this discussion conceals some key issues that remain to be settled. Firstly, how much of the OTC market can be standardised in this way? The FT for example commented that ‘one reason why the industry has been so slow to adopt infrastructure

changes until now is that ISDA has traditionally tended to be dominated by bankers who work on the trading side of the business. Dealers had every incentive to keep the market opaque and bespoke, which boosted margins – and profits’ (Bullock *et al.*, 2009). The argument that not all OTC contracts can be standardised has therefore found a voice amongst certain groups in the market. Terry Smith, chief executive of Tullett Prebon, one of the brokers in the market, wrote in the FT that OTC market products are ‘of necessity bespoke instruments and contracts, traded in large amounts between professional participants: and as such, they are the antithesis of an exchange-traded product. If OTC business is driven to these unsuitable venues, markets will become less efficient, which is an outcome we should seek to avoid’ (Smith, 2009). . In his analysis, Glass also argues that ‘the intrinsic complexity of some OTC credit derivatives is likely to prevent electronic confirmation and CCP clearing from taking hold for those products’ (Glass, 2009, p. S95; see also Jones, 2009).

There is then likely to be an issue over how ‘standardisation’ is defined and which products can remain off the CCPs. This problem is exacerbated by the fact that whilst there is agreement from governments and regulators on central counterparties, there are also different national interests over how this should work in practice. Each of the main countries involved (the UK, the US, Germany and France and the EU) are supporting the provision of a CCP provider in their own jurisdiction (see Jones, 2009) for reasons to do with both maintaining control over this problematic area but also not losing out on the business opportunities associated with such CCPs. Thus the US administration is supporting US financial institutions in their argument for the main central clearing party to be US based. In the UK, however, which by the time of the crash was the largest derivatives centre in the world (Jones, 2009, p. 6), this is being resisted and efforts to build up the UK as the main EU site for CCPs are occurring. However, the EU Commission supported particularly by France and Germany is pushing for the central clearing to occur within the Eurozone which would marginalize the UK. The existence of multiple CCPs in different regulatory contexts opens up the possibility that each will define in its own way what is meant by standardised CDS contracts and conversely what is non-standardised. They may also define for themselves what level of collateral is

required for each sort of contract and whether naked CDS trading should be allowed. Whilst it is possible that there will be sufficient inter-governmental cooperation to close down regulatory arbitrage, CDS markets may shift if they find any regulatory advantage in doing so. These differences provide a rich environment in which private actors can move around new national and international regulation in order to maximize their interests.

An added complication is that some of the potential CCPs which exist have been set up by industry insiders, usually combinations of existing exchanges and large financial institutions. One large US firm aiming to be a CCP is the Depository Trust & Clearing Corporation (DTCC), the board of which consists of non-executives drawn from the major US banks such as JPMorgan Chase, Citibank, Bank of New York, Goldman Sachs as well as a representative from NYSE². In Europe, one of the largest potential CCPs is LCH.Clearnet which is owned 73.3% by users, 10.9% by exchanges and 15.8% by Euroclear³. In April 2009, DTCC tried to buy LCH Clearnet house but this was quickly countered by an alternative bid backed by a consortium of 11 banks and ICAP, an interdealer broker. The ICAP consortium's bid is based on the belief that market participants should have some control over the registry. Even where CCPs are not directly owned by existing exchanges, they are clearly in a competitive environment where their ability to serve their customers, i.e. the market participants, is a top priority. What remains unclear is how regulators will have an influence over the CCPs. In particular, will the regulators be able to establish international agreement on collaterals and margin calls, processes which are crucial to reducing the build up of speculative trading when they are competing on CCPs and the possibility of regulatory arbitrage?

Discussion and Conclusions

The theme of this paper has been that in the analysis of the creation and recreation of markets, one has to distinguish between two levels of activity which have their own specific logics but which interact in a variety of ways. In order for markets to work they require both political and pragmatic legitimacy. In September and October 2008, both the political and the pragmatic legitimacy of the financial markets seemed to collapse.

At the political level, the break in legitimacy was fully apparent. It was seen as the end of an era, The *Financial Times* ran a debate entitled the future of capitalism as if everything was up for grabs again after appearing so strong and secure for so many years⁴.

Governments and politicians in national and international contexts such as the G20, the IMF, the World Bank, UNCTAD and the EU engaged in in-depth analyses and discussions of how to produce a regulatory framework which would avoid future crashes. Coordinated action on an international scale of a sort never seen before emerged from these processes and is beginning to take form at the time of writing (September 2009). There was strong support amongst the public for action to both ‘punish’ the bankers and to ensure that in the future, nothing similar could happen again.

