

# A (Crumbling) Wall of Money Financial Bricolage, Derivatives and Power

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## **Preface**

### **Brief Encounters with Securitisation and Derivatives**

In 2004, I and other non-government organisation (NGO) colleagues went to a meeting with UK government officials. The purpose was to discuss the UK's presidency of the upcoming July 2005 Summit of G8 leaders – the heads of government of the eight leading industrialised countries.

One item on the Summit agenda was export credit agency (ECA) reform. I was familiar with the UK's agency, the Export Credits Guarantee Department, from our solidarity work with communities around the world affected by the dams, pipelines, power plants and other infrastructure projects that this Department had funded. NGOs at the time were pressing for ECAs to adopt mandatory environmental, human rights and development standards.

The UK government officials had other proposals in mind, however. In particular, they seemed keen to expose the extent to which ECAs were subsidised by the taxpayer. This was (to say the least) surprising. That's been the NGO line more than the government's. In fact, the ECGD and other ECAs have consistently and vehemently denied any element of subsidy in their operations.

But the officials seemed to think that, once the subsidies had been exposed, the rationale for continued government backing for export credit agencies would be removed. "New instruments", they said (they were not more specific), would enable the private sector to provide cheaper export insurance cover than official agencies could. The days of publicly supported ECAs would soon be over: they would, as one official put it, "wither on the vine".

The UK's ECA proposals for the G8 were not accepted: other countries were not so keen to admit that ECAs receive and dispense subsidies.

But the talk of "new instruments" did not go away. What exactly were they? How did they work? Were they already impinging on the activities – and influence – of ECAs? Would they make any difference to our work supporting people affected by infrastructure development that had been backed by ECAs?

Fast-forward a couple of years to November 2006. I was in Rome with Antonio Tricarico of the Italian group, Campagna per Riforma della Banca Mondiale, a long-time colleague in the international ECAwatch coalition, attending a conference on export finance. This time, there were no other NGOs – only bankers and export credit agency officials and insurers and hedge fund managers. Some ECA officials, whom we knew from elsewhere, were none too pleased to see us: "This isn't an NGO meeting. You shouldn't be here."

This time, the "new instruments" made it into every presentation. The problem was that the talk was utterly incomprehensible: a jumble of acronyms (IOs, POs, WACs, WAMs, TACs, SLABS and TTEs) and bizarre "in-crowd" phrases ("haircuts", "black boxes", "bullets", "hard bullets" and "dead cat bounces"). What was clear, however, was that those who had drunk this acronym-laced Kool-Aid had little time for official ECAs. "We don't need you any more", says one banker candidly. Exporters had a

new best friend: the Special Purpose Vehicle or SPV (also known as a Structured Investment Vehicle [SIV] or Special Purpose Entity [SPE]).

Acronymed-out during the conference, Antonio began to sift through the piles of reports picked up from exhibition stands. “Look at this”, he said, pointing to an article about SPVs and ILSs (decoded: “Insurance Linked Securities”). The article discussed how insurers were using these instruments to spread the risks throughout the world’s financial markets of claims after severe climatic events such as Hurricane Katrina. One paragraph in particular stood out:

“The typical structure would include the creation of a special purpose vehicle (SPV), usually a Cayman Islands or Bermuda exempt company whose common shares are held by a charitable trust in order to shelter it from potential bankruptcy . . . The ILS will be issued by the SPV and sold to investors, the proceeds from which will be invested in high quality securities and held in a collateral trust.”

I didn’t know it at the time, but this was a double blind date: my first encounter with *securitisation* (the process of placing assets in a SPV) and with *derivatives* (the asset-backed bonds sold by the SPV) – the process and instruments that have caused the credit crisis, financial meltdown, and potentially social and economic hardship for millions of people for years to come.

At first, what caught my attention was the use of a charitable trust to avoid bankruptcy. Great! That’s what charity and trust had descended to.

Slowly, however, some of the broader implications began to dawn on me. What would “spreading risk” through SPVs mean for efforts to persuade insurers to increase their insurance premiums against global-warming related damage? If the tab for paying out claims was now being spread among hundreds of thousands of investors around the world, rather than concentrated in a few companies, would potential pressure points for change be similarly diffused and thus rendered ineffective? Besides insurers, how many other businesses were using SPVs? Flipping through all the conference reports, we came across dams, toll roads, bridges and oil pipelines that had all been funded through SPV-like arrangements.

How did it all work? If alphabetised acronyms were confusing, the spaghetti-like diagrams that filled the various reports created yet further bewilderment. We were not alone: a partner at accountants PricewaterhouseCoopers candidly admitted:

“Insurance securitisations remain difficult to understand not only for investors, but also for regulators, rating agencies, bankers and lawyers – few of whom even begin with background knowledge of the insurance industry.”<sup>1</sup>

Given that securitisation and derivatives have been touted as the “most important innovations in modern finance”, such lack of understanding was (and remains) scary. Even officials at the Bank of England are reported to have had trouble grasping the many different derivatives and their combinations. John Moulton, a prominent UK private equity investor, recalls having a breakfast meeting with senior Bank of

England officials in 2007 in the wake of Northern Rock's bankruptcy at which he had to explain how derivatives worked.<sup>2</sup>

What we learned (and what we didn't) at this export finance meeting in Rome prompted ECAwatch and other coalitions to dig deeper into the world of securitisation and derivatives. Some key questions emerged: How were these new instruments affecting communities on the ground? Were they helping or hindering companies' ability to fund potentially destructive projects? Were ECAs themselves using these new instruments?

From asking and talking around, we discovered that other colleagues had had their own brief encounters with this alphabet spaghetti and were just as puzzled and alarmed. Roger Moody of Partizans, a group that has long monitored mining companies, had noticed the wave of mergers and acquisitions in the mining sector. He discovered that many of the new, sometimes major, shareholders in mining companies were hedge funds that were betting on share prices falling ("short selling") to generate profits from risky new mining ventures, or were speculating on the outcomes of the mergers and acquisitions themselves. Other colleagues, such as Kavaljit Singh with Public Interest Research Centre in India, were puzzled by the huge mergers and acquisitions taking place among big and small companies alike. He went on to research the extent to which these new financial instruments were enabling private equity companies to buy out their target companies. Wiert Wiertsema of the Dutch group, BothENDS, uncovered the use of derivatives by Atradius, the Dutch ECA.

All our collective further research yielded more information about the mechanics and history of securitisation and derivatives, and answers have gradually begun to emerge to some (but by no means all) of the many questions that the Rome meeting had raised about SPVs, derivatives and the "spreading of risk" (*see* Box: "Questions and Answers", p.7).

There were some questions that we didn't know how to answer a year ago. What happens when the gambling stops? When a derivative doesn't pay up? When the bet goes very wrong? We made some guesses, based on what had happened after Barings Bank collapsed in 1995 when the bets of its trader Nick Leeson went wrong, or when Enron's gambling finally brought the oil company down (and its employees' pensions with it). The events of the past 12-18 months have answered some of those questions, but further responses are still unfolding daily. This paper is a summary of what we have learnt so far.

As banks, mortgage lenders and insurers now collapse like dominoes, the irony is that exporters (and their supporting government officials) are now desperately tending the vine of ECAs that they were allowing to wither. With credit on the open markets drying up, the talk now is not of "new instruments" but of a resurgence of public export credit agencies as exporters flee the market for what they believe is the safe haven of government-backed insurance. Just as the bankers are now doing. But if either exporters or bankers are to get public money, it should come with conditions that need to be set through public debate and decision-making.

## Introduction

The French have a word for it: *bricolage*<sup>3</sup> – the use of whatever happens to be at hand (regardless of its original purpose) to create something that has a strikingly new use or meaning.<sup>4</sup> Examples include: the punk rocker’s transformation of safety pins into fuck-off, anti-jewellery jewellery; the use of pots and pans, discarded industrial oil drums, biscuit tins and metal rubbish bin lids as musical instruments by the first Caribbean “steel bands”;<sup>5</sup> or the cobbling together of furniture out of bits and pieces of wood retrieved from skips or picked up at junk yards and rummage sales.

Today’s bankers, accountants and financial fund managers are not obvious *bricoleurs* – their pinstripes and Porsches fit uneasily with the gobby rebelliousness of punks or the “do-it-yourself” pragmatism of jumble sale junkies and shantytown musicians. But *bricolage* is not confined to the marginalized or the thrifty.<sup>6</sup> On the contrary, the opportunistic recombining of “whatever is at hand” to overcome a particular obstacle or achieve a given objective – in this instance, massive and rapid personal capital accumulation – is as much a feature of the many sub-cultures that people the major financial markets as it is of society’s myriad other, less privileged, sub-cultures.<sup>7</sup>

The financial *bricoleurs* have seen and exploited money-making opportunities thrown up by the liberalisation of financial markets over the past two or three decades or so – for example, the removal of controls on the free flow of capital between countries – and by a period of low interest rates<sup>8</sup> and of weak oversight by the financial authorities.<sup>9</sup> Academics, insurers, bankers and fund managers have joined together to transform investment practices worldwide by re-engineering a range of financial instruments – notably assets, known as “derivatives”, whose value depends on (or is “derived from”) the price of another underlying asset<sup>† 10</sup> – and by creating new ways of packaging these instruments up and selling them. The recent tool of choice for such repackaging has been “securitisation” (of which more below). These new financial instruments did not emerge from august policy discussions within the institutions that NGO activists often associate with determining the “financial architecture” of financial markets – the International Monetary Fund, the World Bank or the World Trade Organisation. They have come about through the everyday actions of individual financial *bricoleurs* using what they had to hand.

The tool of choice, “securitisation”, is a process whereby assets that generate regular streams of income (such as loans, corporate bonds, mortgages, export credit debt, care

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There are three basic types of derivatives:

- i) a **future**, which is a tradable agreement to buy or sell a specified asset at a specified price and date in the future;
- ii) an **option**, which confers the right – but not the obligation – to buy or sell an asset in the future at an agreed price in return for a small down payment, known as a premium; and
- iii) a **swap**, which is an agreement to exchange assets – for example, different foreign currencies – at agreed prices on some specified date in the future.

In all three types, the value of the derivative depends on the future price of the underlying asset that is to be exchanged. When investors purchase derivatives, they are betting on the future direction of the market in a particular asset – will prices for the asset go up or down? – but without actually owning the tangible asset involved. They are speculating (as in the 1983 Hollywood film *Trading Places* starring Eddie Murphy) on the price, say, of frozen orange juice without actually owning the orange grove from which the juice is made.

homes, gas pipeline contracts or music rights on songs by rock stars like David Bowie<sup>11</sup>) are sold to a newly created company (known as a Special Purpose Vehicle [SPV], but also sometimes called a Structured Investment Vehicle [SIV] or a Special Purpose Entity [SPE]). The SPV then issues derivatives, the other tool of choice that was to hand, that give investors the right to the income stream from the assets.<sup>12</sup> The underlying asset – David Bowie’s songs or the mortgage that has been taken out – remains with the SPV: the buyers of the derivatives have rights only to the “receivables” that the securitised assets generate. By combining risky assets (such as mortgages to low-income groups) with less risky ones (mortgages to high income groups), securitisation has been used magically to transform risky assets into attractive investments.<sup>13</sup> In the process, new capital is raised to expand the businesses that sold the assets to the SPV. In addition, through establishing the securitised investment funds offshore in tax havens such as the Cayman Islands or the British Virgin Islands, the *bricoleurs* are able to enhance their returns through tax avoidance.<sup>14</sup>

In particular, the *bricoleurs* have used derivatives and securitisation to devise ways to make money by evading or “playing” regulations; by extending the process of commodification (derivatives have enabled virtually everything – from weather to bandwidth and risk – to be priced, commensurated, bought and sold);<sup>15</sup> and by devising elaborate new financial vehicles through which they have been able either to hide their “risks” (*read*: their losses, actual or potential) or pass them on to less savvy or less informed retail clients (for example, pension holders) or onto the State, while ring-fencing their own profits from liabilities.<sup>16 17</sup> Risks have indeed been “spread”<sup>18</sup> (one of the main claimed benefits of derivatives) – but only in that they have been made more contagious, not in the sense that they have been reduced.

Derivatives are used within all major financial markets – to make bets against future fluctuations in interest rates, currency rates, commodity prices, share prices, and the credit-worthiness of companies and states. Their proponents argue that derivatives provide investors with a vital tool both for the efficient management of credit risks<sup>19</sup> – a claim that, as will be seen (p.28), is highly questionable because much of the credit risk has been hidden rather than mitigated – and for making visible “the market’s assessment of the current and future value of certain assets”,<sup>20</sup> sometimes also called “price discovery”. Within the debt and credit markets (the focus of much of the current concern over their use), derivatives have transformed the ways in which companies raise money to finance their activities.<sup>21</sup> Capitalising on the flexibility of derivative-based financial instruments, a range of opaque and unregulated *bricoleur*-created corporations, notably hedge and private equity funds, but also “boutique” investment banks, have constructed a “shadow banking system”<sup>22</sup> to that more familiar one long operated by commercial and investment banks involving straightforward deposits from one group of customers and loans (with interest) to another. These new financial entities have used derivatives to both generate capital and hedge against risk by passing it on to other investors. These new players have been joined by mortgage lenders who, thanks to the relaxation of the rules governing financial services, have jettisoned their “mutual fund” status<sup>23</sup> and transformed themselves into banks, aggressively raising money to “grow their businesses” through the use of securitisation. The money raised has enabled the mortgage lenders to expand beyond mortgages into other areas of finance.<sup>24</sup>

## Creating a Wall of Money

*“A derivative is like a razor; you can use it to shave and make yourself clear and attractive to your girl friend or to slit her throat with it or you can use it to commit suicide.”*

*Financial Times, 4 May 1995<sup>25</sup>*

The result has been a wall of money, in the form of cheap credit, that has fuelled a boom in mergers and acquisitions (*see* p.40) – concentrating economic power in the process<sup>26</sup> – and provided huge sums of capital for investment in sectors where the *bricoleurs* saw opportunities for profit. Industries that have seen money pouring in include mining, biotech, biofuels, private health care, oil and gas, and water supply. Projects are now underway that had been rejected for funding even by the World Bank (not generally regarded as a model of environmental friendliness), other multilateral development banks (ditto) and official export credit agencies (ditto again).

The *bricoleurs* have also developed new capital-raising structures, involving securitisation and derivative-based instruments such as credit default swaps (*see* Box “Questions and Answers”, p.7), to expand private sector ownership of infrastructure<sup>27</sup> – from ports and railways to motorways, hospitals and utilities. In the process, they have transformed infrastructure finance from a banking “backwater” into a multi-billion dollar business,<sup>28</sup> with profound implications for corporate control over many areas of life that affect public welfare, such as health care and access to water and energy. Almost every major investment bank and many large private equity firms<sup>29</sup> now have an infrastructure fund – and the sums potentially available for investment are huge. In 2006, the world’s top 60 infrastructure funds were estimated to have raised more than \$150 billion in dedicated capital to buy or build “infrastructure” – a figure that, if used to “leverage” additional borrowings, could fund “a staggering \$750 billion worth of transactions”.<sup>30</sup> Moreover, the infrastructure *bricoleurs* are already beginning to devise mechanisms through which the new instruments can be used to restrict the power of governments to regulate for the public good: default provisions written into project bonds, for example, are now being proposed as a means of locking states into “a more investment-friendly environment” by “deter[ring] politicians’ attempts to make undesirable policy changes”.<sup>31 32</sup> Although some infrastructure funds have been hard hit by the credit crunch,<sup>33</sup> the sector is nonetheless still viewed as a safe haven in a turbulent market,<sup>34</sup> with investment analysts calculating that global demand for infrastructure over the next 20 years could reach \$40 trillion<sup>35</sup> (*see* p.49 and Box: “Securitising Infrastructure”, p.50).

For the *bricoleurs*, derivatives and derivative-based investment strategies have brought huge wealth. In 2007, Wall Street’s top five investment banks paid out over \$40 billion in bonuses to their executives, top-tier management and traders<sup>36</sup> – and the projected bonuses for 2008 are still a whopping \$23.2 billion, despite the current downturn in the economy.<sup>37</sup> Indeed, many investment banks were paying out more than half of their revenues in annual bonuses to their employees (or at least some of them).<sup>38</sup> Cheques in the millions are not uncommon for a firm’s top traders<sup>39</sup> (or “Big Swinging Dicks” as they like to be known on Wall Street<sup>40</sup>).<sup>41</sup> Managers of hedge funds, one of the main financial *bricoleurs* (*see* Box, “You Know a Hedge Fund When You See It”, p.35) have been equally (if not better) rewarded: in 2006, the world’s top hedge fund managers – just 25 in total – earned more than \$14 billion

between them, equivalent to the entire annual output of Jordan<sup>42</sup> or roughly one quarter of the additional annual aid flows that are estimated to be required to meet the Millennium Development Goals by 2015.<sup>43</sup> The highest earner was Jim Simons (of Renaissance Technologies), who raked in \$1.7 billion, followed by Ken Griffin (of Citadel Investment Group) on \$1.4 billion and Eddie Lampert (of ESL Investments) on \$1.3 billion.<sup>44</sup> Even relatively junior portfolio managers are reported to earn over \$500,000 after bonuses are taken into account.<sup>45</sup> Nonetheless, despite the huge sums involved, tales abound of traders ripping up cheques that they deem “too low” or even, in one notorious incident, excreting on the floor of trading rooms in protest.<sup>46</sup> There are no “claw back” arrangements to recoup bonuses paid to managers whose portfolios subsequently fall in value.<sup>47</sup>

## **Box: Questions and Answers**

### ***What’s a Special Purpose Vehicle (SPV)?***

At its simplest, it is a company set up to buy certain specified assets.

### ***What assets are we talking about?***

Anything that has a regular stream of income associated with it. It could be a bank loan (the income stream being the repayments made by the borrower), or a mortgage (ditto) or a credit card loan (ditto) or the contract to operate a toll road (the payments made by car users providing the income) and so on.

### ***Why should anyone want to sell these assets to a SPV? Don’t they want that income themselves? Isn’t that why banks make loans, to get the repayments?***

They want to sell them for many reasons. If you are a bank, by law you have to set aside reserves against the loans you have made, just in case the loan doesn’t get paid back – and the riskier the loan, the more you have to set aside. Selling the loan to an SPV means you don’t have to set anything aside and therefore frees up money that would, from the bank’s perspective, otherwise remain unproductive. Likewise if you’re a mortgage lender. With other assets – the toll road, for example – the attraction is that you get your future income but you get it in a lump sum and get it in advance.

### ***Who sets up the SPV?***

Generally, the person or company who wants to sell the asset.

### ***So they sell their own asset to themselves?***

Yes and no. A bank will set up an SPV to buy the bank’s loans. But the SPV is legally a separate entity from the bank, so the loans no longer belong to the bank but to the SPV. The distinction, however, is very legalistic – and a big question now exercising lawyers in the wake of the “credit crisis” is how far some banks actually remained in control of the loans, not least where they retain shares in the SPV.

continued on next page . . .

***How does the SPV raise the money to buy the asset?***

It issues bonds that give investors (those who buy the bonds) the right to the income off the assets that the SPV owns. But the assets themselves remain the property of the SPV. The bonds are called derivatives because their value is derived from the value of the underlying assets. A bond based on mortgages is known as an MBS (mortgage-backed security); a bond on a loan is a CLO (collateralised loan obligation); on an insurance policy, an ILO (insurance linked obligation); on a business (for example, the Priory Group recently securitised its care homes), a WBS (whole business securitisation); and so on. Collectively these various derivatives are known as Collateralised Debt Obligations or Asset Backed Securities – CDOs or ABSs.

***Is that it?***

In what financiers call “plain vanilla” securitisations, yes. But new “derivatives of derivatives” have been created to sell on the basis of the securitised assets. And these have greatly increased the riskiness and complexity of the deals.

***Can you give an example, please?***

One that is getting a lot of publicity right now is called a Synthetic Collateralised Debt Obligation (S-CDO). Instead of the SPV buying a loan, owning it and selling bonds that give an investor the right to the income, the SPV sells a bet – a Synthetic Collateralised Debt Obligation – on the loan defaulting. If the loan does default, then the investors in the S-CDO have to pay up. Until it does so, the investors get the income stream from the loan.

***Why would anyone want to buy these CDOs and S-CDOs? If they've got the money to buy them, why don't they just give out loans like the banks and sit back for the income streams?***

There are many reasons why someone might buy them. Like any bond, they provide an income – and for some investors, that may be reason enough. But for hedge funds and private equity funds, that income itself generates further investment opportunities.

The key lies in the low interest rates that banks have charged in recent years. So long as the income from the CDO was higher than the interest paid on a loan from a bank, the CDO could be used to fund further borrowing. The maths is actually quite simple . . .

At an interest rate of 3 per cent (the rate in May 2006), the annual interest paid on a £1,000,000 loan would be £30,000. If the return on one million pounds worth of S-CDOs was 15 per cent – often the case<sup>48</sup> – then an investor would earn £150,000. So an investor would spend their initial (unborrowed) million pounds on the S-CDO, and then, using the S-CDO as collateral, go to a bank and borrow £5 million, the interest on which would be £150,000 (which the bank knows can be paid from the S-CDO income stream). The investor then invests the borrowed £5 million in some more S-CDOs, which would then generate £750,000 in income . . . which could then be used as collateral to leverage another £25 million in loans . . . and so on, to infinity and beyond! This is how many private equity buy-out firms raised the

money to purchase companies in their mergers and acquisitions spree of the past few years.

***But aren't the CDOs and S-CDOs and all this pyramid borrowing rather risky?***

The risk depends on the underlying assets. In many cases, the income stream in a CDO is secure: most loans are in fact repaid. But, as securitisation has freed up more and more money for more and more loans, and as banks have scented the easy profit to be made from making new loans but then shovelling them out of the door as soon as possible, many riskier assets have been recruited into service – such as so-called “subprime” mortgages.

***Why do investors buy CDOs and S-CDOs based on these riskiest assets?***

Well, ignorance is one answer. The banks have not advertised their risks. Another is that, as you suggest, a portfolio based exclusively on high-risk assets wouldn't find many takers – except the occasional high stakes gambler with money to burn. But what SPVs have done is to combine high-risk assets with lower-risk ones to create a portfolio that has an overall lower risk (or so the theory goes). To make the CDOs issued on the portfolio still more attractive to investors, the SPVs introduced a “waterfall” structure, whereby the whole portfolio is “sliced and diced” or “tranching” into different risk portions. The low-risk tranches (derived from loans that tend to get repaid) get lower payouts than the highest-risk tranches (the subprime mortgages). With Synthetic CDOs (the bets on the credit-worthiness of the underlying assets), the waterfall structure means that the owners of the riskiest tranches take the first “hit” if the loans default, while the low-risk tranches are last in line to cough up and pay out.

***So the risks have indeed been spread?***

Well, yes and no, again. Initially, financial commentators assumed that this was the case – that was the theory combining securitisation and synthetic derivatives. But the credit crunch has proved otherwise, as one bank after another has run into difficulties. The answer, it now appears, is that securitisation did enable banks and mortgage brokers to shed their loans, but they did not always shed the credit risk. On the contrary. When the banks set up the SPVs that bought their loans, they often kept shares in the SPV. And it is the equity holders that take the first hit on any default on the SPV's portfolio. And the equity chickens are now flocking home to roost.

