

Part I  
Clearing up the Crisis

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## Unlikely Heroes

Crises create unlikely heroes. The bankruptcy of Lehman Brothers on 15 September 2008 was no exception.

When Lehman sought protection from its creditors in the US that day, a small number of specialist financial institutions sprang into action to keep the world's securities and derivatives exchanges at work.

First in Europe, and later around the globe, central counterparty clearing houses (known as CCPs) stepped in to rescue trillions of dollars worth of trades caught up in the Lehman collapse. Without their action, the global financial meltdown threatened by the failure of the 158 year old investment bank would have been an instant reality.

These little known organisations fulfilled their emergency role of successfully completing trades for which they had assumed responsibility. Therefore they ensured that the world's securities and derivatives exchanges could continue to function and handle trading volumes that leapt into the stratosphere as prices for shares, bonds and other exchange-traded instruments gyrated wildly in the crisis.

The collapse of Lehman Brothers changed the world in many ways. The petition for Chapter 11 protection, filed by Lehman Brothers Holdings Inc. with the US Bankruptcy Court for the Southern District of New York, turned a steadily escalating international financial crisis into a global economic cataclysm. The investment bank's failure put paid to any prospect of orderly management of the financial turmoil that started during the summer of 2007 as a result of growing losses in the subprime sector of the US housing market. The bankruptcy shattered confidence in market-based finance. The lending between banks that lubricated transactions in the global economy jammed as trust drained away. Money became scarce. Its cost soared.

The decision of the US authorities to let Lehman fall shattered a widespread belief that large institutions of importance to the global financial system were simply too big to fail. That the same authorities decided within 24 hours to prop up the crippled AIG insurance group only added to the convulsions. No-one was left with a clear idea of what would or would not be saved. The issue of 'counterparty risk' – whether it was safe or not to do business with another financial institution, no matter how great or low its standing might be – assumed an overwhelming importance.

In the following weeks, governments in the US, Britain and continental Europe were forced to prop up banking and financial systems with rescue packages costing billions of dollars, pounds and euros. Interest rates tumbled. Budget deficits soared. Many leading banks survived solely because taxpayers' funds were committed to their recapitalisation. In a few frantic weeks mighty financial structures created over the previous three decades either crumbled away or sought to survive as subsidiaries of stronger rivals or wards of the state. The market-based financial systems that had spread from the US around the world since the early 1980s now hosted banks that were either partly or wholly state-owned.

Lehman's bankruptcy placed in jeopardy trillions of dollars worth of transactions conducted by and through the investment bank and its many subsidiaries. Assets were caught in limbo, spreading financial hardship, and in some cases collapse, to companies at the other end of these trades. As became clear when bankruptcy administrators on both sides of the Atlantic tried to make sense of the wreckage, assets worth many billions of dollars would be out of reach for creditors for months if not years.

But the story was very different for those trades transacted on derivatives and stock exchanges and even for a minority of the huge volume of specialised transactions negotiated among financial institutions bilaterally on the 'over-the-counter' (OTC) markets between buyers and sellers. These trades escaped the Lehman catastrophe for the simple reason that they were cleared by central counterparty clearing houses. The CCPs covered for losses after Lehman's default, having stepped in as the buyer to every seller and the seller to every buyer in the markets that they cleared.

Within a week of the Lehman bankruptcy, most outstanding open positions relating to these trades had been neutralised or 'hedged' so that they no longer threatened further losses to creditors or to add more chaos to the world financial system.

Within two weeks, most of Lehman's customer accounts were transferred to other investment companies.

By late October 2008, CCPs in most leading financial markets had reported success in managing the biggest default in financial history without cost to their member companies.

The performance of these unglamorous institutions permitted some rare outbursts of satisfaction in a business where sober understatement is the norm.

In New York, Don Donahue, the Chairman and Chief Executive of the Depository Trust and Clearing Corporation of the US, reported that DTCC was 'able to ensure reliability and mitigate risk across the industry' despite 'unprecedented volatility and shaken confidence' in the financial services sector.<sup>1</sup>

Terrence A. Duffy, Executive Chairman of the Chicago-based CME Group of derivatives exchanges, declared that 'no futures customer lost a penny or suffered any interruption to its ability to trade' when Lehman Brothers filed for bankruptcy. 'The massive proprietary positions of Lehman were liquidated or sold, with no loss to the clearing house and no disruption of the market. This tells us that our system works in times of immense stress to the financial system,' Duffy told a Senate committee.<sup>2</sup>

In London, where LCH.Clearnet Ltd, the UK operating subsidiary of the multinational LCH.Clearnet Group, declared Lehman in default shortly after the start of trading on 15 September 2008, Group Chairman Chris Tupker recalled how: 'At the moment Lehman sought Chapter 11 protection, every exchange in London was clearing through us. No other CCP had the variety and size of positions on its books that we did. I shudder to think what might have happened to the marketplace if we had failed.'<sup>3</sup>

The ability of LCH.Clearnet and other clearing houses successfully to manage the Lehman default helped enable the City and other leading financial centres to survive one of the darkest chapters in the global economic crisis. Thanks to CCPs, the world's securities exchanges have continued to raise capital for enterprises while futures and options exchanges

<sup>1</sup> DTCC (29 October 2008), Addressing the DTCC Executive Forum 2008. DTCC provides clearing, settlement and other post-trade services for companies trading on US stock markets and other financial markets.