However, alongside these processes, this paper has emphasized that market participants had been pursuing a normalisation process, putting the CDS market back together after the disaster of September 2008. Key actors such as ISDA had stepped in to put in place mechanisms which netted out many existing contracts (thus reducing risks and opacity) and importantly enabled the settlement of CDS contracts in cases of defaulting counterparties. ISDA and market participants publicised their role in normalisation through their testimonies to political committees, their press releases to the financial press and their production of reports and working papers. In doing so, they developed their own analysis of what had gone wrong, making the argument that this was not a problem of CDS but of wider systemic failures in bank regulation. They defended the idea of naked CDS contracts even though many commentators (e.g. Stout, 2009) saw this as central to the growth of speculation in the financial markets. They were also careful to support the idea of central clearing houses but not for all the products which had been traded through OTC activities. Similarly they supported increased margin and collateral requirements but left vague what this meant in practice. Insiders were keen to constrain the debate, shift it away from the idea of a general failure of financialised capitalism to a debate about the mechanics of how to run it. They sought to narrow down issues from broad questions of the legitimacy of financial markets as a whole to narrower questions, how to keep the markets going in a way which enabled them to function effectively

according to notions derived from financial economics. In September 2009, the final outcome of these debates remains unclear.

It is, however, hard to avoid the conclusion that compared to the huge initial loss of legitimacy that occurred when the financial crisis hit in 2008, there has been a surprising resilience in terms of the response of the private actors. Even in the face of unprecedented levels of coordination and cooperation amongst national governments and in international institutions, the private actors continue to develop the markets and engage in shaping regulatory changes. It may be that this resilience is in part explained by the specificities of the financial markets, e.g. the huge wealth and power associated with the private actors in this market, the high levels of expertise required to understand these developments which tend to reside in the private actors, the deep and lasting networks amongst the private actors embedded in the case discussed here in the central role taken by ISDA and the complexity of negotiating international responses where national differences (in regulatory processes and styles, in the centrality of the financial markets to the overall economy and in the legitimacy of finance in the broader social and political context) continue to exist.

By contrast, states, faced with an emergency situation, had little choice but to provide vast amounts of taxpayers' money in September and October 2008 even though they had at this stage limited ideas of how they eventually wanted to change things. Over the last year, they have made fundamental efforts to coordinate their responses and establish the framework for key institutions and regulatory reform. Nevertheless, precisely because they did rescue the financial sector, they gave the private actors the space into which to re-establish themselves. As a result, states in national and international arenas find themselves faced not by a defeated and demoralised group, crushed by public odium and guilt at the crisis they generated, but rather a group which is rebuilding its confidence, developing its own institutions for repair and also importantly expanding its business opportunities into new areas.

This reflects a general issue about the creation and recreation of markets which concerns the relationship between the logic of politicians and regulators and the logic of market

participants. Market participants have an interest in rapid repair when markets fail. What capacities do they have to achieve this repair? It is interesting to note that even though the financial markets under study are highly competitive, nevertheless, the capacity to develop collective forms of solution was nevertheless high. This related partly to the strong role played over a long period by ISDA in terms of providing a cooperative framework in which competition could exist. It also related to the sheer power and wealth of participants in the market even if the crisis was undermining both factors as well as to the expertise of those involved and the continuing commitment to financial markets as a potential (if not actual) public good. Political and regulatory responses, after initial emergency measures have been taken, tend to be slower, particularly in the context of transnational markets where polyarchic tendencies are apparent and negotiation and compromise necessary. The tension between these two logics is clearly apparent in the aftermath of the financial crisis. It is necessary to combine both the logic of the market participants and the logic of the political actors in order to get a full sense of the complexity of the situation, how legitimacy is evolving and with what effect. Whilst the future remains open, an analysis of the past along these lines can provide crucial insights for researchers and policymakers into the forces grappling to shape that future.

References

AIG (2009) 'AIG discloses counterparties to CDS, GIA and securities lending transactions', press release accessed at www.aigcorporate.com/index.html on 15 March, 2009.

Bank for International Settlements (1998) *OTC derivatives: Settlement Procedures and Counterparty Risk Management*, Basel, Bank for International Settlements.

Bank for International Settlements (2007) *New developments in clearing and settlement arrangements for OTC derivatives*, Basel, Bank for International Settlements.