**The Music Stops: Who's Holding the (Toxic) Parcel?**

*“Derivatives did not eliminate the credit risk; they simply made it invisible.”*

John Gapper, *Financial Times*, 23 April 2008<sup>49</sup>

By contrast with the huge bonuses paid to financiers, the derivatives and securitisation revolution has generated a long list of casualties for the public at large. In 2006, it was

estimated that some 2.2 million poorer US households<sup>50</sup> – often classed by the mortgage industry (in a language resonant of eugenics) as “subprime”<sup>51</sup> because of their low or even non-existent incomes<sup>52</sup> – had either already lost their homes to foreclosure or would soon lose them because securitisation-driven mortgage lenders had allowed (and indeed encouraged) them to take on loans that they could not afford – loans that the companies often knew would be beyond the borrowers’ means.<sup>53</sup> By the end of 2007, the estimated number of “seriously delinquent” (again, note the language) households had mushroomed to 3.6 million<sup>54</sup> – and by August 2008 investment bank Credit Suisse was predicting that as many 6.5 million households could foreclose as the crisis spilled over beyond the “subprime” market.<sup>55</sup> In the last quarter of 2007 alone, over 900,000 mortgage owners foreclosed on their loans or were in arrears on payments, the pace of foreclosures gathering pace as house prices tumbled and homeowners were driven into “negative equity”.<sup>56</sup> Many had been sold mortgages by companies that were entirely unregulated.<sup>57</sup>

The Afro-American community has been worst affected (52 per cent of “subprime” loans in 2005 were made to Afro-Americans), causing what has been described as “the largest loss of African-American wealth in American history.”<sup>58</sup> Workers’ savings and retired peoples’ pensions have also been put at increased risk (and, in some cases, lost) as a result of pension funds and government insurance schemes investing directly in risky derivative trades or indirectly via hedge funds.<sup>59</sup> In Florida, the state’s \$14 billion Local Government Investment Pool lost so much money in the derivative-fuelled financial turmoil of recent years that withdrawals were frozen and local towns were left with insufficient cash to pay teachers and other staff.<sup>60</sup> One municipality – the City of Vallejo in California<sup>61</sup> – has already been forced into bankruptcy by the subprime crisis,<sup>62</sup> while Jefferson County in Alabama teeters on the verge after a municipal bond to raise money to repair the local sewage system run into difficulties, leaving the county \$4.6 billion in debt.<sup>63</sup>

With securitised mortgages being traded among hedge funds, banks, pension funds and other financial institutions around the world, it was inevitable that the financial impacts of the US mortgage default crisis would spread internationally. In June 2007, after a decade or more of construction, the *bricoleurs*’ shadow banking system began to crumble, creating a “credit crunch” that today threatens what one prominent US investment adviser, Peter Schiff of EuroPacific Capital, has termed “a pending economic collapse of historic proportions”.<sup>64</sup> The warnings had been coming for several years (*see* Box: “Who Knew What and When . . . ?”, p.12) – but they were ignored as Wall Street and the City of London looked towards the next bonus cheque.

With mortgage defaults in the USA escalating, a slow-motion multiple pile-up began on Wall Street as one *bricolaged* financial vehicle smashed into another, littering the financial highway with broken deals and critically-damaged hedge funds, insurance companies and banks. Hedge funds, which had borrowed heavily against the mortgage-based derivatives (known as collateralised debt obligations or CDOs – of which more later) that they had bought when the housing market was booming, found that the banks were no longer prepared to lend against such CDOs, sending their value tumbling. A fire sale ensued as hedge funds sought to raise the money they needed to service the debts on the considerable sums they had borrowed to “leverage” their deals. As the value of the mortgaged-based CDOs fell, other non-mortgage-based assets (such as derivatives based on commercial bonds) were thrown into the sale. But

the banks discovered that many of these, too, had been issued by vehicles that had been holding “subprime” mortgages and whose credit-worthiness was thus suspect. Moreover, the banks themselves “discovered” what they had blithely ignored in the credit boom – namely that they still had liabilities attached to the loans they themselves had securitised (*see* Box: “Questions and Answers”, p.7). Panic set in and the major banks stopped lending to each other,<sup>65</sup> spooked by the prospect that their potential creditors might not be as “bankable” as they had previously assumed.<sup>66</sup> Liquidity (a measure of “the ease with which one can sell an asset at the expected price”)<sup>67</sup> dried up – causing a number of banks to fail (starting with Britain’s Northern Rock<sup>68</sup> and Germany’s IKB Deutsche Industriebank,<sup>69</sup> both subsequently nationalised or bailed out by the government). Within a year of the credit crunch first biting, some \$476 billion had been knocked off the value of the world’s major investment banks.<sup>70</sup> Globally, losses from the “subprime” market alone are predicted to reach anywhere between \$420 billion<sup>71</sup> and \$3 trillion<sup>72</sup> (and that is just in the financial sector: losses in the “real” economy outside of Wall Street and the City of London may be far higher).<sup>73</sup>

By the end of September 2008, the roll call of bank fall out was mounting: Lehmann Brothers (the fourth biggest investment bank in the USA) had gone under; American International Group (AIG), one of the world’s biggest insurer of derivatives (and principal sponsor of Manchester United football team), had been rescued under a government bailout; Bear Sterns, one of the largest US investment banks, received a government injection and was then bought out by another bank, JP Morgan; and the US government had nationalised (or, as government officials coyly put it, “put into conservatorship”) the two biggest mortgage insurers in the US, known as Freddie Mac<sup>74</sup> and Fannie Mae,<sup>75</sup> bringing three-quarters of America’s mortgage industry under public control<sup>76</sup> – the largest nationalisation in recent history.<sup>77</sup> The Freddie Mac and Fannie Mae nationalisation promptly caused a convoy of other *bricolaged* financial vehicles – derivatives known as credit default swaps (CDSs, *see* p.20) – to slam into the back of the paramedics seeking to save the mortgage market. The CDSs had been taken out by investors as an unregulated form of insurance on the bets they had placed on the credit worthiness of mortgage loans made by Freddie Mac and Fannie Mae. The bail out triggered default clauses in many of the CDSs that had been issued, prompting fears that the \$62 trillion credit derivatives market could face meltdown.<sup>78</sup> Within days, the US government had announced further nationalisations – this time intervening to pump government money into a \$700 billion fund designed to take “toxic” mortgages into public ownership.<sup>79</sup> Such has been the extent of government intervention in the crisis that it is estimated that 70 per cent of all new credit issued between the summer of 2007 and April 2008 has been public money.<sup>80</sup>

No one knows the full extent of the damage yet to come – rumours of impending bankruptcies outside of the mortgage market are rife, with some commentators putting the probability of one or more of the major US car manufacturers defaulting within the next five years at “well over ninety per cent”<sup>81</sup> (a slam-dunk bet, some would say, given Chrysler’s failure to refinance \$6 billion of credit in August 2008).<sup>82</sup> For years, the *bricoleurs* have been “hiding risk” – and raising credit in the process – by parcelling up high-risk loans with less risky loans and selling the “securitised” package on to investors, including the banks, who then sold the riskiest packages on to others.<sup>83</sup> The subprime crisis pulled the plug on the music and the game of “pass the parcel” is (temporarily) over. Only this is “pass the parcel” with a difference: the

parcel contains not a present but billions (and maybe trillions) of dollars of “toxic” debt; and no one knows who is holding it or insuring it.<sup>84</sup> Nor is it just defaulting mortgage loans that lie behind the crisis: credit card loans (whose defaults are on the increase),<sup>85</sup> car and other leasing agreements, future income from private care homes and gas pipelines, premiums on climate-related insurance, and a range of other income streams have also been securitised. The risk is that they too will turn out to be “toxic”.<sup>86</sup>

## **Box: Who Knew What and When . . . ?**

UK taxpayers may be thankful that Alistair Darling, Britain’s Chancellor of the Exchequer, likes to read the *Financial Times*, even when on holiday. Were it not for the FT, who knows when he would have learnt about the imminent collapse of the UK bank, Northern Rock. As he tells it:

*“I remember I picked up the FT in the supermarket [in summer 2007], as you do, and it had the European central bank starting to put money into the economy. I phoned the office to ask why they were doing quite so much. It didn't surprise me that money was going in – there was concern going around – but it was the sheer scale of it. I said, what about our institutions? This was when Northern Rock started to figure.”<sup>87</sup>*

Nor was the Chancellor alone. Senior bankers recall that the first they knew of the impending credit crunch was when their Blackberries went crazy, interrupting their sunbathing.

And as anxious customers queued in long lines in September 2007 to withdraw their deposits from their local Northern Rock branches, so the extent of ignorance about the exotic new financial instruments that had caused the collapse of the mortgage society turned bank began to emerge. Leading private equity investor John Moulton recalls that during a breakfast meeting with Bank of England officials:

*“It became clear they did not know what a CLO [collateralised loan obligation] was. I had to show a senior man [by drawing a diagram] on the back of a napkin.”<sup>88</sup>*

Journalists found that they had to learn a whole new vocabulary, although the more perceptive had a head start. *Financial Times* columnist John Gapper announced in March 2007 (a good six months before Northern Rock collapsed) that he had spent “some time last week” discovering what subprime mortgages were.<sup>89</sup>

Yet there were voices that had been expressing concern. A regular reader of *The Economist* or Gillian Tett’s prescient articles in the *Financial Times* would have picked up that not all was well in the mortgage market – and that the

consequences of borrowers defaulting might be more all the more severe thanks to derivatives' *bricolage*.

Bad news, however, was not what the "Big Swinging Dicks" and their champions in government or in the boardroom<sup>90</sup> wanted to hear. As Gillian Tett notes:

*"From 2003, senior officials at the BIS [Bank for International Settlements] in Basel . . . repeatedly warned that risk dispersion might not always be benign. However, such warnings were largely kept out of public view, partly because the US Federal Reserve was convinced that financial innovation had changed the system in a fundamentally beneficial way."<sup>91</sup>*

Within banks, too, disquiet was expressed at senior level about the complexity of the risk models being used. As one senior risk manager wrote (anonymously) to Gillian Tett:

*"Upfront we did express to senior management that we lacked the analytical skills . . . and highlighted deep concerns about the approach colleagues in the market risk area had taken . . . I feel responsible for not doing more, but I really did push my views, risking my immediate career."<sup>92</sup>*

It was a risk that all too many other were unprepared to take.

### **Bricolaging Their Way Out of the Crisis**

*"Times like these are cathartic. Bubbles of overpriced assets collapse along with the egos of many investors. The wannabe stars in, say, hedge funds and private equity will go to the wall but the genuinely talented will survive. Some senior banking heads have rolled – and more will no doubt need to roll – but the danger is that the banks learn nothing, only to repeat it all in a few years' time. So when you are having a conversation and some banker tells you that this time there is a new paradigm, you know it is just moral hazard on the horizon. And you should run for the hills. You have been warned."*

Ian Morley, Chief Executive of Dawnay, Day Brokers.<sup>93</sup>

Meanwhile, the *bricoleurs* have been hard at work once again re-engineering their investment strategies to profit by trading their way around the crisis. Now that the market for loans to back buy-out deals has collapsed, for example, the leading private equity firms are "looking to buy bombed-out debt at discount prices with the hope that a recovery will generate their customary big profits".<sup>94</sup> As the markets have fallen, hedge funds have similarly made millions by betting on equity and bond prices falling<sup>95</sup> – or "short selling"<sup>96</sup> as it is termed. Fortunes have also been made by those who anticipated the US mortgage crisis and used derivatives to bet on mortgage defaults.<sup>97 98</sup> Others, recognising that the European and US credit markets have lost their previous money-making fizz, are turning to Asia<sup>99</sup> and other markets. (In the first half of 2008 alone, 104 new private equity funds focussing on emerging markets were launched, with a combined value of \$35 billion.<sup>100</sup>) Still others are sizing up the

money-making potential of bespoke new infrastructure funds (*see* p.49 and Box: “Securitising Infrastructure”, p.50), or carbon trading (*see* p.53). Hedge funds have also been active in “playing” commodities, making huge sums from betting first on rising metal and oil prices and then on their decline.<sup>101</sup> Lured by the prospect of rising food prices, many funds have also plunged into agro-industries and land (*see* Box: “Food Prices and Speculation”, p.45).<sup>102</sup>

And as the pile-up continues in the financial markets, so the *bricoleurs* have devised new derivative-based instruments to hedge against the risk of other associated derivatives going sour<sup>103</sup> or, with inflation hotting up, to bet on consumer price rises<sup>104</sup> – and thus to profit from the credit crunch and its aftermath. As one senior banker observes:

“It’s a strange business. First you make money by creating products no one understands, then you make money by cleaning the mess up.”<sup>105</sup>

Indeed, a year after the credit crunch hit, hedge funds have more under investment than ever before,<sup>106</sup> despite having their worst year on record;<sup>107</sup> the use of derivatives is on the up as investors bet on future volatility in the market;<sup>108</sup> and the world’s super-rich have increased their wealth by more than 9 per cent to \$40,700 billion.<sup>109</sup>

## Bricolaged Ancestry The Faux Historicism of a Speculative Tool

*“This decade, financiers have invented so many brilliantly clever mathematical tools to repackage risk that the industry has slipped, almost unthinkingly, into an assumption that ‘credit’ is a collection of abstract equations, stripped from any human context . . . Yet, as any Latin scholar knows, the word ‘credit’ hails from credere: ‘to trust’ . . . And bankers forget this human dimension to their cost – no matter how impressive the abstract numbers might seem.”*

*“A lack of trust spells crisis in every financial language.”*

Gillian Tett, *The Financial Times*<sup>110</sup>

Both financiers and politicians initially portrayed the credit crunch as the result of a few bad decisions by a few over-exuberant or inexperienced bankers (notably those who were new to banking, such as the board of Northern Rock). Slowly, however, it has had to be acknowledged that the crisis is deeply systemic. The blame is largely being placed on a lack of regulatory oversight, obscuring the key role played by *bricolaging* derivatives and securitisation, which has largely gone unanalysed.

Since 1970, the derivatives market has grown from insignificance<sup>111</sup> to the largest market in the world.<sup>112</sup> In June 2007, the notional “marked to model” value<sup>113</sup> of outstanding derivatives contracts amounted to \$516 trillion<sup>114</sup> – a level of risk that is just under 10 times the entire output of the world economy.<sup>115</sup> The actual value of the market (what the derivatives would be worth if they were sold today, rather than their theoretical value when trades come due in the future)<sup>116</sup> was estimated in 2007 at \$11 trillion<sup>117</sup> – almost equivalent to the entire economic output of the United States and 8 times that of the United Kingdom.<sup>118</sup> Although the credit crunch has severely dented the profitability of some areas of the derivatives market, overall net turnover continued to increase – standing at \$600 trillion in September 2008.<sup>119</sup>

The construction of that market has not, as we shall see (pp.23ff), come about by accident – and certainly not through the supposedly politically-untainted, vested-interest-free operations of the laws of “supply and demand”. Rather it has involved patient political lobbying and the intensive use of elite social networks to *create* a demand for derivative products – their supply effectively *preceding* demand.<sup>120</sup> It has also involved the *bricolage* of a narrative that casts the modern derivatives market as essentially unproblematic, a socially benign and prudential way of handling risks, creating liquidity and boosting efficiency that has an ancient pedigree.<sup>121</sup> The real history of derivatives is not so romantic; and the *bricolaged* version is more notable for what is omitted than what is included.

In much the same way that proponents of biotechnology argue that genetically-engineered products are simply an extension of time-honoured (and, thus it is implied, harmless and natural) plant and animal breeding methods,<sup>122</sup> derivative *bricoleurs* and their apologists work hard at constructing a long and respectable ancestry for themselves and for derivatives as financial instruments.<sup>123</sup> Reference is often made to the ancient Greek philosopher-mathematician, Thales of Miletus. In order to prove that his poverty arose out of choice rather than an assumed inability of philosophers to make money, Thales made a fortune 2,500 years ago by *bricolaging* a “financial

device”<sup>124</sup> that enabled him to establish a monopoly over the olive crop in Miletus and neighbouring Chios.<sup>125</sup> Anticipating a bumper harvest, Thales negotiated to pay local olive growers a small deposit in return for the right to have first use of their olive presses after their olives were harvested. Thales’s bet paid off: the harvest was bigger than usual and demand for the presses was huge, enabling Thales to clean up by charging growers considerably higher sums to use their own presses than he was himself paying them in rent. Had the harvest failed, all that Thales stood to lose was the deposits he had advanced – the deposits conferred no obligation on Thales to rent the presses if ultimately he chose not to do so. The contract is said to be a derivative because the value of Thales’s contract depended on, or is derived from, the value of the olive crop: if the crop was poor, there would be little demand for the presses and the scheme would be a money-loser; but with an abundant crop, Thales stood to gain what Aristotle described as “a quantity of money”.<sup>126</sup>

No mention is ever made of what happened to the olive growers, who, alongside Thales’s distinctly unworldly motives, are conveniently airbrushed out of history. Appropriated by the derivative *bricoleurs*, Thales becomes the first known derivative trader, a canny entrepreneur rather than a philosopher out to prove that philosophy was not incompatible with making money.<sup>127</sup> Using modern parlance, Thales is said to have invented what is now called an *option*. In return for a small down-payment he had bought the right – but not the obligation<sup>128</sup> – to buy a given good or asset (in this instance, the rental rights to olive presses) at a specified time in the future (the date at which the local olive crop was harvested) for a specified price (known today as the *strike price*).<sup>129</sup> Had Thales’s contract involved an agreement to actually buy the right at this future time (rather than simply an option to buy), it would have been what is now called a *forward* contract. If the agreement had been arranged through a formal, regulated exchange, rather than privately between Thales and an olive grower, then the contract would have been a *futures* contract.<sup>130</sup> An option always gives a right to the buyer and an obligation to the seller. Forwards and futures confer obligations on both parties. Purchasing the right to buy is known as a *call* contract; purchasing the right to sell is a *put* contract. Those who “call” hope to make money by prices in the market rising by more than the price agreed in their contract: those who “put”, by market prices falling.<sup>131</sup> And one final bit of jargon: those betting that the market prices will go up (the buyers) are said to be “*long*” on the commodity they are trading; those betting on prices falling (the sellers) are said to be “*short*”.<sup>132</sup>

Thales is not the only historical character to feature in the *bricolaged* pedigree of the modern derivatives market. Seventeenth century Japanese rice farmers,<sup>133</sup> 13<sup>th</sup> century monks,<sup>134</sup> 16<sup>th</sup> century Dutch herring fishers,<sup>135</sup> and even biblical figures such as Joseph<sup>136</sup> and Jacob,<sup>137</sup> also pop up, all cast in the role of homely ancestors to Wall Street’s modern hedge fund managers, using derivatives to protect their livelihoods against the vagaries of the market. Or as one US farm website would have it:

“There is a lot that farmers have given the world, and in the world of high finance, farmers taught Wall Street how to trade the future.”<sup>138</sup>

Indeed, the relatively simple “vanilla deals” that were genuinely used historically by farmers to insure themselves against rises or falls in the prices they might get for their crops are now frequently cited by apologists and critics of derivatives alike to explain the workings of complex derivative deals that involve *hedging*. Iowa corn farmers appear frequently in these stories. In a hypothetical example,<sup>139</sup> a corn farmer seeks to

ensure that the price she gets for her harvest will not fall below a specified price. When she plants the corn in the spring, the price is, let's say, \$3 a bushel. But the harvest will not take place until October – by which time the price may have fallen. To guarantee her costs of production, the farmer enters into 10 contracts, each of which commits her to sell 5,000 bushels of corn to the local grain dealer on a specified date in October at a strike price of, say, \$3.20 a bushel – the grain dealer gambling on the market price rising higher than this and thus on his being able to buy the corn cheap but sell on at the market price. If the market price of corn falls below \$3.20, however, the farmer is “in the money”, since she has a guaranteed buyer at a strike price that is above the market price. If, on the other hand, the market price rises above the strike price, she is in danger of losing out. But because derivative contracts establish an obligation to the *trade* rather than to a *person*,<sup>140</sup> she can always liquidate her own position should the price of corn start to rise in, say, July. She does this by buying another 10 contracts – but this time the contracts are to *buy* grain in October at the price she had agreed to sell in her first 10 contracts – the two sets of contracts cancelling themselves out.<sup>141</sup> While she might lose some money on this, her aim – to ensure that she will receive a specific price for her crop – will still be achieved, since she can sell her crop on the rising open market in October. Meanwhile, the grain dealer adopts the opposite strategy, offsetting his contracts should the market price look like falling. *Options* work in a similar manner – the main difference being that the purchaser of the option does not have to exercise the right to buy or sell and stands to lose only the premium they pay for the option right should they let their option expire.<sup>142</sup>

There is no question that derivatives have a long history nor that, in the simple form described above, they play a useful role in insuring against risk, not only for farmers but also for manufacturers (seeking, for example, to ensure that they can buy steel or other commodities at a price for which they have budgeted in contracts to which they are committed).<sup>143</sup> But the *bricoleurs'* narrative leaves out much that is important. For instance, farmers and other producers have long followed other strategies besides their farmer-trader futures and options to manage their risks – planting a wide range of crops, for example, to protect against the failure of any one crop or sharing the risks of bad times by building social institutions such as co-operatives. Anonymous futures and options contracts disembed farmers from these social networks that are also directly affected by the risk – and they change whose interests can taken into account when risk is being assessed.

Likewise, the *bricoleurs'* truncated historical account of the emergence of futures contracts (in which farmers appear but the bureaucracy on which futures markets depend does not) obscures the centralising tendencies inherent in the standardisation of contracts and their underlying assets<sup>144</sup> – and the ways in which such standardisations have enabled speculators to extend their global reach by operating “at a distance” in markets across the world, buying low in one and selling high in another. And entirely missing from the *bricoleurs'* narrative is the long list of Greek, Dutch, English, Japanese and other historical speculators who used options and futures to cream the markets, leading governments in many jurisdictions (often unsuccessfully) to prohibit such trading.<sup>145</sup>

## Derivatives, Hedging and Speculation

*“Like matter, which astrophysicists have learned creates space as it expands, speculative capital creates profit opportunities as it moves across borders. But the opportunities are also traps that can lead to losses.”*

Nasser Saber, “The Upper Hand”,  
*Institutional Investor’s Alpha*, July/August 2007<sup>146</sup>

Indeed, the narrative of “hedge-fund-manager-as-homely-hedging-farmer” almost entirely obscures the role of derivatives, both historically and in the modern era, as tools not of insurance but of speculation – and the degree to which such speculation is now a primary means through which companies raise the capital they require for their expansion, blurring the differences between “speculative capital” and “portfolio capital” (of which more later). Far from using derivatives for conventional insurance purposes (where it does not much matter if the deal makes money, merely that it minimises the risk of losing it through a declining market),<sup>147</sup> the “hedging” undertaken by hedge funds (in so far as they hedge at all)<sup>148</sup> is entirely driven by the requirement to profit from *betting* on price fluctuations. If the bet goes wrong, the hedge fund, unlike the prudential farmer, stands to lose everything unless other bets have been made to offset the risk, each bet enmeshing the hedge fund in further offsetting gambles.<sup>149</sup> Nasser Saber, a lecturer on derivative risks at New York University’s Institute of Finance and Banking and author of *Speculative Capital and Derivatives*,<sup>150</sup> puts this clearly:

“In their modern incarnation, derivatives are the functional form that speculative capital assumes in the market. Finance textbooks are fond of beginning the discussion of derivatives with the reminder that futures existed in ancient Greece or in 16<sup>th</sup> century Japan. This faux historicism fails to see that while the derivative structure, in the form of a bet, might be ancient, the function of derivatives as the tool of speculative capital is an entirely modern development.”<sup>151</sup>

Hedge funds do not hedge their bets merely to cover their costs (unlike the farmer seeking to ensure her costs of production): they hedge in order to accumulate. Moreover, their clients demand more than the run-of-the-mill “beta” returns achieved by conventional money market funds where the return on assets comes solely from the movement of prices in the market (so, if the asset is up 7% during a particular time period when the market is up 10%, “beta” is judged to be 0.7%).<sup>152</sup> No, hedge funds are after “alpha” – the higher than market returns that (supposedly)<sup>153</sup> come from active management; they are “alpha hunters for hire”.<sup>154</sup> Their target is returns – typically 15-20% – that are uncorrelated to movements in the market. This is achieved by betting not only on the price of assets going up but also on them going down. The hedging undertaken by hedge funds is against under-performing on “alpha”, not “beta”, let alone against simply preserving the value of the initial portfolio. It is about insuring *above*-market returns, not break-even or humdrum market tracking.

The speculative power of derivatives, the opportunities they provide for speculation, and the scale on which they are created and marketed has been greatly enhanced in recent years – to the point where modern derivative instruments, though by no means new in their basic structure,<sup>155</sup> would be unrecognisable to Thales and previous generations of derivative traders. The *bricoleurs* have taken what was “at hand” – forwards, options, swaps and futures – and cross-linked the different instruments,

embedding them within other contracts or financial vehicles<sup>156</sup> and applying them to all sorts of different assets. Take conventional **bonds**, for example, which are securities issued by companies and governments in order to raise finance, the bond holder loaning money in return for an undertaking by the issuer to repay the amount initially loaned plus interest, known as the **coupon**, at a specified date in the future.<sup>157</sup> Bonds have been reengineered into complex derivatives known as **structured notes**, the repayments to the bond holder no longer being paid on specific dates but instead on uncertain dates should specific events occur – a rise in the Nikkei (Japan’s stock exchange index) or a fall in US interest rates or, even the number of victories won by the Utah Jazz basketball team.<sup>158</sup> Opportunities for speculation have been created that would not otherwise have been available, derivative traders betting on the likelihood of the linked event happening (or not) or the timeframe in which they might occur.