<sup>2</sup> Testimony before the Senate Committee on Agriculture, Nutrition and Forestry, 14 October 2008.

<sup>3</sup> Conversation with the author, 12 January 2009.

continue to provide investors, traders and entrepreneurs with the means to protect themselves against risk.

The events of September 2008 changed fundamentally the status of CCPs in financial markets and the priority they are accorded on the agenda of policy makers. After years spent in obscurity, central counterparty clearing houses emerged from the days of chaos among very few organisations in the global financial system with a good story to tell.

This book takes up the story of central counterparty clearing by examining in detail how CCPs functioned in the emergency that followed Lehman's bankruptcy petition.

Chapter 3 places special emphasis on the successful responses of the LCH.Clearnet Group despite serious, unexpected problems faced by its CCPs in London and Paris. The multinational CCP operator was the first big clearing house to declare Lehman companies in default on 15 September. It cleared for a wider range of markets and asset classes than any other CCP. It broke new ground in closing down very large open positions in the interest rate swap market, where over the previous 10 years SwapClear, its specialist clearing service, had built up unique experience in clearing these OTC instruments.

Having demonstrated the value of CCPs in a crisis, the book explores how central counterparty clearing houses grew out of techniques rooted in antiquity and developed from the late 19th century into the institutions on which many hopes are pinned today.

Part II of the book shows how clearing house pioneers in the globalising world of the late 19th and early 20th centuries adopted different systems of governance and ownership, strung along a spectrum from mutualised utility to for-profit, listed corporations, and faced challenges that would be familiar to some of today's CCP managers. Then, as now, technological change – notably in the field of communications – and political developments shaped their decisions.

Part III tells of the emergence of modern CCPs amid the turmoil of the late 20th century and their increased interaction with policy makers and regulators.

Part IV brings the story of CCP clearing to the point of Lehman's default in September 2008 as the optimism engendered by economic globalisation gave way to the global financial crisis.

Part V examines how clearing and CCPs have shot up the public policy agenda as a result of their successes in dealing with the Lehman default and some of the lessons learned from the crisis.

The final part of the book reviews the initiatives by industry and governments to use CCPs to bring transparency and mitigate risks in financial markets and so help ensure that the worst global economic crisis since the Great Depression of the 1930s is not repeated. These include a central role for CCPs in the markets for OTC derivatives, the financial instruments that caused massive losses at AIG, the US insurance group rescued by the US taxpayer immediately after the Lehman bankruptcy. Great hopes are being pinned on CCPs. The big question is whether too much is being expected of institutions that concentrate as well as mitigate risk.

The story of central counterparty clearing in globalised financial markets is a story of constant change, made difficult at times by the absence of a common vocabulary. The terminology of clearing has changed as the business has developed over the past century and a quarter. The terms 'central counterparty clearing' and 'CCP' are relatively recent, and only in common use since the early 1990s.

In examining CCPs and their history, this book covers institutions which existed before the phrase 'central counterparty clearing' and the abbreviation 'CCP' were invented and which nonetheless performed similar functions. It also provides a review of earlier forms of clearing to provide some context for the eventual emergence of CCPs. But it does not claim to be a comprehensive history of all forms of clearing.

CCP-type institutions first existed in 18th century Japan, where they were part of the infrastructure of the Dojima rice market of Osaka. However, today's CCPs trace their lineage back to clearing systems that guaranteed against counterparty risks in commodity futures trading in late 19th century Europe.

During the 1880s, in the historic trading cities of continental Europe and the UK, techniques foreshadowing central counterparty clearing appeared in support of traders who were developing futures and options to manage and exploit the vagaries of the seasons and the cycles of investment, production and trade in markets for agricultural commodities and raw materials.

Soon afterwards, new style clearing practices appeared in North America, where 'complete clearing' houses took on the role of buyer to every seller and seller to every buyer in the nation's commodity exchanges. After a slow start, partly reflecting anti-gambling sentiment, complete clearing became firmly established as the norm for US commodity exchanges in the years of rapid growth between the end of the First World War and the Great Depression.

The importance of central counterparty clearing has grown exponentially in the past 40 years. Human-made uncertainty arising from the shift to floating exchange rates in the early 1970s gave a huge boost to derivatives trading – and by extension to CCPs. The invention of financial futures that facilitated speculation and the management of risks inherent in currencies, securities and interest rates created markets that dwarf the commodities exchanges that CCPs were originally created to serve.

Ever greater computer power has supported the development of CCPs. An important influence was the Wall Street Crash of 1987, which highlighted the growing importance of clearing houses and the risks that attached to them and brought in its wake greater regulatory involvement with CCPs.

Also crucial has been the realisation, during the past two decades, that CCPs have a capacity to add value in the chain of transactions between the buyers and sellers of securities and futures contracts. This gave an impetus to the drive to demutualise exchanges and the infrastructures that support them.

Until recently, it was axiomatic that CCPs dealt only with standardised commodities or financial instruments. CCPs are still used mainly in support of transactions in bonds, shares and futures and options contracts that are listed and traded on regulated exchanges. As initiatives to create CCPs for credit instruments traded over-the-counter show, the role of central counterparty clearing in financial markets stands on the threshold of a new era.

But before exploring the role of CCPs in the past, present and future, the following chapter offers an overview of the modern CCP, how it works and the special features that define central counterparty clearing and its place in today's financial markets.