Bank for International Settlements (2009a) *BIS Quarterly Review June 2009*, Basel, Bank for International Settlements.

Bank for International Settlements (2009b) *OTC Derivatives market activity in the second half of 2008*, Basel, Bank for International Settlements.

Banque de France (2008) 'The macroeconomic impact of banking crises', *Focus* 2, 5, December 2008, accessed at http://www.banque-france.fr/gb/publications/telechar/focus/focus_2.pdf on October 9, 2009.

Basel Committee on Banking Supervision: The Joint Forum (2005) *Credit Risk Transfer March 2005*, Basel, Bank for International Settlements.

Basel Committee on Banking Supervision: The Joint Forum (2008) *Credit Risk Transfer: Developments from 2005 to 2007: Consultative Document April 2008*, Basel, Bank for International Settlements.

Black, J. (2008) 'Constructing and contesting legitimacy and accountability in polycentric regulatory regimes', *Regulation & Governance*, **2**, 137-164.

Bliss, R. and Kaufman, G. (2005) *Derivatives and Systemic Risk: Netting, Collateral and Closeout*, Federal Reserve Bank of Chicago Working Paper Series, Chicago, Federal Reserve Bank of Chicago.

Blyth, M. (2002) *Great transformations: economic ideas and institutional change in the twentieth century*, Cambridge, MA, Cambridge University Press.

Born, B. (2001) 'International Regulatory Responses to Derivatives Crises: The Role of the U.S. Commodity Futures Trading Commission', *Northwestern Journal of International Law & Business*, **21**(3), 607-640.

- Bullock, N., Mackenzie, M., Tett, G. (2009, April 7) ,Big Bang arrives for credit default swaps industry', *Financial Times*, London.
- Burns, D. (2008) 'Wall Street bets on Lehman Rebound', *Reuters Blog 5 June 2008*, accessed at <http://blogs.reuter.com/global> accessed on August 23, 2009./
- Callon, M. (ed) (1998) *The laws of the markets*, Oxford, Blackwell Publishing.
- Callon, M., Millo, Y. and Muniesa, F. (eds) (2007) *Market devices*, Oxford, Blackwell Publishing.
- Campbell, J. L. (2004) *Institutional change and globalization*, Princeton, NJ, Princeton University Press.
- Coval, J. D., Jurek, J. and Stafford, E. (2008) *The Economics of Structured Finance*, Harvard Business School Working Papers, Harvard, HBS.
- Das, S. (2006) *Traders, guns & money : knowns and unknowns in the dazzling world of derivatives*, Harlow, Financial Times Prentice Hall.
- Davis, G. F. (2009) *Managed by the markets: how finance reshaped America*, Oxford, Oxford University Press.
- Deephouse, D. L. and Suchman, M. (2008) 'Legitimacy in Organizational Institutionalism'. In Greenwood, R., Oliver, C., Sahlin, K. and Suddaby, R. (eds) *The SAGE Handbook of Organizational Institutionalism*, London, Sage, pp. 49-78.

Djelic, M.-L. (2006) 'Marketization: From intellectual agenda to global policy-making'. In Djelic, M.-L. and Sahlin-Andersson, K. (eds) *Transnational Governance: Institutional Dynamics of Regulation*, Cambridge, Cambridge University Press, pp. 53-73.

Engelen, E., Erturk, I., Froud, J., Leaver, A. and Williams, K. (2008) *Financial Innovation: Frame, Conjuncture and Bricolage*, CRESC Working Paper 59, Manchester, University of Manchester.

Erturk, I. and Leaver, A. (2008) 'Hedge funds as nomadic war machines', paper presented at 'New Spritis of Capitalism workshop', University of Warwick, Warwick, December 2008.

Erturk, I., Froud, J., Johal, S., Leaver, A. and Williams, K. (2008) *Financialization at Work: key texts and commentary*, London, Routledge.

European Commission (2009) 'Commission adopts legislative proposals to strengthen financial supervision in Europe', accessed at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1347&format=HTML&aged=0&language=EN&guiLanguage=en> on September 24, 2009.

Flanagan, S. M. (2001) 'The rise of a trade association: Group interactions with the International Swaps and Derivatives Association', *Harvard Negotiation Law Review*, **6**, 211-264.

Fligstein, N. (2001) *The architecture of markets: an economic sociology of twenty-first-century capitalist societies*, Princeton, NJ, Princeton University Press.

Fourcade, M. (2009) *Economists and Societies: Discipline and Profession in the United States, Britain & France, 1890s to 1990s*, Princeton, NJ, Princeton University Press.