Another example is a simple **interest rates swap**, under which two parties exchange interest rate obligations, generally swapping a fixed rate for a floating rate obligation.<sup>159</sup> Like bonds, these have been similarly restructured by derivative *bricoleurs* by linking their returns to highly complicated mathematical formulae that greatly increase profits if the bet goes well – but lead to skyrocketing losses if it doesn’t. One swap negotiated for Gibson Greetings, a US greeting cards manufacturer,<sup>160</sup> entitled Gibson to be paid a fixed rate interest of 5.5 per cent in return for paying “a floating rate, squared and then divided by 6 per cent”.<sup>161</sup> If the interest rate was 3 per cent, “then Gibson would be obligated to pay just one and half per cent (the maths was 3 times 3 divided by 6 per cent)”<sup>162</sup> – bringing the company massive savings in its interest payments. But if interest rates increased, its losses increased exponentially. In the 1990s, many other companies<sup>163</sup> were making similar highly geared interest rate swap bets, with some – such as Gibson and Proctor & Gamble,<sup>164</sup> another US company – losing billions of dollars.

## Alphabetising the Derivatives: CDOs

*“[M]any new financial markets . . . essentially operate as bookmakers accepting differing bets on future prices. Underneath their technical names – monoline insurance, derivatives, debt securitisation – lies little more than bookie principles and practices.”*

Will Hutton, Chief Executive of the Work Foundation<sup>165</sup>

Bonds and interest rate swaps are just two examples. The *bricoleurs* have taken other financial instruments such as securitised assets and restructured them so as to make high-risk investments appear low risk (*see* Box: “Questions and Answers”, p.7). Key to this development was the creation of **collateralised debt obligations** or CDOs. A CDO is a totally new derivative that, anecdote has it, emerged after a group of Bank of America’s mortgage securitisation experts met in the office coffee shop with a group of the Bank’s derivative traders.<sup>166</sup> By combining the securitisation of debt with another financial tool, **structured finance** (of which more below), the derivative *bricoleurs* devised a means of “magically creating value”<sup>167</sup> out of otherwise low value or valueless products.

This is how it works. In a standard CDO, a financial institution – say a bank or a mortgage lender – bundles up high risk loans it has made with lower risk ones

("subprime" mortgages, for example, with "prime" ones) and sells the package of debt to a Special Purpose Vehicle (SPV), a company generally registered offshore that the financial institution controls. The SPV buys the debt by issuing bonds that entitle investors to the revenue stream from the loans. As a single package, the debt would be rated high risk, because it includes the "subprime" loans, and the bonds could not be sold to institutional investors, such as pension funds, which are prohibited from investing in bonds with a low credit rating.<sup>168</sup> In effect, the debt would be next to valueless to the SPV because no one would buy it – or, at the very least, of interest only to the most high-risk speculators. Ever resourceful, however, the *bricoleurs* overcame the problem by splitting (or "structuring") the package of loans into tranches – the technique that constitutes *structured finance*. The bonds for the high risk "junior" tranches, known as "nuclear waste"<sup>169</sup> because of their low credit rating, are sold to hedge funds and other investors who are not precluded from taking riskier investments; the supposedly low risk "senior" tranches, which get a higher credit rating, go to pension funds and other more risk-averse institutional investors. The parts can thus be sold for more than their sum: a high-risk package is transformed, through an act of financial alchemy,<sup>170</sup> into an attractive investment. As derivatives expert and trader Satyajit Das comments:

"CDO tranching is the black art of dissimulation. Investors are told that they are getting access to a 'diversified' portfolio of credit risk and are promised highly customised credit risk. It's all very clever spin."<sup>171</sup>

As a result of the creation of *bricolaged* debt vehicles such as CDOs, the liabilities of holding high-risk debt have been spread throughout the financial system. But if the loans underpinning these high-risk tranches of an SPV default (as "sub prime" mortgages did), the value of the other tranches will be affected as well. Investors (including pension funds, insurance companies, local councils, manufacturing companies and others on whom the public may rely for their livelihoods)<sup>172</sup> may thus find their investments massively downgraded – as Swiss bank UBS found to its \$50 billion cost when the triple-A-rated CDOs it held lost 30 per cent of their value in the wake of the credit crunch.<sup>173</sup> And because of the global nature of modern markets, the collapse of any given SPV can affect investors all over the world. British and European pension holders are thus affected by the US "subprime" crisis as much as US pension holders.

Closely associated with the development of CDOs are *credit default swaps* (CDSs), derivatives that provide cover in the event that a loan or a bond defaults. Although often described as "insurance", CDSs are not insurance in any sense that the mainstream insurance industry would understand.<sup>174</sup> First, those who do the "insuring" frequently do not hold a licence and are unregulated<sup>175</sup> (although some, such as the American International Group (AIG), which had to be bailed out by the US government in September 2008, are regulated). Second, the person buying the "insurance" often has no "insurable interest" in what is being insured. And, third, there is no duty on the person seeking the "insurance" to disclose all possible risks to the insurer.

CDSs are in effect bets on the credit-worthiness of a company. Under the most straightforward CDS, the issuer of a loan (let's say a bank but it could equally well be a mortgage company or other lender) enters into a contract with an investor (often another bank or a hedge fund or a mortgage company) under which the investor agrees to indemnify the bank against losses on the loan in return for periodic payments.<sup>176</sup> This enables the bank to shed the risk of the loan (in theory) while

retaining it as an asset on its books.<sup>177</sup> The investor takes on the bank's risk – but gets paid for doing so. Whether the gamble turns out to have been worth taking depends on whether or not the loan goes into default.<sup>178</sup> If the loan defaults, the investor has to pay the bank the value of the loan and in return gets the defaulted bonds or loans. The investor then hopes to recoup some of its losses by selling the defaulted loan to “vulture funds” (buyers of distressed debt) at a discounted price. But what happens when there are no buyers? In the case of Enron, the energy derivatives multinational that went spectacularly bankrupt in 2001, Citigroup used CDSs to raise \$2.4 billion of protection on its loans to the company. When Enron went bust, Citi's CDS counterparties were left with worthless Enron shares.<sup>179</sup> <sup>180</sup> Similarly, the American International Group (AIG) collapsed in September 2008 when the credit crunch led to calls on the billions of dollars CDSs that the insurer had issued. The US government stepped in with a \$85 billion bailout loan to rescue AIG, fearing that its bankruptcy would have a domino effect, placing trillions of dollars of CDS “insurance” at risk worldwide.<sup>181</sup>

But it gets a little more convoluted still. The CDS market – which now forms the largest part of the credit derivatives market with an outstanding gross value of \$62 trillion<sup>182</sup> – does not just consist of such “plain vanilla” swaps. The *bricoleurs* have been at work to take advantage of a key difference between conventional insurance and the protection offered by CDSs. Unlike with a regular insurance policy, neither of the parties to a CDS is required to have a direct interest in the loan itself.<sup>183</sup> So long as any two parties agree to a swap, they can enter into one – an analogy would be two people agreeing to insure someone else's house. The *bricoleurs* have been quick to seize the opportunities this offers. Investors seeking to raise capital, for example, have bought CDSs to capture the “carry” (that is, supposedly risk free money) that can be earned by exploiting the difference between the cost of buying derivative-based “insurance” on a corporate bond and the interest that the bond itself pays out. Where the premium for a CDS is less than the interest paid by the bond, one investor recently told the *Financial Times*, “You can buy protection and hold no credit risk, while pocketing the difference between the cost of paying for protection and what the bond pays out.”<sup>184</sup> Billions of dollars worth of CDSs have also been taken out by hedge funds and pension funds seeking to hedge their investments.<sup>185</sup> The lack of any requirement to have a direct interest in the loan means that, in many cases, the value of the CDS contracts entered into on a single loan exceed the value of the loan itself many times over.<sup>186</sup> Moreover, even these swaps have been *bricolaged* still further with increasing sophistication. Most are now linked to an index of a hundred or so selected companies: so long as the majority of these stay solvent, the CDO is profitable; but if more than a handful default, then “investors begin to take a hit on the coupon payments and sometimes their capital too”.<sup>187</sup> A further refinement has been the creation of **Synthetic CDOs** (now a mainstay of corporate finance<sup>188</sup>) in which credit default swaps are themselves bundled together, as in a CDO, and then tranced and sold on.<sup>189</sup>

Consequently, when a loan or bond now goes into default, the ramifications are not restricted simply to the original lender and borrower, as they would have been in a traditional banking system, but extend far and wide throughout the financial system. In 2004, for example, when the Michigan-based car parts manufacturer, Delphi, went bankrupt, following allegations of irregular accounting:<sup>190</sup>

“It wasn’t just lenders and bondholders who suffered. Their exposure was a mere \$5.2 billion. Market participants had another \$28 billion of notional exposure to Delphi embedded in scores of credit derivatives. That triggered pandemonium too, as the market tried to assess the residual value of those derivatives.”<sup>191</sup>

The use of CDSs to hedge against the credit crunch threatens a similar debacle – but on a far deeper scale. With banks running into difficulties in the wake of the credit crunch, the volume of CDSs being bought and sold has greatly increased as the *bricoleurs* bet on which bank will be the next to go under. In the months following the bankruptcy of UK bank Northern Rock in September 2007, the volume of CDSs traded rose from a gross value of \$721 billion in June 2007 to \$2,002 billion in December 2007.<sup>192</sup> The worry is that one default could trigger another in a domino effect that could lead to financial meltdown, with profound social and economic implications globally.

Thanks to derivatives’ *bricolage*, risk management no longer involves just avoiding risky investments:<sup>193</sup> it has been transformed into a cynical game of pass the parcel in which almost any risk is acceptable so long as it can be “contained” by foisting it onto someone else. Indeed, it is above all the scale of *imposed* risks (risks of which the pension holders or company employees, whose livelihoods are actually gambled on, are unaware and which they had no opportunity to assess and to refuse) that differentiates earlier derivative trading from the computer-mediated, speculation-at-a-distance that modern derivative *bricoleurs* have engineered.<sup>194</sup> Whatever speculation the prudent Iowa farmer or the bearded, fatherly figure of Thales might have engaged in, it is of a completely different order, riskiness, scale and motivation from that of their modern Wall Street counterparts. The new *bricoleurs* have not simply reinvented what was already there: they have re-engineered it to create entirely new forms of finance. The result has been a transformation of the credit industry from “a dull backwater into a financial market blockbuster”.<sup>195</sup>

And to a frightening extent, it is the whole of society that bears the risk they have commodified and globalised.

## Creating a Derivatives Market

*“[There is] an escalating cycle in which regulatory initiatives inspire financial innovations that trigger further regulations that in turn give rise to additional rounds of innovation. At the end of the cycle, the rule books are thicker, but the capital markets often restructure themselves to block the regulatory regime’s goals.”*

Joseph A. Grundfest, former commissioner,  
US Securities and Exchange Commission<sup>196</sup>

The financial *bricoleurs* might have taken what was at hand to create their alphabetised instruments, as described above – but who was going to buy and sell them? And how? Once again, using what was around, they set about creating their market.

For many years, trading in financial derivatives such as options was outlawed in most countries. In Britain, options trading was banned in 1734, although the ban was not enforced, and the French government prohibited it in 1806.<sup>197</sup> Outside of the major capitalist economies, the trade was also widely prohibited: post-independence India, for example, banned the use of options in 1956, a ban that was only lifted in 1995.<sup>198</sup> Indeed, the world’s very first option on a future contract was not traded until 1982,<sup>199</sup> while the first currency swap (between IBM and the World Bank) took place in 1981.<sup>200</sup>

In the USA, until the late 1970s, derivatives trading was considered gambling unless (as in the case of futures and forwards) “a futures contract could be settled by physical delivery of the underlying commodity, for example grain.”<sup>201</sup> Investors were not permitted to buy securities entirely on credit – the essence of an option, which grants the right to purchase in the future in return for a small advance payment – and short-selling (betting that equity and bond prices will fall) was constrained by law.<sup>202</sup> It was not until 1970 that the New York International Commerce Exchange launched its first currency futures markets (it failed),<sup>203</sup> and it took a further two years before the Chicago Mercantile Exchange’s International Monetary Market opened for business, with the passive acquiescence of the authorities.<sup>204</sup> A year later, the Securities and Exchange Commission officially sanctioned the opening of the Chicago Board of Trade Option Exchange.

These new markets did not arise organically – as free market theory would dictate – to facilitate the supposedly obvious marriage between supply and demand. They were born out of active lobbying, nurtured through a period of near-death by calling in social favours, legitimised through alliances with academic and dependent on the engineering of demand for a product that few initially wanted. As ever, the *bricoleurs* used what was at hand: dinner party colleagues, political contacts, ideologues for hire and the persuasive power of mutual back scratching.

The story is elegantly related by sociologist Donald MacKenzie in his book *An Engine Not a Camera: How Financial Models Shape Markets*. Rather than directly challenging US laws against trading options, the early US derivative *bricoleurs* sought ways around them. Leo Melamed, a leading Chicago futures trader, realised that most options would not pass the “physical deliveries” test, but believed that

currency futures might make it past the regulators, since currencies involved a “real cash settlement . . . a delivery process.”<sup>205</sup> Backed by the Chicago Mercantile Exchange, which he chaired, Melamed began to plan for a currency futures exchange in the late 1960s. But Melamed recognised that he needed to build a “public interest” argument for options trading if he was to overcome the legislative and other difficulties in getting the market up and running. To obtain “the stamp of authority from some who counts”, Melamed therefore arranged to meet the free market guru Milton Friedman over dinner at New York’s Waldorf Astoria hotel. As MacKenzie reports:

“Friedman was instantly enthusiastic: ‘He said, “That’s a terrific idea. It’s a wonderful idea. You must do this.”’ Melamed asked ‘if I [Friedman] would be willing to write a paper for them on the case’ for a currency futures exchange. Friedman replied ‘I’m a capitalist first,’ and I [Melamed] said, ‘How much?’ I immediately knew what he meant and he liked that. He liked that. He said ‘\$5000’. I said, ‘It’s done,’ Just like that.”<sup>206</sup>

It proved money well spent. Armed with Friedman’s report, Leo Melamed went to see his political contacts in Washington, including George P. Schultz, then Secretary of the Treasury. Melamed told Schultz that the Mercantile Exchange’s plan for a new Exchange had the backing of Friedman. Schultz replied: “If it’s good enough for Milton, it’s good enough for me”.<sup>207</sup> The Exchange was duly opened.

Similar *bricolaged* ad hoc alliances with academics served the Chicago Board of Trade equally well in efforts to overcome the regulatory obstacles to setting up an options market. When first proposed, in the late 1960s, the idea faced considerable hostility from established traders and officials at the Securities and Exchange Commission, the then chairman comparing options to “marijuana and Thalidomide”.<sup>208</sup> Thwarted, the Board of Trade turned to an economics consultancy firm which in turn sought out a group of financial economists who were commissioned to set out the “public interest” case for introducing options.<sup>209</sup> The report, which argued that options were desirable because they extended the repertoire of strategies available to investors in the same way that an umbrella was a useful added accessory for pedestrians,<sup>210</sup> was used to mobilise support, recruiting among others Milton Cohen, a lawyer who had the respect of the new head of the Securities and Exchange Commission. Following a meeting between the two men, the SEC agreed to issue the necessary permits for the Board of Trade’s Option Exchange to open.

But the *bricolage* did not end there. In the early days, there was little appetite for using the derivatives traded in the Mercantile Exchange’s International Monetary Market (IMM). “Once the novelty wore off”, one trader recalls, “the market liquidity completely dried up . . . For most of the day . . . we just sat around playing chess and backgammon.”<sup>211</sup> Melamed, acting as, in his own words, “a one-man enforcer”, had to beg the Mercantile Exchange’s members to take part – “coercing, cajoling, admonishing, pleading” with traders to participate in order to ensure that the market remained liquid. “Everyone had to lend a hand”, Melamed subsequently wrote. “And for the most part, the floor responded to my pleas. These were, after all, my guys.”<sup>212</sup> Melamed’s social networks would also be called fully into play in October 1987, when it looked as if the Exchange would go bankrupt after a spectacular crash in the US stock markets. Only a 7am telephone call to a colleague at Continental Illinois

Bank (“Wilma, you’re not going to let a stinking couple of hundred million dollars cause the Merc to go down the tubes”) saved the day: Continental agreed to provide the Exchange with the money it needed to clear the outstanding trades from the previous day<sup>213</sup> – with just three minutes to spare before the Exchange officially reopened for trading. As Melamed has subsequently reflected, a market is:

“more than a bright idea. It takes planning, calculation, arm-twisting, and tenacity to get a market up and going. Even when it’s chugging along, it has to be cracked and pushed.”<sup>214</sup>

The social and political *bricolage* necessary to construct and maintain the US derivatives market – and the networks of power and influence that Melamed was able to tap into – are not merely of academic and historical interest. The “public interest” case for derivatives that Friedman and other free marketers have promoted – namely, that derivatives serve to stabilise markets by arbitraging away price differences<sup>215</sup> and by enabling the mitigation of risk,<sup>216</sup> the proof of their contribution to social welfare being the willingness of people to pay for them<sup>217</sup> – rest on the assumption that markets operate entirely unaffected by social and political influence.<sup>218</sup> Self-interest and self-interest alone, devoid of collective considerations, characterizes the *Homo economicus* beloved of economic textbooks – and it is this self-interest, if given a free rein, that supposedly operates to everyone’s benefit.

Collective action by derivative traders to protect “their” market – evident in the way traders came to the aid of the Mercantile Exchange – is therefore something of a paradox. As MacKenzie notes:

“The very markets in which *Homo economicus*, the rational egoist, appears to thrive cannot be created (if they require the solution of collective action problems, as in Chicago) by *Homines economici*.”<sup>219</sup>

It is a paradox that strikes at the heart of free market theory. The derivatives market is revealed not as the outcome of the self-interested matching of seller and buyer, responding to the grad grind laws of supply and demand, but as one of many “publics” whose rules, structures, daily practices<sup>220</sup> and collective purpose are directed, in this instance, at its own continuation for the money-making benefit of its members. Its claim to represent the interests of the “public” writ large is exposed (if there was ever any doubt) to be as partial, self-serving and contestable as that of any other interest group. For activists outside financial markets who are affected by the activism of *bricoleurs* within markets, exposing the social networks to which the derivatives markets respond may thus provide a powerful tool for puncturing the public interest claims of free market theory, and indeed the theory itself.<sup>221</sup>

## Seven (Unstated) Uses for a Derivative

Proponents of derivatives portray derivative traders as financial paramedics acting, through the invisible hand of the market, to staunch the damage done to the efficient allocation of capital (and hence, it is assumed, the general welfare of society) by market inefficiencies. Price stabilisation (achieved through using options to arbitrage away differences in the price of the same goods in different markets), price discovery (revealing what buyers are willing to pay for a particular commodity) and, above all, risk mitigation are the three commonly cited “public goods” provided by derivative markets.<sup>222</sup>

Market “inefficiencies” – principally arising from incomplete information – are held to result in different prices for the same commodities in different markets. The classic example is that of shares in oil company Royal Dutch/Shell, which, for historic reasons, were sold separately even though the two companies formed a single entity. Royal Dutch shares traded in Amsterdam, where the company was based, while Shell shares traded in London: both, however, gave investors a portion in the same dividend income stream from the overall Royal Dutch/Shell group.<sup>223</sup> Traders could make tidy profits by buying Shell shares low in one market and selling them high in the other – a trade that market theory dictates, should eventually lead to the two sets of prices equalising themselves, since the value of the underpriced share will be driven up as arbitrageurs seek to profit by buying low. And it is this speculative, rent-seeking role of derivatives that explains why, despite arbitrage, prices do not equalise in the most profitable trades.<sup>224</sup>

But derivative traders do not hang around to ensure, as good economic paramedics would, that the prices have indeed stabilised – to do so would be to lose out on the profit opportunities. They are constantly on the move; and that very speculative shiftlessness creates endless volatility that undermines their purported role as price stabilisers.<sup>225</sup> Indeed, without volatility, hedge funds would have nothing to speculate on. It is their bread and butter. In that sense, the derivative *bricoleurs* are ambulance chasers, not paramedics.

The claim that derivatives benefit society as a whole by allowing better pricing and management of risk is equally flawed. Certainly, derivatives are widely used to disperse risk – but this does not mean that they necessarily benefit society or lead to more “efficient” markets. Most derivatives, for example, are never priced through the market: their valuation on the books or accounts of banks or in investor portfolios is based on “complex mathematical models and other non-market techniques”.<sup>226</sup>

Moreover, the majority of derivatives are sold “over the counter” (OTC) through private trades that never feature on any public exchange. The prices reached are secret and therefore offer other investors little information that would help them price risk. Nor, as apologists assume, are the risks spread only to those, in the words of Alan Greenspan, former Chair of the US Federal Reserve, “willing and presumably able to bear them”.<sup>227</sup> Many investors are simply ignorant of the risks – an ignorance that traders have ruthlessly preyed upon.<sup>228</sup> In this context, “risk management” is just a euphemism for *imposing* risk on others, without their knowledge or say so. In addition, as the recent crisis makes clear, the pricing models cannot take account the nature of the risks they are imposing on the entire financial system.

Indeed, the driving force behind financial innovation in the derivatives market has *not* been the prudent and socially-responsible management of risk (assessing it, ensuring that it is not imposed on others without their understanding and agreement, pricing it, reassessing whether it justifiable and, if so, seeking to share the cost with equally informed colleagues). On the contrary, what has driven innovation has been the *bricolaging* of ways to *disguise* risk; to *hide* it; and to *avoid regulations* that have been introduced specifically to control risk contagion in financial markets.<sup>229</sup> Moreover, that drive to evade regulation is also reflected in the institutional form that derivative *bricoleurs* have evolved to capitalise on derivative-based investment strategies: hedge funds and private equity (*see* Box, “You Know a Hedge Fund When You See It”, p. 35).<sup>230</sup>

Seven examples of the *bricolaging* of specific derivative deals to avoid regulation illustrate this point:

1. Permitting the impermissible
2. Disguising risk
3. Beating Basel’s rules on bank reserves
4. Avoiding law suits
5. Inflating profits and hiding debt
6. Evading the EU Maastricht Treaty’s requirements
7. Getting around stock market rules

- **Using What is at Hand – Permitting the Impermissible**

In the early 1990s, Japanese investment regulations forbade insurance companies from investing in stocks and shares. Consequently, insurance companies were unable to cash in on the lucrative arbitrage opportunities available on the Nikkei, Japan’s stock market index, that traders were seizing and making millions by buying undervalued stock low and selling it high. As Frank Partnoy, a former investment banker and now Professor of Law at San Diego University,<sup>231</sup> reports, the derivative *bricoleurs* had a solution:

“[US banking organisation] Bankers Trust came up with an ingenious solution, a kind of cross-continental *ménage a trois*, which gave the Japanese insurance companies exactly what they wanted, while addressing the needs of two other clients: Canadian banks and European investors.”<sup>232</sup>

The Canadians would borrow yen from the Japanese insurers, in return for an option on the Nikkei 225 stock index. The insurers could not, legally, invest in stocks, but they were permitted to lend money, so the deal did not break Japanese regulations. To hedge against the risks for the Canadian clients, Bankers Trust sold the Canadians a further option that mirrored that sold to the Japanese – so, if the Nikkei went in a direction that resulted in losses for the Canadians, the second option (based on a bet in the other direction) would cover these losses. A third leg, in which European investors were sold options that covered the hedging option sold by the American Bankers Trust to the Canadians, completed the deal.<sup>233</sup> In effect, “a Nikkei 225 gamble was being passed from European investors to Bankers Trust to Canadian banks to Japanese insurance companies”. The Japanese insurance companies were thus enabled, via complex derivatives *bricolage*, to load up “with stock market bets they should not have been making”.<sup>234</sup> Japanese

regulators and citizens discovered the deals only when the Nikkei crashed in the early 1990s, the deals having been hidden from the public because they were undertaken “over the counter” – and thus outside of official exchanges.

In the USA, *bricoleurs* seeking to speculate on commodities have also used derivatives – in the form of swaps<sup>235</sup> – to bypass rules that limit the size of speculative positions on commodity markets. Rather than buying commodity futures directly on commodity exchanges, the *bricoleurs* place their bets through dealers who belong to the International Swaps and Derivatives Association (ISDA). Because the bets are offset by swaps, they are exempt from any limits on their size. In March 2008, nearly \$9 out of every \$10 of the money used to buy commodity futures through index funds<sup>236</sup> was reportedly being placed using ISDA traders as a conduit.<sup>237</sup> According to Michael Masters, a hedge fund manager, the effect of such *bricolage* has been to open “a loophole for unlimited speculation”.<sup>238</sup>

- **Using What is at Hand – Disguising Risk**

Structured notes – in which the payment on a bond is linked to another financial instrument or index<sup>239</sup> – were one of the first derivative instruments to be *bricolaged* in the early 1990s. The team behind the notes was based at investment bank Credit Suisse First Boston (CSFB). One of the first involved a bond linking payment to the relative rise and fall of the Thai baht against a basket of other currencies.<sup>240</sup> The note was specifically designed to enable investors to evade rules that prevented certain investors – pension funds, for example – from speculating directly in Thai baht, since the trade was too risky.<sup>241</sup> Issued by a top triple-A-rated bank, it “was a perfectly legal instrument, and it would look safe to a regulator, a shareholder, or even a boss . . .”<sup>242</sup> The structured note was bought widely by major mutual funds, insurance companies, pension funds and corporations, and its appearance encouraged others to issue similar notes of their own. By 1993, almost half of the medium-term borrowing of GE Capital (the financial arm of General Electric) consisted of structured notes: the company used the notes to borrow at a cheaper interest rate than it could borrow from a bank, the payouts being lower than the (then) interest rate.<sup>243</sup> Shareholders in the banks and companies issuing structured notes were kept in the dark, despite their risks, because the US laws governing securities did not require disclosure.<sup>244</sup> Many investors lost billions from such structured notes when the market for them collapsed in the early 1990s as it became clear just how risky they were, despite their triple-A-rated status. One – the treasury of Orange County, California – went bankrupt in 1994,<sup>245</sup> while the Louisiana state pension fund lost \$50 million and City Colleges of Chicago almost its entire portfolio of \$96 million.<sup>246</sup>

- **Using What is at Hand – Beating Basel**

To safeguard against banks going bankrupt in the event of borrowers defaulting on their loans, banks are required under internationally-agreed banking rules – known as the Basel Accords<sup>247</sup> – to set aside reserves equivalent to 8 per cent of their “risk-weighted” assets.<sup>248</sup> Under the 1998 Basel rules – known as Basel I – all loans to the private sector carried a 100 per cent risk weighting – meaning that a bank had to set aside a minimum reserve of 8 per cent of the full value of the loan. For mortgages, however, which the international committee setting the rules deemed less risky (no kidding . . .),<sup>249</sup> the weighting was set lower – at 50 per

cent. So the amount a bank had to set aside on a mortgage loan portfolio of £100 million would be 8 per cent of £50 million.

From the outset, the 8 per cent rule prompted “a drum beat of protest.”<sup>250</sup> The bankers argued that the rule made no sense: some loans were so low risk as to be virtually “bullet proof” and the capital set aside against them could be put to better use if released. Lobbying by the banks resulted in more flexible weighting rules being adopted in 2004 – under the Basel II Accord – but the 8 per cent reserves requirement remained unchanged.<sup>251</sup> The *bricoleurs*, however, had already devised financial instruments that could circumvent the rule.

Their mechanism of choice has been securitisation,<sup>252</sup> the banks moving loans “off balance sheet” by selling them to Special Purpose Vehicles (SPV) that the banks set up in offshore tax havens and whose shares they often own<sup>253</sup> or sell on to hedge funds. Typically, the SPV buys the loans by selling Collateralised Debt Obligations (CDOs); investors in CDOs buy the right to receive the interest from the loans (which have been tranching into high, medium and low risk segments) and any repayment of principal – but not the loans themselves (*see* pp.7ff and 19ff for further explanations). So long as the banks provide a legal opinion vouchsafing that the sale of the loans constitute a “true sale” (a key test being that the banks and their creditors do not have any recourse to the assets of the SPV), the banks no longer needed to put aside reserves against the loans.<sup>254 255</sup> As for the SPVs, the Basel rules do not apply since such vehicles are entirely unregulated.

It has been openly admitted that CDOs were created primarily to evade the Basel rules. The American International Group (AIG), which went bankrupt in September 2008 as a direct result of the CDSs it had issued, revealed in its 2007 financial report filed with the US Securities Exchange and Commission (SEC), that it had issued over US\$300 billion worth of credit insurance to European banks “... for the purpose of providing them with regulatory capital relief rather than risk mitigation in exchange for a minimum guaranteed fee”.<sup>256</sup> Such CDSs have allowed European banks to borrow up to 50 times the value of their reserves.<sup>257</sup>

Billions of dollars of bank loans – from “subprime” mortgages to credit card and corporate debt – have now been placed off balance sheet through SPVs and CDOs: Citibank alone is reported to have created about \$100 billion worth of SPVs.<sup>258</sup> Credit Default Swaps (CDSs) have also been used widely to “protect” any tranches of the CDOs that the banks have themselves bought. Evasion of regulation is also “the most powerful driver”<sup>259</sup> behind securitisation in the insurance industry.<sup>260</sup> The financial logic is simple. On a bundle of private sector loans worth, say \$1 billion, a bank would need to put aside \$80 million in reserves (8% of the 100% weighted risk) if the loans were kept on the balance sheet. Once the loans have been shifted to a SPV, however, this figure is dramatically reduced. No capital needs to be kept in reserve against the loans because they no longer belong to the bank. The only capital that is required to be set aside is against the equity that the bank holds in the SPV – perhaps 2 per cent of the total loan portfolio value, translating into a \$20 million reserve requirement. The difference – \$60 million – can thus be released to make new loans.<sup>261</sup> Moreover, the bank

also gets repaid the value of the loans it has sold to the SPV, enabling new lending and thus more fees, fees . . . and (of course) bonuses.<sup>262</sup>

The banks claim that, through securitisation and CDOs, the credit risks of their loans have been shared more widely, thus reducing the risk to the financial system as a whole and to individual banks in particular. Critics respond that securitisation has primarily been about the banks reducing their capital requirements – and that there has generally been no commensurate reduction in their asset risk.<sup>263</sup> And the critics have been proved right. As the ongoing fallout from the credit crunch testifies, many of the highest credit risks have in fact remained with the banks. One reason is that it is the equity holders in the SPVs who take the “first hit” on any default on the loans underlying the CDOs that have been issued.<sup>264</sup> And who often remain the SPVs’ main equity holders? Why, none other than . . . the banks.<sup>265</sup>

Indeed, far from reducing risk, the banks’ *bricolaged* response to the Basel rules has massively increased the likelihood of a major economic depression by reducing the reserves that they should have set aside against the loans whose credit risks, despite all the talk to the contrary, they frequently retain.<sup>266</sup>

- **Using What is at Hand – Avoiding Law Suits**

Special Purpose Vehicles (SPVs) have not only proved vital tools in the *bricolaging* of new ways to evade regulation: they have also been critical to ensuring that banks escape legal liability to buyers of their derivative products. Following a number of lawsuits<sup>267</sup> by disgruntled investors who claimed that they had been misled into buying derivatives (such as swaps) that they did not understand, the banks turned to SPVs as a way of protecting themselves against charges of making “unsuitable” sales, particularly where these sales involved deals of such complexity that the investors had arguably been kept in the dark as to their risks.<sup>268</sup> Under US law, the bank might be held liable if it had failed to disclose key information to the buyer. By placing the SPV between the bank and the investor, however, the bank could disclaim responsibility for the swaps and other derivatives sold through SPVs. Instead of buying a swap directly from the bank, the buyer would purchase it from the SPV. As former investment banker and derivatives broker Frank Partnoy explains: “Economically, the bank was the seller, but on paper it was merely a swap counterparty to an [SPV], who was a swap counterparty to the buyer.”<sup>269</sup> If the deal went sour, the banks could argue that there was no relationship between the buyer and the bank – and therefore no duty of care on the bank’s part.

- **Using What is at Hand – Inflating Profits, Hiding Debt**

Derivatives have also proved a powerful tool for inflating company profits by hiding losses and hence the risks of company operations – practices that directly undermine claims that derivatives improve market efficiency (*see* p.26). Taking advantage of particular accountancy rules, the now bankrupt US multinational Enron (which projected itself as an energy company – building power plants such as that at Dabhol in India<sup>270</sup> – but was in reality a derivative trading company<sup>271</sup>) used derivatives to make itself “look bigger and better than it was”.<sup>272</sup> The trick lay in creating special purpose partnerships through which it was able to borrow money without the debt showing up on the company’s balance sheet –

accountancy rules only required disclosure where Enron owned more than 50 per cent of the special purpose partnership.<sup>273</sup> Any debt belonged to the partnership, not Enron, and “were disclosed only as footnote to Enron’s financial statements, not in the balance sheet.”<sup>274</sup> By hiding such debts, Enron was able to make itself look more profitable than it really was<sup>275</sup> – keeping its share price and credit agency ratings high.

Enron also used over-the-counter (that is, unrecorded) derivative swaps to raise money without recording the debt, including borrowing some \$8 billion from investment banks JP Morgan Chase and Citigroup through pre-paid swaps. On the face of it, the deals were straight loans – the banks agreed to pay Enron upfront in return for Enron repaying the money over time – but because the loans were wrapped in swaps, the accountants were able to keep them off the balance sheet.<sup>276</sup> An email from a JP Morgan Chase employee was candid about their purpose: “Enron loves these deals because they are able to hide debt from their equity analysts . . . they can bury it in their trading liabilities.”<sup>277</sup> Partnoy reports that “when one Chase employee expressed surprise that Enron had billions of dollars of prepaid swaps, another employee wrote in response: ‘Shut up and delete the e-mail’”.<sup>278</sup> When Enron collapsed in December 2001, it emerged that such “tools” – going under acronyms such as FELINE PRIDES (“Preferred Redeemable Increased Dividend Equity Securities”<sup>279</sup> – don’t ask how the feline comes in) – were widespread within corporate finance. Other companies using them included Kerr-McGee (the energy giant), Phillips Petroleum and Duke Energy.<sup>280</sup>

Outside of the USA, derivatives have also been used to hide corporate losses and misrepresent the true financial position of companies. In Japan, investment bank Credit Suisse First Boston was hauled over the coals by the country’s Financial Supervisory Agency in 1999 for marketing derivative trading strategies to help banks conceal their losses.<sup>281</sup> In Italy, the collapse of the Parmalat food company in 2003 also revealed the extensive use of SPVs “to hide money that was being siphoned out of shareholders’ funds”. As the *Financial Times* reports:

“Parmalat abused the capital markets for years by raising money under false pretences. Money was siphoned off for family purposes and the whole mess hidden in a complex structure of 200-plus subsidiaries and special purpose vehicles scattered across the globe, including tax havens such as the Cayman Islands, the Dutch Antilles and Cyprus.”<sup>282</sup>

So widespread has been the use of derivatives to “massage” the figures that, in the wake of the collapse of Enron, some 250 large US corporations had to restate their accounts.<sup>283</sup>

### • **Using What is at Hand – Evading Maastricht**

Under the Maastricht criteria – introduced under the 1992 Maastricht Treaty on European Union, which laid down the rules for the introduction of the Euro in the European Union (EU) – European Union countries seeking to adopt the Euro as their currency are required to ensure that annual government borrowing is below 3 per cent of their GDP and that the ratio of government debt to GDP does not exceed 60 per cent.<sup>284</sup> Under the EU’s so-called “Growth and Stability Pact”,

these criteria must be maintained if the country is to remain in the eurozone.<sup>285</sup> EU governments have thus turned to derivatives and securitisation as a means of both removing debt from the public accounts and of raising capital without increasing their official debt burden. Pension payments held by governments on behalf of former state employees, export credit agency debts, and government real estate have all been put out to the market. In Germany, the government securitised post office and telecom workers' pensions, raising \$7 billion against the future income from the workers' pension pot, a strategy that is also being followed by France.<sup>286</sup> In Italy, the treasury is busily securitising the government's vast real-estate holdings, "effectively trading future rent income for immediate cash".<sup>287</sup> In Greece, securitised "assets" have even included the future income from funds that Greece expects to receive under the European Union's Community Support Framework and expected future dividends from the national lottery.<sup>288</sup> *Business Week* warns that, in the long term, the cost of the borrowing using such securitisations could be higher than if the debt had been raised through conventional bonds. Financial *bricolage*, however, has proved more enticing than the possibility of structural adjustment policies being imposed by the European Central Bank to bring overspending eurozone countries back into line.

Export credit agency (ECA) debt is one revenue stream that some governments have sought to securitise. SACE, for example, Italy's ECA, has securitised \$1.17 billion of debt owed by "emerging market" countries in Africa, the Caribbean, the Middle East, Asia, Eastern Europe and Latin America.<sup>289</sup> Britain's Export Credits Guarantee Department (ECGD), France's COFACE, Germany's Hermes and the USA's ExIm bank are also reported to be seeking to securitise \$1 billion of Russian debt,<sup>290</sup> although this is denied by the ECGD.<sup>291</sup> The deal, which was reportedly postponed in July 2007 due to the credit crunch that followed the collapse of the US subprime mortgage market, is expected to be revived with a "significantly larger" portfolio: it would be the third of its kind to be handled via a SovRisk, a vehicle especially set up for the purpose.<sup>292</sup>

For campaigners working to cancel illegitimate third world debt, such securitisation of ECA debt is of considerable concern. As Francesco Martone, formerly of Eurodad, the European debt campaign, points out, by spreading risk, the claims that are transferred through securitisation to Special Purpose Vehicles (SPVs) are often disposed of without informing – and much less obtaining agreement from – the debtor country. Moreover, once transferred to an SPV, ownership of the debt becomes disbursed and it becomes difficult for the originating government to restructure or cancel claims. Securitisation therefore runs the risk of making it more difficult – if not outright impossible – to negotiate a restructuring of debt payments in the event of a debtor country running into economic difficulties because of the loss of control over the claims. Argentina has already experienced such difficulties when it sought to renegotiate its debt repayments.

- **Using What is at Hand – Circumventing Stock Market Rules**

All major stock markets have rules requiring investors to declare what is termed their "beneficial ownership"<sup>293</sup> in a company – for example, shares held on their behalf by a nominated proxy. The rules are intended to "out" anyone who is

secretly trying to acquire a company. In the USA, nominee holdings over 5 per cent must be declared.<sup>294</sup> In the UK, the threshold is 3 per cent.<sup>295</sup>

Derivatives known as “Contracts for Difference” (CFDs)<sup>296</sup> – in which the seller typically agrees to pay the buyer the difference between the current value of a share and its value on a specified date<sup>297</sup> – have been used widely to get around these rules, enabling companies to build up undisclosed beneficial interests prior to making a takeover bid. The bet is simply on the difference in the share price on two different dates, so neither party need actually own shares.<sup>298</sup> In practice, however:

“the broker selling the CFDs will almost always seek to hedge its position by buying shares in the company if the CFD holder is betting on the share price going up or by borrowing stock if the CFD holder is betting on it going down”.<sup>299</sup>

If the CFD contract is settled through the physical exchange of shares, its purchase must be declared. But if the settlement is paid in cash, there is no such requirement.<sup>300</sup> A predator company can therefore buy CFDs to build up a “virtual position” in companies, without actually purchasing the company’s shares itself.<sup>301</sup> Such “virtual ownership” gives the CFD holder considerable influence.

An example is the acquisition in 2004 by BAE Systems of Alvis, a UK tank manufacturer, against a rival bid by General Dynamics:

“[H]edge funds holding a virtual position in Alvis persuaded BAE Systems to announce a competing takeover for Alvis because they were unhappy with the terms being offered by General Dynamics. Despite not owning the underlying shares in Alvis, those hedge funds gave Alvis irrevocable commitments to request physical settlement of the CFDs. The hedge funds knew that the broker who sold the CFDs to them would tender the underlying Alvis shares (acquired by the brokers to hedge their position) in accordance with their clients’ wishes as the hedge funds, rather than the broker, had the economic exposure in the outcome of that bid.”<sup>302</sup>

CFDs currently account for almost one third of UK equity trading.<sup>303</sup> In Britain, they were first used by the construction conglomerate, Trafalgar House, in 1995 to build up a covert stake as part of its campaign to takeover battle for Northern Electric.<sup>304</sup> Since then, they have featured prominently in other takeover battles, including Joe Bloggs Jeans’s 2002 bid for men’s outfitter Moss Bros; millionaire retailer Philip Green’s abortive attempt to takeover Marks and Spencer in 2004; and investment company Laxey Partners’ build up of a 22 per cent holding in Swiss building services company Implenia – a move that led to legal action by the Swiss regulators.<sup>305</sup>

How long, the CFD loophole will remain open, however, is questionable. New rules have been introduced in Australia to require disclosure of beneficial holdings via derivatives<sup>306</sup> and the UK authorities are also recommending changes to the regulations.<sup>307</sup> In the US, where the Securities and Exchange Commission (SEC) is resisting changes to the rules, a US Federal Court recently ruled that a British hedge fund, The Children’s Fund, should have disclosed its involvement with US

railway operator CFX. The Court held that The Children’s Fund, which had built up a 14 per cent covert holding in CFX in preparation for a takeover bid, had used its equity swaps “as part of a plan or scheme to evade the reporting requirements” of US law.<sup>308</sup> The ruling has left the US equity derivatives market in considerable confusion. More grist, no doubt, for the *bricoleurs*’ thrill.

## **Bricolaging Institutions: Private Equity and Hedge Funds**

*“Hedge funds were designed to loot shipwrecks.”*

Karl Miller, senior partner,  
Miller, McConville, Christen, Hutchinsen & Waffel<sup>309</sup>

*“Private equity funds have developed extreme forms of financialisation beyond the scrutiny of public stock markets, while hedge funds have invented new ways of speculating in everything related to the world of finance, day by day increasing the pace, volume and leverage of such speculation.”*

International Trade Union Confederation, 2007<sup>310</sup>

The side-stepping, trampling and mince-meating of regulation are not restricted to the use of specific instruments – SPV, swaps, PRIDES or whatever. The institutional forms that the derivative *bricoleurs* have engineered to carry out their operations – hedge funds and private equity funds – have also been *bricoleured* with the evasion of regulation uppermost in mind. Under US law, companies that have fewer than 100 “beneficial owners” and that do not trade securities publicly are exempt from the majority of the legislation governing financial services. Hedge funds and private equity funds have taken advantage of this loophole to evade reporting and registration requirements that, in common with much of corporate America, they deem onerous and time consuming. As “pooled, privately organised investment vehicles”, they are not required to register with the US Securities and Exchange Commission (although recent changes in the law have attempted to tighten up on this) and are exempt from having to disclose their financial dealings. Because their capital is drawn from “high net worth” individuals and institutions, which are deemed to be well enough versed in finance not to need protection, they are also exempt from the US Investment Company Act. Similar lax regulation applies in the UK.

The *bricoleurs* have also discovered the advantage of “taking companies private”. The majority of the biggest companies in the US and elsewhere are “public” companies – that is, they are listed on and trade their shares and securities through public stock exchanges. As such, they are subject to strict reporting and auditing requirements. Unlisted “private” companies, however, are not subject to most of the requirements of securities laws.<sup>311</sup> In particular, they have no obligation to disclose financial information, other than a basic set of accounts. Private companies also avoid the more onerous corporate governance and accountancy requirements introduced in the USA in wake of Enron’s bankruptcy – notably through the 2002 Sarbanes-Oxley Act.<sup>312</sup> Hedge funds and private equity funds have not only themselves adopted “private” status: they have de-listed companies they purchase in order to restructure them behind closed doors, without the scrutiny of shareholders or the broader market.<sup>313</sup>

Such “regulatory arbitrage” brings added profit for the hedge funds, not least through fewer transaction costs. But it also places the public – particularly savers and pension

holders – at greater risk and with fewer legal avenues for redress should things go wrong. Equally important, decision-making power is now concentrated in a handful of funds whose investment strategies are entirely beyond any form of public scrutiny or accountability. Just 9,000 hedge funds now account for 30 to 60 per cent of the daily global turnover in financial markets – deals which are not subject even to the minimum oversight that institutional shareholders provide for public companies – while private equity is presently involved in between one quarter and one half of all major mergers and acquisitions in the US and the UK<sup>314</sup> – all behind closed doors. In the process, many of the strategies developed by human rights and environmental activities to influence corporate decision-making – shareholder resolutions, for example, or corporate social responsibility policies (many of which have teeth only because they are grounded in the reporting requirements for listed companies)<sup>315</sup> – no longer have any purchase.

**Box:**

**“You Know a Hedge Fund You See It”**

Regulation requires regulators to know what they are regulating. Those who prefer to live and operate in the shadows, however, exploit their unregulated status to morph into whatever form best suits their immediate needs. They are understandably reluctant to be too precise about what they are and what they do. Hedge funds are no exception.

Small wonder, then, that the UK’s newly created Hedge Fund Standards Board – a body that should be able to define a hedge fund – is coy about doing so:

*“Hedge funds are easier to recognise than to define. However, they tend to share certain characteristics and are generally susceptible to the elephant test: although hard to describe, you know a hedge fund when you see it.”<sup>316</sup>*

Whatever their definition,<sup>317</sup> hedge funds now control some \$2.9 trillion in assets under management – up one billion on 2007 despite the credit crunch and some high profile bankruptcies.<sup>318</sup> To put this sum into perspective, \$2.9 trillion is almost equivalent to the entire annual output of the United Kingdom, over 100 times the annual disbursements of the World Bank,<sup>319</sup> and enough to meet the Millennium Development Goals entire projected budget several times over.

Although they were once two-bit organisations that operated on the fringes of Wall Street and the City of London (think Mickey Rourke’s arbitrage dealer in the 1986 Hollywood film *9 1/2 weeks*), hedge funds have been billed as “the vanguard of a financial revolution”.<sup>320</sup> In the decade from 1996 to 2006, the number of hedge funds grew from just 130 to an estimated 9,000 – a period that has also seen a ten-fold increase in their assets under management.<sup>321</sup>

Among many “hedgies”, the culture of doing business from home (or the beach), rather than from an office in the main financial districts, persists. In the USA, such is the profusion of “hedgies” around Greenwich, Connecticut,

that the area has been dubbed “Upper Hedgistan”, with a further enclave in the Upper Eastside of New York (or “Lower Hedgistan” to insiders). Forty per cent of the world’s 351 funds, with more than \$1 billion in assets, are based in one or other of these two locations.<sup>322</sup> In the UK, Hedgeshire is centred on London’s Mayfair (notably the area around the old red light district of Shephards’ Market).

The first recorded “hedge fund” dates back to the 1940s, when a US investor, Alfred Jones, set up a fund to combine “long” and “short” positions – offsetting bets on the prices of some stocks and shares rising (“going long” in the jargon) with bets on other stocks falling (“going short”). Today, however, very few hedge funds actually hedge their positions.<sup>323</sup> Indeed, far from their having a common, identifiable investment strategy, it is the diversity of their “market plays” that is most striking. Some combine long and short strategies, some invest long only. Some focus on specific asset classes – such as stocks or bonds – while others have broader portfolios.<sup>324</sup>

Moreover, these strategies are not exclusive to hedge funds. Many of the bigger investment banks now have hedge funds of their own<sup>325</sup> and many investment banks “are increasingly resembling hedge funds”.<sup>326</sup> Private equity firms, such as Blackstone, also have hedge fund divisions, or, like US group Cerberus Capital, are part hedge fund, part private equity.<sup>327</sup> Meanwhile, many companies listed on publicly traded stock exchanges have adopted hedge fund strategies to raise capital and “spread risk”. Enron, though often thought of as an energy company, was primarily a derivative trading operation, using hedge fund style strategies.

Hedge funds initially drew their funds from High Net Worth Individuals – private investors with more than \$1 million in liquid assets, excluding their home. But, as with their investment strategy, this is no longer a defining characteristic. Attracted by the high returns, pension funds have invested heavily in hedge funds, as have other institutional investors, notably university endowments – in 2007, Yale University had one quarter of its endowment money in hedge funds while Harvard University was also a major investor.

All this leaves just two features of hedge funds that most help in defining them. First – and most important of all – they are unregulated. And, second, they pay their managers huge fees. Indeed, Bill Gross, a bond fund manager at Pimco, a leading global investment management firm, is candid: hedge funds, he is reported as saying, are “a remuneration strategy, not an investment strategy.”<sup>328</sup>

## Bricolaging a Shadow Banking System

“. . . The heroes of the past 20 years have been the financial market wizards, and all of a sudden it's so obvious that the emperor has no clothes. The lionising of the money men was 'ideology and special interests, cloaked in ideology'.”