Froud, J., Johal, S., Leaver, A. and Williams, K. (2006) *Financialization and Strategy: Narrative and Numbers*, London, Routledge.

FSA (2009) *The Turner Review: A regulatory response to the global banking crisis*, Financial Services Authority, London.

G20 (2009) 'London Summit Communique April 2, 2009', accessed at <http://www.londonsummit.gov.uk/resources/en/news/15766232/communique-020409> on July 6, 2009.

Glass, A. W. (2009) 'The regulatory drive towards central counterparty clearing of OTC derivatives and the necessary limits on this', *Capital Markets Law Journal*, **4**(S1), S79-S98.

Goodman, P.S. (2008, October 9) 'The Reckoning: Taking a Hard New Look at a Greenspan Legacy', *New York Times*, New York, NY.

Haldane, A.G. (2009) 'Rethinking the Financial Network', Speech delivered at the Financial Student Association, April 2009, accessed at <http://www.bankofengland.co.uk/publications/speeches/2009/speech386.pdf> on May 5, 2009.

Helleiner, E. and Pagliari, S. (forthcoming) 'The End of self-regulation? Hedge Funds and Derivatives in Global Financial Governance'. In Helleiner, E., Pagliari, S. and

- Zimmerman, H. (eds) *Global Finance in Crisis: The Politics of International Regulatory Change*, London, Routledge.
- Hellwig, M. (2008) *Systemic Risk in the Financial Sector: An Analysis of the Subprime-Mortgage Financial Crisis*, Max Planck Institute for Research on Collective Goods Working Paper 2008/43, Bonn, accessed at <http://ssrn.com/abstract=1309442>.
- Huault, I. and Rainelli -Le Montagner, H. (2009) 'Market Shaping as an Answer to Ambiguities: The case of credit derivatives', *Organization Studies*, **30**(5), pp. 549-575.
- ISDA (2008a) 'ISDA applauds \$25 trillion reductions in CDS notionals', *press release dated 31 October 2008*, accessed at www.isda.org.
- ISDA (2008b) 'ISDA CEO notes success of Lehman settlement, addresses CDS misperceptions', *press release*, accessed at www.isda.org on October 21, 2008.
- ISDA (2009) *ISDA Margin Survey 2009*, London, ISDA.
- ISDA (2009a) 'ISDA Response to the Turner Review', *Comment paper published on 18 June 2009*, accessed at www.isda.org on September 16, 2009.
- Ishikawa, T. (2009) *How I Caused the Credit Crunch*, London, ICON Books.
- Jones, L. (2009) *Current issues affecting the OTC Derivatives Market and its importance to London*, London, City of London.
- Kindleberger, C. P. and Aliber, R. Z. (2005) *Manias, panics, and crashes: a history of financial crises (5th ed.)*, Basingstoke, Palgrave Macmillan.

- Krippner, G., Granovetter, M., Block, F., Biggart, N., Beamish, T., Hsing, Y., Hart, G., Arrighi, G., Mendell, M., Hall, J., Burawoy, M., Vogel, S., and O'Riain, S. (2004) 'Polanyi Symposium: a conversation on embeddedness', *Socio-Economic Review*, **2**, 109-135.
- Kuo, P. (2008) 'Lehman Bonds May Get 60 cents on the Dollar, CreditSights says', accessed at <http://www.bloomberg.com/apps/news?pid=20601087&sid=a361DdcZd604&refer=home> on August 22, 2009.
- Langley, P. (2008) *The everyday life of global finance: saving and borrowing in Anglo-America*, Oxford, Oxford University Press.
- Larosiere, J. (2009) *Report of the High Level Group on Financial Supervision in the EU*, Brussels, EU Commission.
- Leeson, N. W. and Whitley, E. (1996) *Rogue trader*, London, Little, Brown.
- Levy, J. D. (ed) (2006) *The state after statism: new state activities in the age of liberalization*, Cambridge, MA, Harvard University Press.
- MacKenzie, D. (2003) 'Long Term Capital Management and the sociology of arbitrage', *Economy and Society*, **32**, 349-380.
- MacKenzie, D. and Millo, Y. (2003) 'Constructing a Market, Performing Theory: The Historical Sociology of a Financial Derivatives Exchange'. *American Journal of Sociology*, **109**, 107-145.
- MacKenzie, D. (2006) *An engine, not a camera: how financial models shape markets*, Cambridge, MA, MIT Press.