Joseph Stiglitz, Nobel Prize economist<sup>329</sup>

The use of derivatives to avoid regulation, to offload risks and to tap the “liquidity factory”<sup>330</sup> created through securitisation is now so widespread that the cumulative effect of the interwoven deals and counter-deals *bricoleured* by derivative traders has been the emergence of what the *Financial Times* has called a “shadow banking system.”<sup>331</sup> Just as shanty towns grow unacknowledged on city maps by the authorities until they become so established that they can no longer be ignored, so the *bricoleurs'* shadow banking system has grown higgledy-piggledy alongside the more formal financial architecture of established financial institutions such as banks and pension funds: everyone has known it exists but few have ventured to acknowledge its presence or power. Initially just tolerated, and occasionally clamped down on, it is now as much a feature of the landscape as the august facade of the Bank of England. Indeed, by 2007, the unregulated shadow banking system was estimated to be worth \$5,900 billion, compared with \$9,400 billion for regulated banking – as the *Financial Times* comments, “no minor appendage on the mainstream financial world”.<sup>332</sup> Ironically, given the credit crunch and its aftermath, central banks have in many instances aided and abetted the development of the *bricoleurs'* new financial shanty-town: with the big banks' balance sheets bloated with debt in the late 1970s and early 1980s, the central banks viewed the newcomers as a welcome means of spreading the risk and thus avoiding their greatest fear – a domino collapse of the bigger banks and forced nationalisation of the banking sector.<sup>333</sup>

A “plethora of opaque institutions and vehicles”<sup>334</sup> – from hedge funds to private equity funds – have thus been allowed to take root “untouched by regulation yet free to magically and mystically create and then package [high-risk] loans in [ways] that only Wall Street wizards [can] explain.”<sup>335</sup> While their institutional focus differs – some invest long-term, some hedge, some invest for milliseconds – the new shadow bankers have one feature in common: they all use derivatives to generate the leveraged finance that has fuelled their growth over the past decade. The result has been a massive shift of assets away from traditional banks to new *bricoleur*-created institutions,<sup>336</sup> with many companies – particularly those that are distressed<sup>337</sup> – looking towards hedge funds, not banks, to raise capital or to loan them money directly.<sup>338 339</sup> By 2007, for the first time in the history of banking, banks provided less than 50 per cent of the leveraged (or borrowed) finance<sup>340</sup> sought by investors and companies – down from 95 per cent at the start of the decade.<sup>341</sup> In 2007, non-bank institutions owned “just over 50 per cent of all lending to risky European companies – pushing banks into a minority role in this sector for the first time.”<sup>342</sup> Hedge funds had even graduated to originating their own securitised credit derivatives<sup>343</sup> – a practice that was, until recently, the exclusive province of banks. Indeed, as *The Economist* notes:

“The cosy, often inefficient, relations between its banks and their corporate clients are being supplanted by cheaper, but more opportunistic, debt practices of the sort that fuelled the takeover boom in America in the 1980s. With

investors searching for alternatives to low-yielding bonds and shares, buy-out merchants can raise astonishing sums astonishingly fast.”<sup>344</sup>

Even after the credit crunch, which has dented the leveraging power of hedge funds, the shadow bankers still remain a first port of call for many distressed companies, including the banks themselves, with hedge funds proving a prime source of “rescue capital to prop up the ailing corporate world”.<sup>345</sup> The experience has been described as borrowing “from the local thug with a baseball bat”.<sup>346</sup>

Indeed, the derivatives market has proved so responsive to corporate needs – and so lucrative<sup>347</sup> – that the majority of corporate finance departments are now heavily immersed in derivatives trading in one form or another, either through hedge funds or on their own account. Nine out of every ten of the world’s top 500 companies use derivatives or one kind or another.<sup>348</sup> In an indication of the extent to which derivatives are now a major source of finance for manufacturers, car manufacturer DaimlerChrysler “earned half of its profits not from the sale of cars but from foreign currency trading”.<sup>349</sup> Such corporate profits – as with Enron’s derivative-derived investments in the power and water sector – are now a major source of “portfolio” investment. Speculative capital can no longer be neatly divided off from “beneficial” portfolio capital.

Pension funds have also plunged into derivatives,<sup>350</sup> investing heavily in private equity and hedge funds, while commercial banks have expanded their own proprietary derivatives trading operations to the point where many now more closely resemble investment banks than traditional lenders, making their money on arranging deals rather than taking deposits and originating loans. The World Bank, through its private sector arm the International Finance Corporation, is also involved, promoting (and investing in) the securitisation of “low income” group mortgages and other derivative products,<sup>351</sup> while governments, export credit agencies, municipalities and a range of other institutions now routinely use currency derivatives and interest rate derivatives to hedge against volatility in the markets.<sup>352</sup> Likewise, the Asian Development Bank now has \$650 million invested in some 40 private equity funds, despite an internal report revealing in 2007 that the Bank’s private equity holdings “breached its capital allocation limit for private equity funds of 5 per cent”.<sup>353</sup>

Indeed, there are those who would argue “a type of ‘tipping point’ has been reached where the use of derivatives has become so prevalent that it is almost impossible for any investor to stay out of the fray.”<sup>354</sup> As Professor Paul Merton, the Nobel laureate who jointly invented the formula currently most widely used for pricing options, comments: “Asking whether the world today wants to use derivatives or not is like asking whether we want to use cars. They are an integral part of the financial system”.<sup>355</sup>

## Derivative Bricolage and “Financialisation”

The growth of the shadow banking system – and the increasing role of derivatives within markets – has profoundly changed relationships of power within the formal global economy. With growth in the financial sector now far outpacing growth in manufacturing in many western economies,<sup>356</sup> and with companies increasingly reliant on derivative-based strategies for raising finance, the *bricoleurs* in hedge funds, investment banks and private equity funds have come to dominate decision-making in large areas of the economy – dictating, via the power they increasingly exert within markets, how companies organize themselves, what they invest in and how. Policies that increase returns to shareholders in the short term are pushed at the expense of long-term profitability; assets are no longer held but quickly securitised against their future income to raise lump sums to finance short-term growth; “value” is created for shareholders through mergers and acquisitions rather than increased production.<sup>357</sup>

Such “financialisation” of the economy,<sup>358</sup> as the International Trade Union Confederation notes, now means that “financial concerns, and those who voice them, are ever more influential in setting corporate strategies”.<sup>359</sup> In effect, satisfying the needs of the “speculative economy” has become a driving force in shaping the behaviour of companies and in deciding which sectors of the economy receive finance. The impacts on the ground – for employees, for pensioners, for householders, for the sick and for those whose livelihoods stand in the way of profit – have been profound. Two areas where derivative-based strategies of accumulation have been particularly evident in recent years – leveraged buyouts, and mergers and acquisitions – are illustrative:

- **Leveraged Buyouts**

Enhancing the value of “undervalued” companies through leveraged buyouts – a specialty of private equity funds<sup>360</sup> – has been a prime force driving the growth of financial markets in the past decade. Typically, a private equity fund will use derivatives to raise debt finance to take over “undervalued” companies, which it then de-lists from the stock exchange (if they are a publicly quoted company), strips of their non-core assets, closes non-profitable operations and sells the restructured company back onto the market, making large profits in the process. In 2005, the number of buy-out deals surged to 2,677 (with a value of about \$326.5 billion), up from about 1,200 deals (worth about \$108 billion) in 2002.<sup>361</sup> In the following year, 2006, buy-outs in the USA alone hit \$410 billion – a new record being set for a single deal by the buyout of the Texas utility company TXU for \$45 billion.<sup>362</sup> Although most deals took place in the US and Europe, the practice has spread, with a wave of such takeovers taking place in Argentina, Brazil, Japan and South Africa.<sup>363</sup>

Cheap derivative-generated debt has been a key driver of this leveraged buyout boom. Because debt finance is tax-deductible, the private equity companies have been able to structure the deals so that they end up paying minimal tax on their profits – and sometimes no tax at all.<sup>364</sup> Derivatives, such as collateralised debt obligations, have enabled hedge funds to buy tranches of triple-A-rated debt cheaply, against which further loans can then be leveraged. The hedge funds (or the hedge fund departments of private equity companies) then provide the debt for

the takeover, profiting along with the private equity funds when the company is sold back on to the market. The money made has tended to outstrip by far ordinary returns on investments. The Carlyle Group (one of the world's top private equity firms that is now in trouble following the subprime collapse)<sup>365</sup> made a return of 128 per cent after buying the Hertz car company in 2005, restructuring it and returning it to the market through an Initial Public Offering (IPO) a year later. Another top private equity firm, Blackstone, "made 368 per cent in just seven months on a quick-flip of Celanese, a German chemical company; and Bain Capital has earned more than four times their initial investment in Burger King while still retaining a share of the now re-listed company."<sup>366</sup> Sectors in which buyouts have been prevalent include: retailing (Boots, the UK chemist chain, being an example), health care (Hospital Corporation of America, HCA, the largest private hospital chain in the US being bought out in 2006), public utilities and defence (such as the purchase of US defence contractor IAP<sup>367</sup> by Cerberus Capital Management).

For workers in the companies that fall prey to such buyouts, the consequences have often been dire. In the UK, 4,000 workers in Gate Gourmet, a catering firm that supplies airlines, lost their jobs after a buy out by TPG.<sup>368</sup> Many of the workers were informed by text on their mobiles. In the case of Airwave, the company that provides the digital radio network for the emergency services in the UK, the new private equity owners announced that they were scrapping the existing, guaranteed benefits pension scheme within an hour of taking over.<sup>369</sup> Subsidies captured through tax breaks also affect wider society, depriving the exchequer of income that could be used to fund schools and hospitals and other public goods.<sup>370</sup>

- ***Mergers and Acquisitions***

Derivative-based instruments – primarily equity swaps and debt swaps – have also played a critical role in facilitating the Mergers and Acquisitions (M&A) boom of the last two decades, generating huge profits for hedge fund speculators and huge fees for the banks that arranged the deals. The impacts of such M&A activity has been profound, concentrating market power in fewer and fewer hands – and driving corporate managers to adopt strategies that enhance short-term investor returns in an effort to avoid being the next M&A target.

The number of M&A deals sky-rocketed over recent years – from less than 200 a year worldwide in the early 1980s to over 40,000 a year in the late 1990s, the US deals alone being valued at over \$1.7 trillion.<sup>371</sup> Although the trend declined briefly in the early 2000s, it picked up again soon after, with the number of mergers and acquisitions reaching \$4.06 trillion in 2006, an increase of 36 per cent on 2005.<sup>372</sup> Europe recorded a 47 per cent increase in 2005, with several high-profile deals – such as Italian bank UniCredito's purchase of Germany's HVB (HypoVereinsbank) for \$18.6 billion – helping push volumes up to \$463.5 billion.<sup>373</sup> In the wake of the credit crunch, M&A deals have again declined – but are by no means over. Private equity groups (which have been among the biggest players in the market) still have "money burning a hole in their pockets",<sup>374</sup> having raised some \$500 billion in 2007, and wealthy private investors continue to invest in private equity.<sup>375</sup> Smaller companies,<sup>376</sup> distressed larger companies<sup>377</sup> or

companies in the Asia-Pacific region<sup>378</sup> are now proving favoured targets for buyouts.

Because over-the-counter derivative trades are not public, equity derivatives have proved a critical (and much used) tool for takeover *bricoleurs*, enabling them to circumvent, quite legally, stock market rules on the disclosure of “beneficial interests” in a company (*see pp.32ff*). Influence over a target company can therefore be built up by stealth.<sup>379</sup> Derivative deals can also increase flexibility for the buyer in an M&A deal.<sup>380</sup> Equity swaps,<sup>381</sup> for example, feature prominently, both because they offer a lower cost means of acquiring holdings<sup>382</sup> and because they enable the buyer to stagger the backdoor acquisition of shares while ensuring that the purchase will take place at a given price or following a given event (which may be critical to the acquisition strategy). Under such swaps, the predator company (or a hedge fund seeking to speculate on a takeover deal) buys rights to the income stream from the target company’s shares, which it then agrees to swap at an agreed date with a company that has actual ownership of the targeted shares. Where finance for the takeover involves syndicated loans or bridging finance, credit derivatives are also widely used to hedge against the credit risks.<sup>383</sup> Oil giant BP made use of repackaged equity-linked derivatives to seal its 2003 acquisition of the Russian oil firm TNK.<sup>384</sup>

Banks and dealmakers earn vast sums from such swapping, packaging and repackaging. But the social and economic consequences extend beyond additional Ferraris in the garages of investment bankers, or extra Krug champagne sales in the lap-dancing clubs favoured by city brokers. M&A deals have profoundly restructured power within markets, concentrating decision-making power and the control of assets. Market share in such industries as iron and agrochemicals is now concentrated in a handful of companies – with other sectors, such as pharmaceuticals and banking, tending in the same direction. The result, argues Steve Hannaford, author of *Market Domination*, is the emergence of new oligopolies, with fewer and fewer companies dividing up specific markets between them.<sup>385</sup> Fearful that a rival may snap up remaining takeover targets, each new round of acquisitions encourages another, the power of the acquiring companies growing with each successful purchase.<sup>386</sup> Hannaford illustrates the dangers:

“Take an industry like soybean processing. With essentially three global competitors, the industry leaders (Cargill, ADM, Bunge) have power over prices for feed, food, or chemicals (whether they illegally collude or not) and the costs (what they pay to farmers). These companies compete, but within certain levels of trust and mutual benefit, so that none of them is likely to engage in a price war.”<sup>387</sup>

A further consequence of M&A deals has been the entrenching of a “short-term” culture within the investment community, where quick returns are favoured over improving long-term prospects. Speculation by hedge funds – betting on the prospects of M&A mergers – has been a critical factor in determining the outcome of many deals. The chief executive of the UK-Swiss mining giant Xstrata (the world’s biggest exporter of thermal coal and a company with a much criticised environmental record)<sup>388</sup> has candidly admitted, for example, that its successful 2006 bid for Canadian copper and nickel miner Falconbridge was almost entirely

the result of hedge fund backing: “The hedge funds – if they didn’t exist, we might not have won.”<sup>389</sup> But, as the Toronto *Globe and Mail* commented on the deal:

“The prevalence and firepower of the hedgies and the arbs [arbitrageurs] makes a mockery of the term ‘investor’, at least in the classic sense of the term . . . Hedgies and arbs have absolutely no interest in long-term value. To them, long-term is the end of the quarter, when they have to show their clients returns that are high enough to justify their outrageous fees.”<sup>390</sup>

The ruthless pursuit of such returns is reflected in the scant regard that hedge fund investors have historically shown for the environmental, human rights and development impacts of the companies they back. A case in point is the reaction of UK-based RAB Special Situations Company Ltd to the shooting of protestors against a planned open-pit coal mine in Phulbari, Bangladesh being promoted by Global Coal Management (GCM), in which RAB then had a holding. Five people, including a 14-year old boy, were killed and a further 100 injured. In its 2006 annual report, RAB stated:

“Sadly our two largest holdings, Oxus Gold<sup>[391]</sup> and Global Coal Management (formerly Asia Energy, now GCM Resources) lost US\$85 million . . . between them, due to extreme local political difficulties which can be judged by the fact that people were shot in both locations. *We have bought more of both stocks and believe we will make good returns in the future . . .*” (emphasis added).<sup>392</sup>

Although M&A activity has declined dramatically since the credit crunch, it may well increase again as surviving banks snaffle up distressed former rivals – in the USA, Bank of America has already acquired Merrill Lynch,<sup>393</sup> whilst in Europe Spain’s Santander has bought much of the UK’s bankrupt Bradford & Bingley<sup>394</sup> (although the UK government has taken on the most toxic of Bradford & Bingley’s mortgage assets). Hedge funds and private equity are also “cannibalising” each other, as those who have funds seek to scoop up cash-strapped rivals.<sup>395</sup> The result is likely to be still further concentration in the financial sector.

## A Wall of Money – Impacts on the Ground

“ . . . when the capital development of a country becomes a byproduct of the activities of a casino, the job is likely to be ill done.”

John Maynard Keynes, 1965<sup>396</sup>

Financialisation – a direct political and economic outcome of the speculative success of the derivatives *bricoleurs*’ “shadow banking system” – has undoubtedly changed the landscape of market power in western economies. But it would be a grave mistake to conceive of the “speculative economy” as existing entirely separately from the “real economy” of manufacturing and services. The two feed off each other and are intimately entwined. Instruments that are vehicles for speculation to a hedge fund – securitised assets, for example, or an initial public offering (IPO) of shares when a company goes public – are also the means by which many “real world” companies raise capital, speculation often increasing their value and realising higher than expected finance. Likewise, by raising the price of given commodities, speculation in the commodity markets influences the choices made by companies on the ground: an oil field that was uneconomic to develop when oil was \$20 a barrel may become financially viable if the oil price goes over \$100 a barrel. And because the wall of money that derivative *bricolage* has generated must be “reinvested” if further profits are to be made, each new round of speculation profoundly affects the productive economy, providing finance to areas where hedge funds and other speculators gamble on the likelihood of high returns, while potentially starving others of funds.

Here are some examples from health care; mining and food; mills and dams; infrastructure; and climate and weather.

- **Securitisation and the Expansion of Private Sector Health Care**

Securitisation “works” (for those not left holding the toxic parcel when the music stops) because its structured tranches of debt (senior, mezzanine and junior) can be sold not only to hedge funds and other speculators seeking high-risk but high paying securities but also to pension funds seeking triple-A-rated investment grade bonds that pay above market returns (at least in theory). And because securitisation is specifically structured to appeal to both types of investors, risk averse and risk addicted, it has proved a powerful vehicle for raising capital to “grow” businesses. One rating agency alone, Standard & Poor’s, reports rating some £59.4 billion worth of European corporate securitisations in the eight years from 1998-2006, finance that was used to fund private sector roads, hospitals, nursing homes, oil and gas development and airports.<sup>397</sup> In the UK, corporate securitisations totalled £11 billion in 2005, 20 per cent of which was accounted for by a single transaction that securitised Scotia Gas Network’s gas supply in two regions of the country.<sup>398</sup> The actual amount of money raised for the corporate sector through securitisation may, however, have been higher still, since many companies preferred to raise funds through securitising commercial property rather than using cash flows from their business or a given project (the strict meaning of “corporate securitisation”). Moreover, the use of securitisation is spreading, with \$7 billion raised (including residential mortgages) in the “new” markets of Russia, Central Eastern Europe and the Middle East.<sup>399</sup> And, in a new trend, securitisation is now being used to guarantee export credit loans, one Brazilian steel company reportedly using securitised receivables to back a loan by JBIC, the Japanese export credit agency.<sup>400</sup>

In the health care sector,<sup>401</sup> securitisation (justified as a means of “plugging the gaps in national health services”)<sup>402</sup> enabled the UK’s largest operator of private hospitals, the General Healthcare Group, to raise £975 million in 2001.<sup>403</sup>

Capitalising on the decline of local authority care homes (due in large part to reduced public sector funding) and with the UK’s “ageing population” providing what Barclays refers to as a “positive effect on occupancy rates”,<sup>404</sup> private health companies have also used securitisation to finance expansion in the care homes sector: almost one fifth of all private care homes in the UK are now funded through securitised future income streams.<sup>405</sup> Private equity firms, such as The Blackstone Group and 3i, have recently made huge windfalls from selling their care home business – and other are now rushing into the market, with city analysts predicting a boom.<sup>406</sup>

But while securitisation might provide easy finance, its speculative origins – built into its design – bring real risks of default, potentially putting some of society’s most vulnerable citizens at risk. In 2002, one major US private health care provider – National Century Financial Enterprises, Inc., which raised more than \$4.8 billion<sup>407</sup> using securitised healthcare receivables, primarily expected Medicare and Medicaid payments that were sold to hedge funds and other investors<sup>408</sup> – went bankrupt on the back of a securitisation deal that went sour.<sup>409</sup> Were such a bankruptcy to occur in the care home sector, the consequences for those in care could be dire. Trade unions and organisations such as Help the Aged have also expressed concern over the low pay, inadequate training and long hours that are often a feature of care home jobs in the private sector. Patients who run into difficulties with paying the high fees for private homes – which now constitute 90 per cent of the care homes in the UK – could also face eviction, with none of the legal protections they would enjoy in a publicly funded home, the Human Rights Act only applying to government agencies.<sup>410</sup>

- ***Gambling on Commodities – Mining and Food***

Securitisation is just one of a range of speculative derivative instruments that companies are now using to raise finance, not only in the North but also increasingly in the South.<sup>411</sup> The speculative use of options to gamble on commodity prices has also proved a major mechanism through which “productive finance” that might otherwise not have been available has been ploughed into specific sectors. Hedge fund speculation, for example, is cited as playing a major role in fuelling the recent commodities boom, “exaggerating” (to use hedge fund tycoon George Soros’s phrase)<sup>412</sup> the upswing in prices – and, latterly, the downswing, too.<sup>413</sup> As prices rose, metal producers cashed in on the boom to close new projects – from the Chukotka gold and silver mine in Russia (a deal arranged by Germany’s HVB and France’s Société Générale) to the San Cristobel project in Bolivia (with investment banks Barclays Capital and BNP Paribas taking the lead).<sup>414</sup>

In agriculture, too, hedge funds – scenting huge profits in agriculture from “the fight to feed people, cattle and cars”<sup>415</sup> – have contributed to rising prices of corn, soyabeans and tree crops,<sup>416</sup> fuelling a rush by companies to buy or lease land and to invest in food production and biofuels, both seen as sure-fire alpha bets.<sup>417</sup>

George Soros (whose philanthropic foundation, the Open Society Institute, is a major funder of non-governmental organisations) recently invested \$900 million

in ethanol production in Brazil, demanding that the United States and European Union open their markets for the biofuel produced.<sup>418</sup> Other hedge fund managers are following his lead. The ethanol is produced from sugar cane, whose production is associated with widespread damage to rainforests, pesticide pollution and, in many areas of Brazil, the use of bonded labour.<sup>419</sup>

With land values rising faster in the USA and elsewhere than property in London's trendy Notting Hill, hedge funds and private equity are also pouring money into the purchase of land. In January 2007, Pergam Finance, a Paris-based hedge fund, announced that it would be doubling the size of a fund it manages to buy farms in South America, particularly Argentina. The \$100 million fund, known as Campos Orientales, is to receive a shot of \$60-80 million in further finance.<sup>420</sup> In the USA, according to *Bloomberg News*, Hancock Agricultural Investment Group in Boston purchased \$100 million of farmland in 2006, increasing its holdings by 13 percent to \$865 million. Macquarie Bank, Australia's largest securities firm, plans to spend as much as 1 billion Australian dollars, or \$787 million, on ranches in Australia for a new agricultural fund.<sup>421</sup> In Britain, a £100 million hedge fund was launched by Blackrock, one of the world's largest asset management funds and at the time part owned by Merrill Lynch, with £1.3 trillion under management,<sup>422</sup> to buy into wheat futures and to purchase farms.<sup>423</sup>

Indeed, many analysts expect a substantial proportion of the \$200 billion that flows annually into hedge funds to be shifted towards agriculture in the wake of the credit crunch. "The best bet going forward is agriculture", Charles Gradante of the Hennessee Group, told *Commodity Risk* magazine in 2008, "because it cannot be replaced by other by-products, but we can replace oil with solar or other products."<sup>424</sup> Others describe wheat as "the new gold".<sup>425</sup> Meanwhile, the speculation-driven rise in food prices has sparked food riots in Morocco, Yemen, Mexico, Guinea, Mauritania, Senegal and Uzbekistan, and forced the government of Pakistan to reintroduce food rationing.<sup>426</sup> The World Food Programme's supplies of emergency food aid have also dwindled to dangerously low levels because it is unable to afford to replenish its stocks.

### **Box:** **Food Prices and Speculation**

In May 2008, UK investment bank Schroders invited rich investors to put their money into a new fund aimed at making above market returns from agricultural commodities and companies. The same month, at least five people were shot during riots that erupted in Somalia over the soaring cost of basic foodstuffs;<sup>427</sup> one month earlier, food riots had left a swathe of wounded demonstrators, burnt out buses and cars, and smashed storefronts from Egypt to Haiti.<sup>428</sup> According to the World Bank, rising food prices had left 100 million people around the world facing severe hunger.<sup>429</sup>

The new fund – Schroder Alternative Solutions Agriculture – had been launched in October 2006 and already had \$6 billion in assets under

management.<sup>430</sup> All the figures, Schroders argued, suggested that now was the time to invest in agriculture: demand for food was rising against a backdrop of “constrained” supplies; food reserves were at a 40-year low; the availability of arable land was “shrinking”; gains in yields were “flattening out”; commodities were “under owned” as an asset class (just 856 funds investing in commodities compared to 36,366 investing in equities); and liquidity in the agricultural sector was “good”.

Other funds have also been promoting the investment potential of agriculture. Some, like the Schroder agriculture fund, are committed to a “long only” strategy (betting on prices going up) and make a point of stressing that they eschew “complex derivatives” (although “50-100 per cent” of the Schroder portfolio is allocated to commodities futures). Others, however, have adopted investment strategies that bet on prices going down as well as up, using one to hedge against the other. For such funds, volatility in the markets is a bonus.

The funds do not claim to offer solutions to the problems they identify in agriculture (to the Schroder list, others add: declining water availability; conflicts over land between biofuel expansion and food crops; global warming “impacting the fundamentals of agriculture”; loss of land to urbanisation and “real estate conversion”; rising affluence fuelling a demand for more protein from livestock) but they do propose to generate high returns for investors by capitalising on these problems. In the 18 months or so since it was launched, the total cumulative returns of the Schroder Alternative Solutions Agriculture fund were 47.60 percent. The target return set by Ceres Agriculture Fund, established by Four Winds Capital Management, is similarly high: an annual return of a minimum of 12 per cent (net of all fees and taxes).

Hedge funds and other commodity investors have made considerable profits from speculating on the future prices of agricultural crops. Traders, too, have profited hugely from rising prices. For instance, the net earnings of the US grain giant Cargill, which reportedly controls one quarter of all cereal production,<sup>431</sup> rocketed 86 per cent (from \$553 million to \$1.030 billion) in the three months from December 2007 to February 2008.<sup>432</sup>

But controversy surrounds the role of hedge funds and other speculators in driving up food prices in 2008. According to the UN Special Rapporteur on the Right to Food, Jean Ziegler, speculation on international markets lay behind 30 per cent of the increase.<sup>433</sup>

This connection between speculation and price rises is denied, however, by the US Commodity Futures Trading Commission (CFTC), which regulates public US futures exchanges (the vast majority of futures trades are carried out privately and are thus beyond the scrutiny of the CFTC). Speculators follow price rises, the CFTC argues: they do not cause them.<sup>434</sup> Others argue that the only way that futures trading could influence “spot” prices is if the commodities bought by futures traders were hoarded, creating a squeeze on supply. They concede that a fraction of the increase in food prices might be attributed to speculation, but claim that the real cause lies in the gap between flattening supply and growing demand, frequently singling out biofuels and

consumption in India and China. According to the World Bank, the expansion of biofuels at the expense of food production is responsible for 75 per cent of the increase in food prices.<sup>435</sup>

The view that speculative futures trades are essentially benign was challenged by US hedge fund manager Michael Masters in his testimony to the US Senate's Committee on Homeland Security and Governmental Affairs in May 2008.<sup>436</sup> Masters told the Committee:

*"In the present system, price changes for key agricultural and energy commodities originate in the futures markets and then are transmitted directly to the spot markets. For these commodities, what happens in the futures markets does not stay in the futures markets, but is felt almost immediately in the spot markets. . . . [In effect] when . . . speculators drive futures prices higher, the effects are felt immediately in . . . the real economy."*<sup>437</sup>

This view, Masters pointed out, was shared widely within Wall Street where analysts are frank as to the role that speculative funds play in boosting commodity prices (or, in the case, of short selling) causing them to fall. In May 2008, for example, a report by (then) investment bank Goldman Sachs stated: "Without question increased fund flow into commodities has boosted prices."<sup>438</sup> Citigroup was of the same view: "Despite the economic gloom many commodity prices hit new highs in recent weeks, driven largely by investment inflows."<sup>439</sup>

In supplementary evidence to the Committee, Masters also rebutted claims that China's growth is the main driver of increased oil prices (which in turn affect agricultural prices), pointing out that the rise in investors' demand for oil futures is almost equal to the increase in demand from China. With, food too, commodity speculators have "stockpiled (via the futures market)" – the virtual equivalent of hoarding in a warehouse – enough corn futures "to potentially fuel the entire United States ethanol industry at full capacity for a year".<sup>440</sup>

- ***Buying into Water, Mines, Timber and Dams***

At the project level, the widespread use of derivatives is also acknowledged to have played a critical role in transforming many "hitherto marginal or unproductive projects into highly profitable concerns."<sup>441</sup> And although project finance – whereby a consortium syndicate makes loans to a project that is secured against the project itself but without rights of recourse to the assets of the companies developing it – remains the vehicle of choice of banks for financing new infrastructure projects,<sup>442</sup> the *bricoleurs* have been hard at work engineering hybrid packages that combine traditional project finance with derivative based products, using the derivatives to "de-risk" the project finance loan portfolios of the arranging banks.<sup>443 444</sup> Such hybrid finance has been used to fund water sector projects throughout Britain (through structured utility bonds) and road projects in Portugal (through securitisation of the project contracts). In 2007, the Franco-Belgian Dexia bank securitised a portfolio of infrastructure bonds to raise £1.4 billion from seven previously-financed Public Finance Initiative (PFI) projects

and 21 electricity, water and other utility contracts. Although the original debt remained on Dexia's balance sheet, the risk was "transferred" via two credit default swaps. The deal enabled Dexia "to free up its balance sheet for further activity" in the sector<sup>445</sup> (and in September 2008, Dexia was bailed out by the Belgian, French and Luxembourg governments to keep it afloat).

Other examples of similar hybrid deals include Ireland's Depfa Bank's 2004 securitisation of its UK public-private-partnership infrastructure finance portfolio – a deal hailed as a "path-finder for future transactions" and "one small step for securitisation, a giant leap for project finance".<sup>446</sup>

Recently, the HSBC Infrastructure Company (the first infrastructure fund to be listed on the London Stock Exchange) also fused "project finance" with "infrastructure fund-financed" funding to develop a new London office accommodation block for the Home Office.<sup>447</sup> One infrastructure fund was used to build the building, while another (also backed by HSBC) bought the completed building. The bonds used to finance the project were guaranteed by Ambac Assurance.<sup>448</sup>

Speculative funds also make their way directly to mining companies through direct equity investment – examples being RAB Capital's investments in Global Coal Management (*see* p.42) and in Cameco and Aflase, respectively Canadian and South African uranium miners.<sup>449</sup> Hedge funds have also been active in buying bonds issued by gold mining companies and others in the minerals sector (almost \$60 million of a 2003 convertible bond issue for gold mining company Durban Deep being bought by hedge funds<sup>450</sup>) or in making direct loans to companies. Recently, the Canadian mining company, TVI Pacific, negotiated a bridging loan for \$15 million with the LIM Asia Arbitrage Fund and the LIM Asia Special Situations Master Fund.<sup>451</sup> TVI is operator of the controversial Canatuan sulphide project in the Philippines, which has been the site of long-standing protest by affected Subanon indigenous communities who charge violation of their human rights and the pillage of their sacred lands.<sup>452</sup> In Indonesia, Abax Global Capital, a Hong Kong-based hedge fund, recently purchased \$25 million in convertible bonds for a pulp mill in Kalamantan being developed by United Fiber Systems, and is reported to be considering the purchase of a further \$200 million worth of structured notes for the project.<sup>453</sup> The project, which threatens to cause widespread social and environmental impacts, including accelerated deforestation, had previously been refused finance by the World Bank's MIGA (Multilateral Investment Guarantee Agency), OECD member export credit agencies and financial institutions such as Deutsche Bank and JP Morgan. Abax's shareholders included North American pension funds and institutional and private investors from the USA, Italy, UK, France and Hong Kong, while investment banks Goldman Sachs and Merrill Lynch acted as its prime brokers.<sup>454</sup>

Private equity, too, is becoming increasingly involved in backing individual infrastructure, mining and other projects. In Uganda, the private equity firm, the Blackstone Group, has invested in the controversial Bujagali dam, a project that has struggled to find finance in the face of strong local opposition.<sup>455</sup> Blackstone will provide \$110 million towards the \$872 million project, which will be "spearheaded" by Sithe Global Power, a power development company that

Blackstone owns.<sup>456</sup> Barclays' South African affiliate Absa Capital will act as a hedging bank for the project.<sup>457</sup>

London-based private equity companies, boutique investment companies and hedge funds – such as RAB Capital, City Capital Corporation (3C) and CD Capital – have invested heavily in companies before they are listed on a stock exchange in an Initial Public Offering (IPO). CD Capital's sector of choice is mining – investing “privately alongside owners of natural resource companies, when they are highly undervalued and then they either get listed or sold out via a trade sale to either the big caps, to the Chinese groups, Indian groups or whoever”.<sup>458</sup> The IPOs that 3C have brought to issue have similarly involved mining companies, particularly in the Russian Far East,<sup>459</sup> but also what is now Russia's largest timber processing company, Tynda Forest Holdings (now The Russian Timber Group), which exports logs to China and Japan, the two largest timber importing countries in the world.<sup>460</sup> RAB Capital has also invested heavily in the mining sector.<sup>461</sup> The deals have seen the offered companies' coffers swell by millions of dollars.

- ***Infrastructure, Infrastructure, Infrastructure***

The direct and indirect involvement of hedge funds and private equity in infrastructure development looks set to grow, as speculative capital “retreats to quality” in the wake of the subprime meltdown.<sup>462</sup> The use of derivatives and securitisation in financing for infrastructure development has, to date, been largely focussed on infrastructure in the North. But the indications are that interest in their use is growing in the South. Whetting the appetite is a recent report by the Organisation for Economic Cooperation and Development (OECD), a club of the world's largest free market countries,<sup>463</sup> which predicts that annual investment requirements for telecommunications, road, rail, electricity and water taken together are likely to “total around an average of 2.5% of world gross domestic product (GDP)” until 2030; the figure is higher still (3.5%) if electricity generation and other energy-related infrastructure investments in oil, gas and coal are included; and even higher if account is taken of other infrastructure such as ports, airports and storage facilities.<sup>464</sup> Already, massive schemes, such as the Plan Pueblo Panama, which aims to interlink the countries of Central America, are coming off the drawing board and seeking finance.

Unsurprisingly, investment bankers, hedge funds and private equity firms have scented new opportunities for profit. In 2007, 3i, the UK-based venture capital group, announced a strategic partnership with India's India Infrastructure Finance Company to invest together in infrastructure projects on a case-by-case basis, with 3i providing equity and IIFC providing debt finance.<sup>465</sup> The partnership with 3i followed an earlier announcement that the IIFC is setting up a separate \$5 billion fund with Citigroup, Blackstone and another state-run organisation, the Infrastructure Development Finance Company. Specialist investor journals already list key slabs of Indian infrastructure considered ripe for possible takeover.<sup>466</sup>

3i (which plans to invest \$1 billion in Asia over the next three years)<sup>467</sup> and Blackstone are just two private equity funds that are moving into infrastructure finance; The Carlyle group, Kohlberg Kravis Roberts and Terra Firma are others.<sup>468</sup> Competing with them are a range of new “infrastructure funds” that

have emerged in the past five years, attracting the interest (and money) particularly of pension funds.<sup>469</sup> Attracted by the prospect of earning huge arrangement fees, the major investment banks are jostling to get on the bandwagon: indeed, by 2006, almost every large investment bank had raised – or was in the process of raising – an infrastructure fund.<sup>470</sup> Pioneers in the field include specialist investment funds, such as Australia’s Macquarie bank (which now owns Thames Water, the UK’s biggest water company, and the UK national grid’s Wales & West Utilities gas distribution network)<sup>471</sup> and Ontario Teachers Pension Plan,<sup>472</sup> which have been buying up airports, water companies, roads and hospitals. Although Macquarie’s infrastructure funds have been hit by the credit crunch, the sector continues to attract investment, with many investors *bricolaging* their own vehicles to make direct investments in infrastructure projects, rather than buying a stake via a publicly-listed infrastructure fund<sup>473</sup> (see Box: “Securitising Infrastructure”, p.50.) The use of hedging and derivative-based financial vehicles (such as credit default swaps and inflation swaps<sup>474</sup>) have proved key to this new generation of infrastructure funding,<sup>475</sup> which, as discussed above, has already shown itself adept at *bricolaging* new hybrids forms of finance. In the UK, the new instruments build in particular on the experience gained in financing the 700-plus Public Finance Initiative (PFI) deals that have been signed by the UK government since 1994.<sup>476</sup>

**Box:**  
**Securitising Infrastructure**

Brazil’s hydroelectric company Furnas Centrais Elétricas is now constructing a controversial \$10 billion dam on Brazil’s Madeira River.<sup>477</sup> ICA Panama is the owner of the Corredor Sur toll road in Panama City.<sup>478</sup> Lima Airport Partners operates Peru’s Jorge Chavez airport.<sup>479</sup> What do these three have in common (other than being involved in Latin American infrastructure)? Answer: they have all raised the money to expand their businesses (or to pay off their debts)<sup>480</sup> by securitising the income streams from their existing assets (see pp.4, 7, 29) – in Furnas’s case, generating some \$500 million in the process.<sup>481</sup>

Securitisation of infrastructure assets – road, dams, power plants, airports, ports, hospitals and schools – is big business – and unlike mortgage securitisations, much of the market for “infrastructure” has (so far) remained relatively unscathed by the credit crunch (although there have been some casualties).<sup>482</sup> Returns on investment are down, but many institutional investors, notably pension funds,<sup>483</sup> continue to view infrastructure as a safe haven in troubled times.<sup>484</sup> And, although the cost of borrowing has risen, bank lending within the infrastructure sector is still flowing, whereas it has all but frozen for asset classes such as real estate, private equity and retail. Fund managers are also reported to view the long-term outlook for “leveraging” infrastructure loans as “stable”, particularly in “areas such as water, waste water and energy regarded as low risk”.<sup>485</sup> Unsurprisingly, perhaps, infrastructure has become “flavour of the month” for investors, with “infrastructure investment companies storming the markets”.<sup>486</sup>

continued . . .

The emergence of infrastructure as an “asset class” is relatively recent. Until the 1980s, governments were largely responsible for funding infrastructure investment. But, as governments have adopted (or been forced by the International Monetary Fund to adopt) “free market” policies, state spending has been slashed – and the private sector has taken an increasingly prominent role in infrastructure finance, either because nationalised industries (such as railways) have been privatised or because the private sector has been encouraged to build and develop infrastructure through “public-private partnerships”.<sup>487</sup> The private sector now provides an estimated 22 per cent of global infrastructure finance, with official development programmes providing 8 per cent and national governments the rest.<sup>488</sup>

The use of derivatives and securitisation in financing for infrastructure development has, to date, been largely focussed on infrastructure in the North. But the indications are that interest in their use is growing in the South. Increased private sector involvement in infrastructure development has dramatically changed the nature of infrastructure financing, bringing in new actors and new financing mechanisms. As Piers Constable of Deutsche Bank notes:

*“Traditional (infrastructure) financing structures have been supplemented by a dazzling array of new techniques over recent years – private equity, credit default swaps, hedge funds and securitisations are now commonplace in infrastructure projects, along with local currency lending and Sharia’h compliant finance.”*<sup>489</sup>

To capitalise on the boom in private sector-financed infrastructure development, specialised infrastructure funds have emerged to enable investors to gain exposure to portfolios of infrastructure assets, such as shares in infrastructure companies or collateralised debt obligations (CDOs) issued on securitised infrastructure revenue flows. Such funds come in two forms: unlisted and listed.

- *Unlisted funds* are privately arranged, with investors directly approaching (or being approached by) companies to buy infrastructure securities.
- *Listed funds*, which were pioneered by Australia’s Macquarie Group,<sup>490</sup> comprise a basket of different infrastructure investments – from roads to dams and airports – that are managed on behalf of investors, with the securities traded openly on public exchanges. Macquarie itself holds \$174 billion in all the various infrastructure funds it manages.<sup>491</sup> Other examples<sup>492</sup> of listed funds include:
  - Goldman Sach’s \$6,500 million Infrastructure Partners Fund;
  - Citigroup’s \$3000 million Infrastructure Investors Fund;
  - The Carlyle Group’s \$1,000 million Carlyle Infrastructure Fund; and
  - 3i’s \$1,200 million Indian Infrastructure Fund, which raised 20 per cent more than targeted, despite the credit crunch.<sup>493</sup>

continued . . .

As of July 2008, over 70 private equity firms had launched infrastructure funds, with an aggregate value of \$89 billion.<sup>494</sup> Specialist funds have also been started to invest only in specific infrastructure developments – Canada’s Criterion Water Infrastructure Fund (“Tap into a Trillion Dollar Opportunity”) focuses exclusively on the water sector.<sup>495</sup>

Institutional investors, such as pension funds, are attracted to infrastructure funds because they appear to offer steady, stable investments: returns are respectable<sup>496</sup> and the funds provide a hedge against inflation because the revenue flows from securitised projects such as toll roads are inflation-linked.<sup>497</sup>

Projections of worldwide “needs” for infrastructure investment, in both “developed” and “emerging” markets, have further encouraged investors into the sector.<sup>498</sup> Worldwide, more than \$34 billion was raised by infrastructure funds in 2007 – nearly double 2006’s level – and nearly seven times the \$5.2 billion raised in 2005.<sup>499</sup> The world’s 20 largest funds now have nearly \$130 billion under management, 77 per cent of which was raised in 2006 and 2007.<sup>500</sup> The total amount invested, however, is likely to be far higher, since many investments (particularly by pension funds and state-owned sovereign wealth funds) are unlisted.<sup>501</sup> If leveraged – and recall that, as of September 2008, banks were still reportedly lending for infrastructure, despite the credit crunch<sup>502</sup> – one billion dollars of equity funding could, in some situations, pay for up to \$10 billion in projects.<sup>503</sup>

Although listed funds have been declining in popularity since 2006<sup>504</sup> – reflecting, in part, investor resentment at the high fees charged and, in part, a preference for doing business outside of regulated exchanges and “all those pesky rules”<sup>505</sup> – unlisted deals continue to prosper. The future of listed funds, however, which have been hard hit by the recent turmoil in the markets, is less certain.<sup>506</sup>

An economic downturn in the US and Europe would certainly dampen the demand for infrastructure development in the North – but investors hope that continued growth in Asia and Latin America will keep infrastructure funds buoyant. Indeed, as infrastructure securitisation becomes more common in developing countries, some predict it will take over from project finance as the norm for funding projects. (Project finance involves funding projects through equity and debt, with the debt gradually being repaid from the project’s earnings. With securitisation, in contrast, the earnings are available in advance through their sale to investors.) Companies in Chile are already looking to securitisation rather than more complex project finance schemes to develop new dams and other power projects.<sup>507</sup> Securitisation is also being promoted in some quarters as a superior route for financing alternative energy projects.<sup>508</sup>

With many governments, particularly in the North, likely to be strapped for cash in the wake of the credit crunch – not least because of the costs of bailing out or nationalising whole swathes of the “regulated” banking system – infrastructure funds could provide the private sector with the finance it needs

to gain even greater control over infrastructure development. But note: the state will not lose its role entirely. Where projects are structured as public-private partnerships, governments (or rather a country's taxpaying citizens) are likely to remain the ultimate guarantors of at least part of the revenues that are securitised, even if the guarantees do not feature on the government's own balance sheet.<sup>509</sup> And, in increasingly uncertain times, exporters are more likely to seek out export credit agencies for guarantees and insurance than they have been in recent years.

The use of derivatives and securitisation in financing infrastructure suggests that, for activists, the effectiveness of campaigns to democratise infrastructure investment might be enhanced by not only looking at *who* is investing in specific projects but also at how those investing are raising the money in order to invest; how this influences where the money goes and how deals are structured; and how companies themselves are using securitisation and derivatives to raise capital, which then provides the leverage for yet more new projects.

- ***Carbon and Weather – New Sources of Alpha***

Hedge funds have been involved in the nascent carbon market since it was first *bricolaged* together through the misplaced pragmatism of “the-market-is-the-only-game-in-town” green policy wonks and politicians fearful of the electoral impacts of adopting carbon-cutting policies.<sup>510</sup> Indeed, a recent analysis by Citigroup places hedge funds as the biggest winner “by far” from the largest carbon market to date, the EU Emissions Trading Scheme (EU ETS) – with nuclear and coal companies coming second and electrical utilities third.<sup>511</sup> Consumers were listed as the clear losers.

Today, the carbon market is being touted as the future Holy Grail of alpha returns. Some \$12.5 billion is currently invested in carbon funds globally,<sup>512</sup> with the largest fund to date (worth some \$800 million) being managed by Climate Change Capital (CCC), a UK-based investment bank that focuses on carbon finance.<sup>513</sup> Maik Neubauer, the chief operating officer of the European Energy Exchange (EEX), set up to trade carbon credits, confidently predicted that the European ETS market will grow by at least 25 per cent a year from 2008-2012.<sup>514</sup>

In the US, banks and hedge funds are also piling in to the Chicago Climate Exchange. “They smell the coffee,” Peter Fusaro, chair of Global Change Associates Inc., a consulting firm, recently told Dow Jones’s Market Watch. “They’re going to make money doing this. Energy is a \$4 trillion business and this is a great investment opportunity. You have two markets – developed countries and developing nations. That’s why there’s so much capital in this sector.”<sup>515</sup> Moreover, the coffee is still smelling enticingly good, despite the credit crunch: in August 2008, Dow Jones Indexes and the Chicago Climate Exchange launched two new emissions indexes, amid predictions that the carbon market would be worth more than \$100 billion in 2008.<sup>516</sup>

Speculation pure and simple lies behind the dash to carbon. A survey of energy

traders by the magazine *Energy Risk* revealed that few believe that the market would do anything to tackle global warming<sup>517</sup> (they are right<sup>518</sup>), while 40 per cent admitted that they foresee using the carbon market. Twenty-one per cent saw a huge scope to make money. To that end, the derivative *bricoleurs* are busy taking whatever profits are to be made – while the utilities whose emissions are supposed to be curbed by the market are *bricolaging* instruments that will cut the costs of compliance and ensure that, as far as possible, business continues as usual.

Weather derivatives<sup>519</sup> are increasingly being combined with carbon derivatives to provide utilities with hedges against their emissions. As Evan Koster, David Cohn and Nicholas Rock of lawyers Dewey & LeBoeuf explain:

“Power generators emit CO<sub>2</sub> when generating electricity and therefore have to surrender allowances in respect of these emissions. As there is a link between the weather and levels of energy generation, and thus electricity generators’ obligation to surrender emissions allowances, trades may be structured in a way that combines carbon and weather derivatives. For example, power generators could enter into a temperature-based weather swap that would pay out in CO<sub>2</sub> allowances, which would allow them to satisfy any increased obligation to surrender emissions allowances that results from above normal power generation due to unexpectedly hot or cold weather conditions.”<sup>520</sup>

Unsurprisingly, the weather derivatives market is enjoying a boom period, weather-specific hedge funds like Cumulus making returns of 25 per cent during 2007 despite the post-subprime credit crunch.<sup>521</sup> UBS’s Global Warming Index (GWI) has enjoyed a return of over 40% since its launch in May 2006, weather derivatives being viewed as an increasingly attractive “asset class” in a turbulent market.

But while money is certainly to be made from the carbon and weather markets – the *bricoleurs* already exploring the scope for super-hybrid derivatives, using carbon and weather to link markets – the public whose climate is being traded will derive few benefits. Far from being a solution to global warming, carbon trading perpetuates it – and even threatens to make it worse. As Kevin Smith of Carbon Trade Watch points out:

“The problem lies in the fact that carbon trading is designed with the express purpose of providing an opportunity for rich countries to delay making costly, structural changes towards low-carbon technologies. This isn’t a malfunction of the market or an unexpected by-product: this is what the market was designed to do.”<sup>522</sup>

Instead of cutting emissions – the only means of reducing the risk of adverse climate change – tradable carbon credits grant the worst polluters the right to continue to pollute. Moreover, most of the carbon credits being sold to industrialized countries come from polluting projects, such as schemes that burn methane from coal mines or waste dumps, or from large-scale dams and monoculture tree plantations. They do little to wean the world off fossil fuels. In addition, many are associated with human rights abuses or with severe adverse environmental impacts. Yet it is these projects – and the polluting industries in the

north that are perpetrated by them – that the huge sums now being generated by speculation in the carbon markets are financing.