- MacKenzie, D. (2009) *Material markets: how economic agents are constructed*, Oxford, Oxford University Press.
- MacKenzie, D., Muniesa, F. and Siu, L. (eds) (2007) *Do economists make markets? On the performativity of economics*, Princeton, NJ, Princeton University Press.
- Mahoney, J. and Rueschemeyer, D. (eds) (2003) *Comparative historical analysis in the social sciences*, Cambridge, Cambridge University Press.
- McDonald, L. (2009) *A Colossal Failure of Common Sense: The Incredible Inside Story of the Collapse of Lehman Brothers*, London, Ebury Press.
- McLean, B. and Elkind, P. (2003) *The smartest guys in the room: the amazing rise and scandalous fall of Enron*, New York, Portfolio.
- Minsky, H. P. (2008) *Stabilizing an unstable economy*, New York, McGraw-Hill.
- Morgan, G. (2008) 'Market formation and governance in international financial markets: the case of OTC derivatives', *Human Relations*, **61**(5), 637-660.
- New York Times Dealbook (2008) 'Lehman Auction Payout: 91.375 Cents on Dollar', accessed at <http://dealbook.blogs.nytimes.com/2008/10/10/early-results-published-in-lehman-swaps-auction/> on August 10, 2009.
- Panitch, L. and Konings, M. (2009) 'Myths of Deregulation', *New Left Review*, **57**, 67-83.
- Phillips, M. (2008, September) 'The Monster that ate Wall Street: How credit default 'swaps' - an insurance against bad loans - turned from a smart bet into a killer', *Newsweek* 27, New York, NY.

- Pierson, P. (2004) *Politics in time: history, institutions, and social analysis*, Princeton, NJ, Princeton University Press.
- Pickel, R. (2008) 'Testimony before the Senate Committee on Agriculture, Nutrition and Forestry', 14/10/08, accessed at <http://www.isda.org/press/pdf/Testimony-of-Robert-Pickel.pdf> on June 5, 2009..
- Prasad, M. (2006) *The Politics of Free Markets: the rise of neoliberal economic policies in Britain, France, Germany and the United States*, Chicago, University of Chicago Press.
- President's Working Group on Financial Markets (1999) *Report on Over-the-Counter Derivatives Markets and the Commodity Exchange Act*, Washington, DC.
- Quack, S. (forthcoming) 'Global Markets in Theory and History: Towards a Comparative Analysis', *Kölner Zeitschrift für Soziologie und Sozialpsychologie*.
- SIFMA (2009) 'Global CDO Data', accessed at www.sifma.org/uploadedFiles/Research/Statistics/SIFMA_GlobalCDOData.pdf on August 8, 2009.
- Scott, W. R. (2008) *Institutions and organizations: ideas and interests (3rd ed.)*, Los Angeles/London, Sage Publications.
- Simmons, B. A., Dobbin, F. and Garrett, G. (eds) (2008) *The Global Diffusion of Markets and Democracy*, Cambridge, Cambridge University Press.
- Sinclair, T. J. (2005) *The New Masters of Capital*, Princeton, Princeton University Press.

Smith, T. (2009, July 5) 'The facts belie the diagnosis on credit derivatives', *Financial Times*, London.

Streeck, W., and Thelen, K. A. (eds) (2005) *Beyond continuity: institutional change in advanced political economies*, Oxford, Oxford University Press.

Suchman, M. C. (1995) 'Managing legitimacy: Strategic and Institutional Approaches', *Academy of Management Review*, **20**, 571-610.

Tett, G. (2009, March 10) 'Lost Through Destructive Creation', *Financial Times*, London, p. 9.

Tett, G. (2009) *Fool's Gold*, London, Little, Brown.

Vogel, S. K. (1996) *Freer markets, more rules: regulatory reform in advanced industrial countries*, Ithaca, NY/ London, Cornell University Press.

Zabel, R. (2008) 'Credit default swaps: From protection to speculation', accessed at <http://www.rkmc.com/Credit-Default-Swaps-From-Protection-To-Speculation.htm> on August 9, 2009.

¹ Available at Wall Street Journal online; accessed at <http://online.wsj.com/public/resources/documents/lehmanfiling916208.pdf> on 28, September 2009.

² See <http://www.dtcc.com/about/governance/board.php>, accessed on 28 September, 2009.

³ See http://www.lchclearnet.com/about_us/, accessed on 28 September, 2009.

⁴ See the *Financial Times* website <http://www.ft.com/indepth/capitalism-future>, accessed on September 28, 2009.