**Box:**  
**Depression Now and Then**

*"[A]s the current credit turmoil now mutates into ever-more virulent forms, it is faith – or rather, the lack of it – that has turned a subprime squall into what is arguably the worse financial crisis in seven decades."*

Gillian Tett, *Financial Times*<sup>523</sup>

*"I remember '29 very well. We had it made (I didn't but most people did). I remember the drugged and happy faces of people who built paper fortunes in stocks they couldn't possibly have paid for. 'I made ten grand in ten minutes today. Let's see – that's eighty thousand for the week.'*

*"In our little town bank presidents and track workers rushed to pay phones to call brokers. Everyone was a broker, more or less. At lunch hour, store clerks and stenographers munched sandwiches while they watched the stock boards and calculated their pyramiding fortunes. Their eyes had the look you see around the roulette table.*

*"I saw it sharply because I was on the outside, writing books no one would buy. I didn't even have the margin to start my fortune. I saw the wild spending, the champagne and caviar through windows, smelled the heady perfumes on fur-draped ladies when they came warm and shining out of the theatres.*

*"Then the bottom dropped out, and I could see that clearly too because I had been practicing for the Depression for a long time. I wasn't involved with loss.*

*"I remember how the Big Boys, the men in the know, were interviewed and re-interviewed. Some of them brought space to reassure the crumbling millionaires: 'It's just a natural setback'; 'Don't be afraid – buy – keep buying'. Meanwhile the Big Boys sold and the market fell on its face.*

*"Then came panic, and panic changed to dull shock. When the market fell, the factories, mines, and steelworks closed and then no one could buy anything, not even food. People walked about as if they had been slugged . . .*

*"Then people remembered their little bank balances, the only certainties in a treacherous world. They rushed to draw the money out. There were fights and riots and lines of policemen. Some banks failed; rumors began to fly. Then frightened and angry people stormed the banks until the doors clanged shut."*

John Steinbeck  
"A Primer of the '30s"<sup>524</sup>

## Bricolaging a “Policy Response”

*“Self-regulation stands in relation to regulation the way self-importance stands in relation to importance”.*

Willem Buiter, London School of Economics<sup>525</sup>

*“Few industries at first glance appear more disconnected from the national security of the United States than does financial services. In reality, financial services are the foundation upon which all other economic functions and industries are built and rely . . . The financial services industry provides the underlying mechanisms that remove the nation’s wealth from under its figurative mattresses and allocates it across the breadth of the economic landscape to create growth . . . For the US, national wealth underwrites the nation’s ability to project power.”*

Industrial College of the Armed Forces,  
US National Defense University, 2007<sup>526</sup>

As the credit crunch careers destructively through Wall Street and the City of London, with markets crashing and rebounding only to crash again, the uncertain search for survivors – “Are CDOs dead?”; “Yes” (*Financial Times*, 2 April 2008)<sup>527</sup>; No” (*Financial Times*, 26 May 2008),<sup>528</sup> “Well, maybe” (*Financial Times*, 31 May 2008),<sup>529</sup> . . . “Or, again, maybe not” (*Financial Times*, 1 July 2008)<sup>530</sup> – is giving away to a realisation, even amongst the staunchest supporters of laissez-faire capitalism, that “The System” (with a capital ‘T’ and a capital ‘S’) cannot survive as it is.

In the lobby of the London office of Lehman Brothers, now in receivership, ex-employees have daubed parting messages on a giant photograph of Lehman’s CEO Dick Fuld, known on Wall Street as the “Gorilla”. Most are uncomplimentary and many tell of behaviour that redundant traders now regret. On the blogosphere, sneer and loathing are to be found in equal measure:

“I like dick fuld. He has all you idiots debating whether or not he is good or bad. He lost 650m. True. But over his tenure he made 450m+. dick will enjoy the rest of his life. Will you?”<sup>531</sup>

“Put the people who wrote these loans in prison. Ban the investment bankers who sold their snake oil from working in financial services”<sup>532</sup>

“To all of the vindictive [sic] posts – what a bunch of useless drivel. Everyone keeps on talking about all of the ‘greed and corruption’ of Wall Street. Let’s get down to brass tacks, this whole crisis is the result of ‘middle’ America taking out loans that they couldn’t afford and buying houses and cars they had no right owning. That’s where the heart of this greed lies. Stop blaming Wall Street for your own inability to be fiscally responsible”<sup>533</sup>

“This guy should be executed for high treason and fraud. What these CEO’s and the rest of their cronies are costing this country so he can have 4 multi million dollar homes is unimaginable”.<sup>534</sup>

Calls for regulation of the banking sector now dominate the airwaves and print media. In private, even the International Monetary Fund (which, if the crisis had unfolded in

a developing country rather than the USA, would, on past form, have been using its iron fist to impose widespread *deregulation*, not least of the banking sector)<sup>535</sup> is reported to favour the regulation of the sale of credit default swaps (but not other derivatives) by shadow banks<sup>536</sup> – a proposal that is as remarkable for its failure to take on board how limited and partial regulation is likely to encourage the very regulatory arbitrage that lies at the root of the current crisis<sup>537</sup> as it is for its apparent break with IMF dogma. Others, such as the European Parliament’s Economic and Scientific Policy Department, propose forcing the originators of CDOs to retain some of the credit risk of the underlying loans<sup>538</sup> (good idea – except that many banks never actually shed this credit risk, retaining it even though the loans had been placed off balance sheet . . . which is why they are now going bust).<sup>539</sup> And still other proposals are striking less for their misconceived analysis than for their banality and sense of paralysis: who could dispute the need to strengthen “prudential oversight over capital, liquidity and risk management” – one of the main conclusions of the Institute of International Finance, the trade association for the UK’s financial services sector?

Nonetheless, a *bricolaged* package of (limited) reforms is slowly beginning to emerge amongst mainstream commentators. These reforms would include:

- Requiring the financial sector to be more transparent, not only about the risks inherent in new financial products but also about the risks held by banks and the sums set aside to cover them.<sup>540</sup>
- Bringing hedge funds and other shadow banks under the same regulatory umbrella as regulated banks.<sup>541</sup>
- Requiring banks to hold larger capital reserves.<sup>542</sup>
- Forcing the originators of collateralised debt obligations (CDOs) to hold some of their credit risk.
- Standardising derivatives or, at the very least, reducing their complexity.

“Excessive complexity is a significant source of lack of clarity. It is particularly damaging, as we have seen, to the originate-and-distribute model, because markets in complex securitised products may, at times, seize up, forcing central banks to become ‘market makers of last resort’, with all the difficulties this entails. One possibility then is to insist that all derivatives be traded on exchanges.”

Martin Wolf, *Financial Times*<sup>543</sup>

- **Changing the incentive structure within banks so that bankers are not rewarded for taking high risks.**

“Simply put, the best way to prevent a recurrence of these systemic seizures . . . is once and for all to break this one-sided incentive system by cutting back banker pay and making a portion of it contingent on the longer-term outcome of their deals or trades. In effect, use a fraction of the excessive compensation to pay the premium on an insurance policy that will, hopefully, encourage less reckless behaviour.”

William Cohen, financial commentator<sup>544</sup>

- **International action to ensure that all countries adopt the same reforms, in order to reduce the opportunity for regulatory arbitrage**

“While the idea of a global financial regulator – or a global financial ‘sheriff’ – is for the time being a bit far-fetched a much stronger degree of coordination of financial regulation and supervision policies is necessary to avoid a race to the bottom in financial regulation and supervision and to prevent excessive regulatory arbitrage. Such international coordination of financial policies is currently occurring on a very limited scale and will have to be seriously enhanced over time.”

Nouriel Roubini  
New York University's Stern School of Business<sup>545</sup>

Quite an agenda. And, after two decades in which policymakers have systematically sought to *deregulate* markets, many, including proponents of free markets, have concluded that the “Age of Thatcherism and Reagonomics” are over, or at least waning.<sup>546</sup> Certainly the wholesale nationalisation of the US mortgage sector in September 2008<sup>547</sup> is a departure (to put it mildly) that, if it had been undertaken as premeditated policy, would indeed signal a sea change in US politics (one senator denounced the nationalisation as “un-American” and “financial socialism”<sup>548</sup>). But there at least five reasons to be sceptical of claims that neoliberalism is in willing (or even unwilling) retreat.

**First**, no measures (beyond what has been necessary to rescue the banking sector from imminent collapse) and no regulatory reforms of any long-term significance have been taken by any of the major industrialised countries in the wake of the credit crunch. Short-selling of shares in banks has been (temporarily) banned to protect banks from the very instruments they have been promoting as essential to “price discovery”, but no similar bans have been instituted to protect ordinary people from the shorting of shares in the companies they work for. Little action has been taken to assist the vast numbers of people who go hungry because of speculation in foodstuffs,<sup>549</sup> nor to protect mortgage holders from having their homes taken away from them.<sup>550</sup> And, while steps have (rightly) been taken to protect those with deposits in banks, those with no savings remain at the mercy of the market. Meanwhile, hedge funds remain unregulated, and no measures have been taken to ban the use of more complex derivatives. Indeed, on present form, whatever wider new regulations are eventually introduced to rein in the financial sector – and there will be some – they are likely to be carefully crafted to ensure that the recent nationalisations that governments have undertaken do not threaten broader structural change in US and European society.

**Second**, calls for regulation should not be taken as inevitable harbingers of change. De-regulation is certainly a hallmark of neoliberalism – but so is regulation. Indeed, the free market “reforms” of the past twenty years have *always* been accompanied by *re*-regulation, designed more often than not to “lock in” neoliberal policy changes (the EU’s Maastricht Treaty is a case in point, making it illegal under European Union rules for member governments to borrow more than a fixed percentage of their Gross National Product; the World Trade Organisation’s General Agreement on Trade in Services [GATS] is another<sup>551</sup>).<sup>552</sup> The prospects that the regulatory fallout from the credit crunch will “reverse” neoliberalism, without accompanying social organising, should not be taken as inevitable, the more so when the proposed reforms are intended

to “save” the free market – and, even, unashamedly, to “make Wall Street more profitable.”<sup>553</sup>

**Third**, while blind faith in free markets may now be under question, the emphasis amongst mainstream policy makers is on “blind”. Despite isolated calls to “learn from our mistakes and act pragmatically to regulate markets as they exist in fact, not theory”,<sup>554</sup> the proposed reforms are underpinned by the belief that markets are the most efficient means of distributing resources within society – and that economic actors, from bankers to consumers, act rationally in all their economic transactions. All that is required to prevent future “market turmoil” is to provide more information and a little more policing to catch those who break the rules. Yet, as Jeremy Grantham comments in the *Financial Times*, if the current crisis has shown anything, it is that “Efficient Market Theory” is a “complete illusion”.<sup>555</sup> Economic actors do not act rationally. They follow crowds, take decisions to keep in with other colleagues (rather than because they have diligently assessed the risks for themselves), and are carried away by the sheer adrenalin rush of clinching a deal. Regulations that remain imprisoned by theories that bear no relation to reality are likely to lead to more of the same, rather than a change in direction.<sup>556</sup>

**Fourth**, the financial services industry has powerful allies and, internationally, constitutes one of the best-organised political lobbies in existence.<sup>557</sup> Regulation will undoubtedly follow the bail out of the banks in the USA and Europe – but it is likely to be the weaker precisely because the bailouts have been agreed in advance of the regulation. It is worth recalling that there were calls to regulate derivatives following the financial “blow up” of 1994 when many derivative contracts went sour after interest rates suddenly changed. For a while “everyone hated derivatives”<sup>558</sup> but, after lobbying by the International Swaps and Derivatives Association and a recovery in the markets, regulatory pressure died away and the derivative *bricoleurs* went back to their old ways. Given that those being called in to advise on or draw up new regulations are often the very people who played a major role in creating or profiting from the derivatives and securitisations that lie behind the mess, the prospects for radical overhaul of the financial system would appear slim.<sup>559</sup> Moreover, with the private sector now financing much that the State used to finance (from railways to many previously state-run industries) – and securitisation being one of the principal ways in which the banks raise the funds to do so<sup>560</sup> – the *bricoleurs* have governments over something of a barrel: regulate us too hard and you will need to increase taxes to make up for what your new rules prevent us from raising on the capital markets. Absent public pressure on government for the State to take a more interventionist role in the economy, it will be a brave politician that resists such arguments.

**Fifth**, even if the proposed regulations were introduced, they are unlikely to contain the risks of future collapse in the absence of deeper structural changes within society more widely. Whatever new measures are introduced, the *bricoleurs* will seek a way around them – and engender new risks (and new profits) in the process. Moreover, the *bricoleurs* are currently better equipped to circumvent the rules than the regulators are to enforce them. As *The Economist* dryly notes:

“Naive faith in regulators’ powers creates ruinous false security. Financiers know more than regulators and their voices carry more weight in a boom. Banks can exploit the regulations’ inevitable blind spots.”<sup>561</sup>

Moreover, talk of international action to close the loopholes that regulatory arbitrage exploits frequently ignores the profound constraints that neoliberal-inspired international regulations have already placed on the ability of national governments to act. Moves such as banning options trading in key commodities, which India introduced during the commodities boom of mid-2008, will not be available to many countries if current proposals under the latest round of the World Trade Organisation's negotiations on a General Agreement on Trade in Services (GATS) go through.<sup>562</sup> Given international organising, such agreements could be undone – but this is not even remotely on the *official* agenda for reform of the financial services industry. The obituaries to neoliberalism have not, it would seem, yet reached the World Trade Organisation.

If neoliberalism is indeed to be laid to rest – and risk in the financial system not to trigger further meltdown – the challenge surely goes beyond formulating new rules for the financial sector, necessary as this undoubtedly is. Where risk is viewed at a distance and reduced to number crunching and complex mathematical models, the impacts of specific decisions on people and their lives and livelihoods are merely abstract. “Repopulating” risk assessment so that parties to a contract know through personal contact *who* will be affected by any given action and *how* brings a different view of risk – and builds a different moral economy to that which currently dominates finance, one based on a different calculus of what is acceptable and unacceptable. Greed and fear are not given as the drivers for market behaviour as they have been – unless markets are organised to allow them to become so: solidarity and prudence are equally possible moral underpinnings. Those who make deals do not have to behave as sociopaths once they cross the threshold of their workplace: rooting economic behaviour in different social institutions and relationships could produce very different outcomes. Bankers know this, which is one reason why new recruits must be “socialised” into abandoning behaviour towards others that would be required in the outside world. The elaborate rituals and initiation rites that accompany bank training programmes – and which have been well described by ex-bankers<sup>563</sup> – testify to the “unnaturalness” of the “Greed-is-Good”, “Big Swinging Dick” culture of today's investment banks.

## A Bricolage of our Own: Some Reflections for Activism

*“Greed is what drives much of the modern financial world – combined with fear of getting sacked.”*

Gillian Tett, *The Financial Times*<sup>564</sup>

Environmental and social justice activists may have different reactions to the emergence of the derivative *bricoleurs*' shadow banking system and its unfolding collapse (and partial rebuilding) in the wake of the post-subprime credit crunch. Those who, like me, came late to SPVs, CDOs, FELINE PRIDES and the rest of the alphabetised jargon arriving long after the *bricoleurs* had pieced together their new world of finance, undoubtedly have much to learn from others who were quicker to recognise the deep changes that derivatives have brought about within financial markets.

What follow are thus no more than initial reflections – in no particular order – prompted by what I have learned to date from my briefest of brief encounters with derivatives:

*First*, where activists (but also “ordinary” citizens) are willing to become “literate” in complex financial instruments, they may be in a stronger position to challenge some of the underpinnings of the financial sector. Financial literacy is not a pre-requisite for mounting such challenges – far from it – but it is a discipline that may help in enhancing effectiveness. As MacKenzie puts it at the end of his “Philosophical Investigation into Enron”:

“[The] fate [of Enron’s employees] should . . . remind us that numbers matter. We need to understand how they are constructed, and perhaps to start to imagine ways in which they can be reconstructed to better ends.”<sup>565</sup>

*Second*, the construction of modern derivatives markets and their daily operation provide many insights into the clear disjuncture between free market theory and its practice. Revealing the social networks that underpin such markets and their influence on market behaviour might provide activists with powerful tools for unpicking many of the assumptions that underpin neoliberal theories of market efficiency. Building such arguments is often undervalued as a form of resistance – but it would seem to be a key task if free market theory is to be dislodged from its current hegemonic position and if the market is to be regulated on the basis of how it actually works rather than on how free marketeers say it works. There would seem to be much potential scope here for collaboration between activists and activist academics, building new networks that may assist in depriving free marketeers of a tool for claiming that their *bricolage* is in the “public interest”.

*Third*, unless policy reform is rooted in wider grassroots mobilisation for change, regulation of the financial sector (though a necessary task) will do little in and of itself to undermine the structures of power that the derivative *bricoleurs* have constructed through derivative trading. On the contrary, for the *bricoleurs*, each new regulation is a new opportunity for arbitrage and accumulation. This is not a reason for eschewing regulation. Far from it. But it is a reason for placing it in context, for recognising its limits and for prioritising movement-building that might contribute to deeper

structural change – and which, alone, will create the political pressure to ensure that regulations are not weakened by the financial services industry or restricted just to measures that provide bailouts for the banks. Opportunities for such movement-building include stronger linkages with those affected by the subprime fall-out and with communities affected by volatility in the commodity markets, and with those affected by the predatory actions of private equity and hedge funds.

*Fourth* (and closely related to the above), all of the institutions constructed by the derivative *bricoleurs* have their vulnerabilities. Many are financed by public institutions or public monies – pension funds, university endowments, and municipal funds – which are potentially vulnerable to public pressure (albeit pressure that needs to take into account the changing rationale of public funding). Campaigns against the investments of such institutions in hedge funds and private equity could provide useful political space for those directly affected by the investments made. But, drawing on the experience of other campaigns directed at single institutions, hanging banners on yet another set of buildings will not in itself challenge the power of those within. Institution-focussed campaigns may shake financial power, embarrass it, even force it relocate elsewhere, but, unless they are geared to wider movement-building, their successes may prove short-lived or even Pyrrhic, trapping activists in years of restricted “engagement” that at best contains the most flagrant excesses of an institution and at worst enables its expansion. Yes, single hedge funds may be forced out of a specific investment. Yes, they may be forced to adopt environmental and human rights standards. But campaigns that are not rooted in a drive for wider institutional change – and that do not build new alliances among social movements – are again unlikely to be able to move toward closing down the space for derivative *bricoleurs* to accumulate at the expense of wider society. Campaigns need, for example, to show how hedge fund activity is tied to the withdrawal of the state from pension provision,<sup>566</sup> and private equity to growing inequality within society.

*Fifth*, the current credit crunch offers many opportunities that have not presented themselves to environmental and social justice movements for many decades. Reports of the death of neoliberalism may be exaggerated, but the so-called free market model is certainly now being questioned – even by many who for years have passively accepted it as “the only game in town”. Moreover, with the state having now nationalised a slew of failing banks and much of the US mortgage industry, the space to push for new forms of ownership and control over the provision of credit has been considerably increased. With Britain’s fifth largest bank, Northern Rock, now in state hands, is it simply to be patched up before being sold back to the private sector? Or are there other possibilities that could be pursued that would benefit society at large? And, if so, what form of governance might work best to ensure not simply public control but the exercise of that control for the public good? And how is the “public good” to be determined? What political processes might be nurtured to encourage debate and consensus-building around what constitutes the “public interest”?<sup>567</sup> Here again, possibilities for new alliances present themselves – for example, alliances with those at the grassroots who are building new forms of mutual societies and credit unions that offer the opportunity to build a shadow banking system rooted in a moral economy – based on solidarity rather than “fear” and “greed” – that is very different from that constructed by the derivative *bricoleurs*. At the international level, too, the credit crisis has similarly opened up space for change, dramatically unsettling the balance of power in global markets – with institutions such as the International

Monetary Fund playing second fiddle to state-owned sovereign wealth funds from China and the Middle East in the bailouts that are being negotiated.<sup>568</sup> How might that space be best used?

The *sixth* – and this may apply more to professionalised NGO activists like myself than to grassroots activists – is that there is much that can be learned from the activism of the Wall Street and City *bricoleurs* (yes, Wall Street and the City have their activists as well) that has so dramatically re-engineered the institutional landscape in which investors operate. For the derivatives revolution has not been achieved through “this year’s campaign” or mass-emailed letters to Ministers: it has come about primarily through the everyday actions of traders, whose *bricolaged* “successes” have been picked up and further developed by the networks within which they work. In itself, this provides important insights into the dynamics of change within markets – dynamics suggesting that critical responses to the derivatives revolution that rely primarily on “policy-oriented” tactics aimed at regulating what already exists may be far less effective in reclaiming markets for the public good than other everyday grassroots acts of *bricolage* aimed at constructing – and organising around – alternatives to “The Market”. Such acts of *bricolage* might include active solidarity with those seeking to develop (or to defend) social networks that share risk consensually, such as credit unions, where savers potentially have more direct control over what gets financed and how, or, as an alternative to derivative-based hedging in agriculture, community-supported farms,<sup>569</sup> where farmers sell directly to community members, who provide the farmer with working capital in advance, thus lowering farmers’ risks and ensuring they receive better prices for their crops. Active solidarity with movements, such as those committed to defending the “commons”, would also be critical to constructing a moral economy in which no one has the right to accumulate at another’s expense but where all have a shared right to decent and dignified livelihoods. The *bricolage* of derivatives markets suggests that, far from being insufficient to leverage structural change, such grassroots activism and self-determination is, in practice, the primary organisational form that change is based on. Having the confidence to trust in the power of grassroots activism may well be the greatest challenge facing many professionalised – and often depoliticised – NGO activists. Grasping that nettle, with its organisational implications, may be the first act of *bricolaged* resistance that is required. The French have a word for that too: *courage*.

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The Corner House is a UK-based advocacy, research and solidarity group. It aims to support democratic and community movements for environmental and social justice, and to pay constant attention to issues of social, economic and political power and practical strategy. For more details, see <http://www.thecornerhouse.org.uk>

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## Notes and References

1. Garnsworthy, C., "Insurers show investors a new frontier", in "Global Securitisation Review", *Euromoney*, 2006/2007, p.16. Charles Garnsworthy is a partner at PricewaterhouseCoopers LLP.
2. "Pragmatism underpins cautious approach to UK retail market", *Hedgeweek*, 24 January 2008, [http://www.hedgeweek.com/articles/detail.jsp?content\\_id=241140](http://www.hedgeweek.com/articles/detail.jsp?content_id=241140).
3. There is no exact translation of *bricolage* in English. Derived from the verb *bricoler*, the core meaning in French is to fiddle, to tinker with and, by extension, to "make creative and resourceful use of whatever materials are to hand (regardless of their original purpose)". The original engineering meaning of "hacker" is a similar US American term." The closest equivalent in English is "do-it-yourself" (<http://en.wikipedia.org/wiki/Bricolage>).  
"Bricolage" was first used in a metaphorical sense by the anthropologist Claude Levi-Strauss to describe the practice by which, he argued, myths are created. *See: Lévi-Strauss, C., The Savage Mind*, Weidenfeld and Nicolson, London, 1966.
4. Others stress the combination of articles rather than new uses for what is at hand. Anthropologist Julia Elyachar, for example, defines "bricolage" as "combining elements of diverse origin in new and unexpected fashion". *See: Elyachar, J., Markets of Dispossession: NGOs, Economic Development and the State in Cairo*, Duke University Press, 2005, p.24.
5. "Steel Pans – 20th Century Percussion", <http://www.bbc.co.uk/dna/h2g2/A1297721>. The use of such instruments dates back to the 1930s; prior to that, Jamaican rhythm bands used hollow bamboo drums.
6. For discussions of *bricolage* in science, *see*, for example:  
Lynch, M., *Art and Artefact in Laboratory Practice: A Study of Shop Work and Shop Talk in the Research Laboratory*, Routledge and Kegan Paul, London, 1985, p.5;  
Barnes, B., *Scientific Knowledge and Sociological Theory*, Routledge and Kegan Paul, 1974.
7. For discussions of *bricolage* in financial markets and in financial economics, *see*:  
--Haigh, M. and de Graaf, F. J., "A Dialectical Approach to Investor Intervention", Paper prepared for the European Critical Accountancy Studies Conference, Glasgow, 2007, <http://www.st-andrews.ac.uk/management/ecas/7/papers/ECAS-Haigh.pdf>;  
--MacKenzie, D., "An Equation and its Worlds; Bricolage, Exemplars, Disunity and Performativity in Financial Economics - Paper presented to "Inside Financial Markets: Knowledge and Interaction Patterns in Global Markets", Konstanz, 15-18 May 2003", April 2003, <http://www.uni-konstanz.de/ssf-conference/MacKenzie.pdf>;  
--Elyachar, J., *Markets of Dispossession: NGOs, Economic Development and the State in Cairo*, Duke University Press, 2005, p.24;  
--Callon, M. (ed), *The Laws of the Markets*, Blackwell, Oxford, 1998.  
As MacKenzie (2003, p.6) observes of Callon's work: "The economy is not an independent object that economics observes. Rather the economy is performed by everyday practices."
8. Goodhart, C., "Explaining the financial crisis", *Prospect*, February 2008, [http://www.prospect-magazine.co.uk/article\\_details.php?id=10003](http://www.prospect-magazine.co.uk/article_details.php?id=10003).  
Following the bursting of the internet or "dot.com bubble" in 2001, interest rates were kept low and did not begin to rise again until 2005. Goodhart, Emeritus Professor of Banking and Finance at the London School of Economics, notes:  

"After the bubble burst, there was a fear of deflation in the US. Moreover, there appeared to be a world glut of savings. These two factors prompted expansionary monetary policies, with nominal interest rates at low levels and accelerated monetary growth in several countries . . . This period of low interest rates did not lead to higher inflation. Indeed, these years saw a continuation of what is known as the 'great moderation'. Ever since the 1990s, the developed countries, with the partial exception of Japan, have enjoyed a golden age. Inflation has been low and growth steady with few, if any, cycles. This benign macro-economic picture led many to believe that financial conditions were less risk-prone than in the past."
9. In the UK, the Financial Services Authority has been criticised for its "light regulatory touch" approach to derivatives. In the USA, Robert Weisman, editor of *Multinational Monitor*, has identified five regulatory failures – from a failure to manage the US trade deficit to unchecked financial deregulation – that have contributed to the global financial crisis that has followed the derivatives-fuelled mortgage meltdown in the US.  
At the international level, criticism has also been levelled at the International Monetary Fund, which issued several warnings over the past decade about the systemic risks to world markets of hedge funds and their use of derivatives but failed to act on them – perhaps because of its own increasing marginalisation within the world's financial system. As Yilmaz Akyuz, a former divisional Director of the UN Conference on Trade and Development, notes of the IMF in 2007:

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“The Fund is being marginalized in the provision of international liquidity to developing countries. All major emerging market economies, except Turkey, have now paid in and exited from Fund supervision, leaving only the poorest countries as its only regular clientele – barely a strong rationale for an institution established to safeguard international monetary and financial stability.”.

In 1999, the IMF warned:

“A further concern is that no single national regulator can know the exposure of financial intermediaries as a whole to hedge funds that obtain credit from international banks based in different countries. This problem arose with LTCM [Long Term Capital Management, the US-based hedge fund that collapsed in 1998], where U.S. regulators may have known the outlines of U.S. banks' exposure and Swiss regulators may have been aware of the exposure of Swiss banks, but they did not know the exposure of one another's banks and therefore the risks to the international financial system as a whole. This problem is generic, applying to all large borrowers, not just hedge funds; the generic solution is for bank supervisors to share information more systematically, as recommended by, among others, the Basle Committee in their Core Principles for Banking Supervision. Hedge funds differ from other borrowers in this respect only insofar as they tend to be highly leveraged, so that when things go wrong, they go very wrong.”

In 2000, the Forum on Financial Stability, an international group convened in 1999 to bring together national authorities responsible for financial stability, similarly alerted the leaders of the G-7 and G-20 countries and the Presidents of the World Bank and the IMF to the systemic risks of “large, unregulated and opaque institutions employing a high degree of leverage in financial markets – primarily hedge funds”. Little action – beyond further reviews and data collecting and the publication of a voluntary guidelines (with which hedge funds are expected to “comply or explain”) – appears to have been taken.

See:

--Weissman, R., “Deregulation and the Financial Crisis”, *Multinational Monitor Editor's Blog*, 22 January 2008, <http://www.multinationalmonitor.org/editorsblog/index.php?archives/69-Deregulation-and-the-Financial-Crisis.html#extended>;

--Goodhart, C., “Explaining the financial crisis”, *Prospect*, February 2008, [http://www.prospect-magazine.co.uk/article\\_details.php?id=10003](http://www.prospect-magazine.co.uk/article_details.php?id=10003);

--Yilmaz Akyuz, “Critical issues in external financing for development”, *Third World Economics*, 16-30 November 2007;

--Eichengreen, B and Mathieson, D., *Hedge Funds: What do we really know?*, International Monetary Fund, 1999, <http://www.imf.org/external/pubs/ft/issues/issues19/>;

--Financial Stability Forum, *Report of the Working Group on Highly Leveraged Institutions*, 5 April 2000, [http://www.fsforum.org/publications/publication\\_21\\_25.html](http://www.fsforum.org/publications/publication_21_25.html);

Financial Stability Forum, *Progress in Implementing the Recommendations of the FSF Update Report on Highly Leveraged Institutions*, 15 October 2007, <http://www.fsforum.org/publications/FSFHLIUpdateprogressreporttoG715Oct.pdf>.

10. There are three basic types of derivatives: *futures* (a tradeable agreement to buy or sell a specified asset at a specified price and date in the future); *options*, which confer the right – but not the obligation – to buy or sell an asset in the future at an agreed price, in return for a small downpayment, known as a premium; and *swaps* (agreements to exchange assets – for example different foreign currencies – at agreed prices in the future). In all three cases, the value of the derivative depends on the price of the underlying asset that is to be exchanged. By purchasing derivatives, investors bet on the future direction of the market in a particular asset without actually owning the tangible asset involved – speculating, as in the Hollywood film *Trading Places*, on the price, say, of frozen orange juice without actually owning the orange grove from which the juice is made.

For definitions of derivatives and discussions, see:

--Augur, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, 2005, p.77;

--Tett, G., “The irony is we may have created a new set of risks”, *Financial Times*, 1 May 2007, [http://us.ft.com/ftgateway/superpage.ft?news\\_id=fto050820071016435233&page=2](http://us.ft.com/ftgateway/superpage.ft?news_id=fto050820071016435233&page=2);

--MacKenzie, D., “An Equation and its Worlds; Bricolage, Exemplars, Disunity and Performativity in Financial Economics - Paper to Inside Financial Markets: Knowledge and Interaction Patterns in Global Markets, Konstanz, 15-18 May 2003”, April 2003, <http://www.uni-konstanz.de/ssf-conference/MacKenzie.pdf>;

--Levinson, M., *Guide to Financial Markets*, The Economist/Profile Books, London, 2005.

According to Levison, (p.199): “The term derivatives refers to a large number of financial instruments, the value of which is based on, or derived from, the prices of securities, commodities, money or other external variables”. Similarly MacKenzie defines derivatives as: “An asset, such as a future or option,

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- the value of which depends on the price of another underlying asset". Philip Augur (p.77) gives a wider definition: "financial contracts based on other financial assets" (p.73).
11. David Bowie "became the first songwriter in history to use derivatives to securitize future royalties from his own song catalog when he created "Bowie Bonds" in 1997. Bowie and his business manager, the Rascoff/Zysblat Organization, sold the royalty rights to his 25 pre-1990 albums to the Prudential Insurance Company. The singer/songwriter was able to pocket \$55 million immediately, while Prudential received a 7.9 percent return on bonds that were backed by Bowie's future royalty payments." See: Callahan, G. and Kaza, G., "In defense of derivatives", *Reason Magazine*, February 2004, <http://www.reason.com/news/show/29033.html>.
  12. Augur, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.78.  
Charles Garnsworthy of accountants PricewaterhouseCoopers defines securitisation as follows:  

". . . securitisation . . . gives the investor rights to a flow of income or profits in exchange for a lump sum. It is a parcelling up of assets, liabilities or rights to a set of cashflows, into securities that can be traded in capital markets."

See: Garnsworthy, C., "Insurers show investors a new frontier", in Mann, H., (ed), *Global Securitisation Review 2006/2007*, Euromoney Yearbooks, 2006, p.14.
  13. Scholtes, S and Tett, G., "Does it all add up? Worries grow about the true value of repackaged debt", *Financial Times*, 28 June 2007, <http://search.ft.com/ftArticle?queryText=Tett+%2B+%22Does+it+all+add+up%3F%22&y=7&aje=false&x=12&id=070628000751&ct=0>.
  14. The Cayman Islands has the largest number of registered offshore investment funds – more than 8,000 (some two-thirds of the world's total). The British Virgin Islands comes second with about 2,500 funds, representing about 10 per cent of the world's hedge fund industry. See:  
--Burgess, K., "Offshore hedge fund centres vie for business", *Financial Times*, 13 April 2008, <http://www.ft.com/cms/s/0/5eedf802-098f-11dd-81bf-0000779fd2ac.html>.
  15. As Satyajit Das, a world expert in derivatives, notes of credit derivatives: "Traders want credit to become like currencies – homogenous, standardised, tradeable and liquid". He adds, presciently, given the current credit crunch: "The problem is that credit risk is not like that". See:  
--Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, pp.273-74.
  16. Hutton, W., "This reckless greed of the few harms the future of the many", *The Observer*, 27 January 2008, <http://observer.guardian.co.uk/comment/story/0,,2247583,00.html>.  
Will Hutton, Chief Executive of the Work Foundation, comments:  

"Financiers have organised themselves so that actual or potential losses are picked up by somebody else – if not their clients, then the state – while profits are kept to themselves. An industry that socialises losses while privatising profit, and that has the capacity to create booms and busts alike, has to be as closely regulated as any utility."

He continues:

". . . many new financial markets . . . essentially operate as bookmakers accepting differing bets on future prices. Underneath their technical names – monoline insurance, derivatives, debt securitisation – lies little more than bookie principles and practices."
  17. There is a long-standing debate within the banking industry as to the legitimacy of the state intervening to save financial institutions in times of crisis. "Purists" argue against intervention on the grounds that it invites investors to take unwarranted risks, knowing they will be rescued; "pragmatists" (usually, as one insider has commented, "people who are in some way profiting from the current arrangements") hold that, when the financial system is at risk, central banks should lend freely to financial institutions against good collateral and at a suitably high penalty rate. That said, the expectation that losses would be "socialised" – that is picked up by the state – have been encouraged by past bailouts of failing financial institutions and markets. As Charles Goodhart, Emeritus Professor of Banking and Finance at the London School of Economics, notes:  

". . . whenever financial markets in the US have weakened sharply over the previous 20 years – black Monday in October 1987; the housing crisis in 1992; the Asian crisis in 1997-98; or the bursting of the high-tech bubble at the end of 2001 – the Federal Reserve always moved in swiftly to prevent downturn spreading more widely into the economy. Whatever the truth of this assumption, there was a general belief among bankers that if a particular bank got into trouble, its difficulties would be seen as part of a systemic problem and hence the central bank would intervene, protecting them from losses."

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- Such socialisation of risk and losses is arguably a central feature of “free” markets – see:  
-- Goodhart, C., “Explaining the financial crisis”, *Prospect*, February 2008, [http://www.prospect-magazine.co.uk/article\\_details.php?id=10003](http://www.prospect-magazine.co.uk/article_details.php?id=10003)
- N. Hildyard, *Public Risk, Private Profit – The World Bank and the Private Sector*, The Corner House, July 1996, <http://www.thecornerhouse.org.uk/item.shtml?x=52218>;  
--N. Hildyard, “Snouts in the Trough: Export Credit Agencies, Corporate Welfare and Policy Incoherence”, *Corner House Briefing 14*, The Corner House, June 1999, <http://www.thecornerhouse.org.uk/item.shtml?x=51970>.
18. Derivatives spread risk by diffusing it, so that it is no longer concentrated in any one financial institution or group of institutions but among many. The assumption has been that such diffusion would make any shock to the financial system – through a major default, for example – easier to absorb, since it would not all fall on one bank or (where a loan had been syndicated) a group of banks. See:  
--Tett, G., “Big Freeze part 1: How it began”, *Financial Times*, 3 August 2008, <http://www.ft.com/cms/s/0/a09f751e-6187-11dd-af94-000077b07658.html>.
19. The *Financial Times* gives an example of the use of derivative-based instruments to “hedge” against rising fuel costs:  
  
“Take Stagecoach, the UK-based operator of bus and rail networks in the UK and the US. The company is a big buyer of ultra low-sulphur diesel, so needs to have some certainty about what fuel costs will be as prices keep rising. Assume Stagecoach wants to hedge 1m litres of fuel over a period of 12 months. The company will buy from a bank a fuel swap contract, under which Stagecoach commits itself to pay a fixed price per litre – say, 60p in current market conditions – over the life of the contract. In return, each month the bank will pay Stagecoach whatever the market price is for that fuel – whether higher or lower than the fixed price Stagecoach had committed to paying the bank initially. While Stagecoach may find that the actual price of fuel is sometimes lower than the price it committed itself to paying to the bank – say, 50p a litre – it can offset this by the reduced, at-market price of fuel it is required to pay to its fuel suppliers. Irrespective of whether the price goes up or down, Stagecoach thus pays 60p a litre when everything is netted out.”  
  
See: Grant, J., “Ways to turn volatility into opportunity”, *Financial Times*, Corporate Finance, Special Report, 22 July 2008, <http://www.ft.com/cms/s/0/e4426664-56bf-11dd-8686-000077b07658.html>.
20. Kolb, R.W. and Overdahl, J.A., *Financial Derivatives*, John Wiley and Sons, 2002.p.19. Chapters are available online at: [http://books.google.co.uk/books?id=uNQ5u\\_gWh5wC](http://books.google.co.uk/books?id=uNQ5u_gWh5wC).
21. For an overview, see: “The Credit guide to exotic structured credit”, *Credit*, August 2004, [http://www.creditmag.com/public/showPage.html?page=credit\\_july04\\_guide\\_contents](http://www.creditmag.com/public/showPage.html?page=credit_july04_guide_contents).
22. Tett, G., “Out of the shadows: How banking's secret system broke down”, *Financial Times*, 16 December 2007, <http://www.ft.com/cms/s/0/42827c50-abfd-11dc-82f0-0000779fd2ac.html>
23. In the UK until the 1980s, most mortgage societies were, as Christopher Hird reports in *Red Pepper* magazine, “mutual organisations, dedicated to providing mortgages and owned by the people who saved with and borrowed from them. They needed to make profits to stay in business, but, in the words they often used, they were ‘profit makers, not profit takers’”. In the 1980s, liberalisation of the banking sector allowed these mutual societies to turn themselves into banks owned by shareholders rather than those who saved in them. Hird cautions against being “dewy eyed” about mutual societies: “Over the years, they had become large managerial organisations in which much of the original democratic impulse of their founders and constitutions had been lost. Their lending policies were excessively conservative, discriminating against the unmarried and the working class.” However, as Hurd notes, mutual organisations do “offer the opportunity of a different form of business model – one in which profit is not the driving force and that could develop different types of accountability and participation.” See:  
--Hird, C., “Rocking the Market”, *Red Pepper*, Feb/March 2008, pp.20-22. <http://www.redpepper.org.uk/article994.html>.
24. In the case of Abbey National, a UK mortgage lender structured as a mutual society, demutualisation led to the company cutting back on mortgage lending and ploughing huge sums into “wholesale finance”, lending heavily to utilities, aircraft and train leasing, and supplying consumer credit. When Luqman Arnold took over as Chief Executive in 2002, he found that the exposure of Abbey’s wholesale division “to toxic, high-risk bonds was so great that, if the world’s credit markets were squeezed, the bank would be technically insolvent.” See:  
--Blackhurst, C., “The man who walked away from Northern Rock rescue”, *Evening Standard*, 6 February 2008, <http://www.pressdisplay.com/pressdisplay/viewer.aspx>.

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25. Quoted in Agarwal, J.D. and Agarwal, A., “Savings concept in Derivative Instruments”, Paper presented to 7th International Conference of International Society for Intercommunication of New Ideas, “Frontiers in Finance”, 23 August 2003.

26. See: Hannaford, S., “Oligopolies: A Silent Take Over”, *Ethical Corporation*, 20 February 2008. Hannaford writes:

“Over the past twenty years, there has been an unprecedented series of mergers and acquisitions across the world in almost every industry imaginable. For the most part, these deals are part of an attempt to dominate a specific market. But instead of creating monopolies, which are subject to antitrust action (Microsoft, for example), the preferred strategy is an oligopoly, a situation in which a small number of companies divide up the market between them. Market share in such varied industries as iron, brewing, agrochemicals, airplanes, semiconductors, and chocolate is concentrated into two, three, or four leading companies. Even more competitive industries (banking, insurance, pharmaceuticals, steel) are tending in the same direction.”

27. Collins, J., “Policy posers for government”, Special Report: Corporate Finance, *Financial Times*, 25 October 2006, [http://www.ft.com/cms/s/0/9f5fca74-62a0-11db-8faa-0000779e2340.dwp\\_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html](http://www.ft.com/cms/s/0/9f5fca74-62a0-11db-8faa-0000779e2340.dwp_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html).

Discussing the boom in infrastructure finance, Collins, who is head of the public sector group at Citigroup Corporate and Investment Banking, notes:

“Increasingly, transactions include credit enhancements, risk sharing facilities and bonds wrapped by monoline insurers, as well as layers of debt – junior, mezzanine and convertible – that are making financings more complicated but also more efficient.”

Collins notes, however, that, despite the increasing use of new market-based financial instruments to fund infrastructure investments, “development banks can play a pivotal role in taking risk that the private sector is not yet ready to take.” He goes on to comment:

“Development banks can provide the missing element of a financing solution that makes a transaction ‘bankable’. Many country-specific development banks, such as BNDES in Brazil, are providing term extension, currency protection and even purchasing layers of mezzanine debt that improve project returns.”

28. Larsen, P.T., “High-stakes game for many players”, Special Report: Corporate Finance, *Financial Times*, 24 October 2006, [http://www.ft.com/cms/s/0/3505e8f2-62a0-11db-8faa-0000779e2340.html?nclick\\_check=1](http://www.ft.com/cms/s/0/3505e8f2-62a0-11db-8faa-0000779e2340.html?nclick_check=1).

Larsen writes:

“Until a few years ago, most investment banks looked at the business of financing infrastructure projects as a bit of a backwater. Commonly known as a subset of project finance, the activity was associated with building dams or power stations in the developing world, often with the help of non-governmental organisations such as the World Bank. Margins on lending were thin, and projects were fraught with risks such as ballooning costs or bureaucratic interference. All that has changed. A combination of factors, including the growing need for private sector funding, low interest rates, and demand for long-dated investments with stable yields, have all combined to make infrastructure finance one of the fastest-growing segments of the capital markets.”

What has many investors drooling at the mouth is the projected demand for new infrastructure, both North and South (see main text, pp.49-50ff). As Larsen notes elsewhere (Larsen, P.T., “There is nothing wrong with ‘dull but reliable’ in this market”, Special Report: Corporate Finance, *Financial Times*, 24 October 2006, [http://www.ft.com/cms/s/0/b2f9cfd4-62a0-11db-8faa-0000779e2340.dwp\\_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html](http://www.ft.com/cms/s/0/b2f9cfd4-62a0-11db-8faa-0000779e2340.dwp_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html)):

“Investors who specialise in infrastructure like to refer to official studies that show the demand for infrastructure financing in the developed and developing world over the coming decade, compared with the limited ability or willingness of governments to finance it.”

Figures from the World Bank suggest that between 2005 and 2010, the developing countries will require some \$70 billion of investment in electricity generation, \$40 billion in roads, and \$10 billion in sanitation. See also:

--Hughes, C., “The light at the end of the tunnel: infrastructure assets are creating a new breed of specialist investor”, Special Report: Corporate Finance, *Financial Times*, 24 October 2006, [http://search.ft.com/ftArticle?queryText=Chris+Hughes+%2B+Light+at+end+of+Tunnel&y=7&aje=false&x=11&id=061024008324&ct=0&nclick\\_check=1](http://search.ft.com/ftArticle?queryText=Chris+Hughes+%2B+Light+at+end+of+Tunnel&y=7&aje=false&x=11&id=061024008324&ct=0&nclick_check=1);

--Larsen, P.T., “Briefing notes on how infrastructure finance works”, Special Report: Corporate Finance, *Financial Times*, 24 October 2006, <http://www.ft.com/cms/s/0/9bc5bca2-62a0-11db-8faa->

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[0000779e2340.dwp\\_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html?nclick\\_check=1](http://www.ft.com/cms/s/0/0000779e2340.dwp_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html?nclick_check=1).

For example of private equity involvement in infrastructure, see: "Blackstone plans \$872m investment in Ugandan dam project", *The Wall Street Journal*, 8 December 2007, <http://www.financialnews-us.com/?page=ushome&contentid=2449426267>.

29. Examples of private equity firms include The Carlyle Group, Kohlberg Kravis Roberts and Terra Firma. See: Larsen, P.T., "High-stakes game for many players", Special Report: Corporate Finance, *Financial Times*, 24 October 2006, [http://www.ft.com/cms/s/0/3505e8f2-62a0-11db-8faa-0000779e2340.html?nclick\\_check=1](http://www.ft.com/cms/s/0/3505e8f2-62a0-11db-8faa-0000779e2340.html?nclick_check=1).

See also Kavaljit Singh, *Taking it Private: Consequences of the Global Growth of Private Equity*, Public Interest Research Centre/The Corner House, September 2008 (work in progress).

30. Collins, J., "Policy posers for government", Special Report: Corporate Finance, *Financial Times*, 25 October 2006, [http://www.ft.com/cms/s/0/9f5fca74-62a0-11db-8faa-0000779e2340.dwp\\_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html](http://www.ft.com/cms/s/0/9f5fca74-62a0-11db-8faa-0000779e2340.dwp_uuid=63d3a52e-6378-11db-bc82-0000779e2340.html).

Collins writes: "The last three years have witnessed an explosion in the amount of long-term risk capital dedicated to global infrastructure." He adds:

"With some \$15,000 billion of OECD pension assets and a global trend towards treating infrastructure as an asset class, even a few incremental percentage point of infrastructure allocation will give a further jolt of capital to this space."

31. The default would be triggered if new legislation were to be passed that was unfriendly to the bond holder. See:

--Chen, A. and Warren Kubik, J., "Sustainable Development for India: Solving the Infrastructure Puzzle", 7 June 2007, <http://conceptelemental.com/SustainIndia.pdf>;

--Chen, A. and Warren Kubik, J., "Complementing Economic Advances in India: A New Approach in Financing Infrastructure Projects", *Journal of Structured Finance*, Summer 2007.

Dr. Andrew Chen (professor of finance at Southern Methodist University's Cox School of Business) and Jennifer Warren Kubik (a Fellow of the Next Generation Project at Columbia University) argue:

"Financial innovations in the securities offering can serve as both a deterrent and an incentive. For example, including event-risk provisions in project bonds can deter politicians' attempts to make undesirable policy changes. This can ultimately foster a more investment-friendly environment, prized by many countries."

They also note:

"The experiences to date with privatizations and securitizations suggest that a 'market finance' approach, which creates immediate private ownership of public investment projects among diverse groups of investors, may lead to more efficient and successful infrastructure development. Current "contract finance" approaches have led to successful projects, but also spectacular failures have occurred which waste considerable resources. The financing of projects should be guided by global capital markets' invisible hand to determine the economic value of an infrastructure project and provide the necessary resources for construction, operations, and maintenance."

32. The clauses being proposed echo the stabilisation clauses commonly included in investor-state agreements, under which governments agree to compensate investors if any changes in the law adversely affect their investment. For a discussion, see: Hildyard, N. and Muttitt, G., "Turbo-charging investor sovereignty: investment agreements and corporate colonialism", in *Focus on the Global South, Destroy and Profit: Wars, Disasters and Corporations*, February 2006, <http://www.thecornerhouse.org.uk/item.shtml?x=523529>.

33. Tucker, S., "Funds lose out in a scramble to divest assets", *Financial Times*, 24 August 2008, <http://www.ft.com/cms/s/0/e484425a-7212-11dd-a44a-0000779fd18c.html>; Smith, P. and Tucker, S., "Australian infrastructure managers feel the heat", *Financial Times*, 22 September 2008, <http://www.ft.com/cms/s/0/0ad5a1dc-883f-11dd-b114-0000779fd18c.html>

34. Sullivan, R., "Big appetite despite falling returns", *Financial Times*, 28 September 2008, <http://www.ft.com/cms/s/0/f4460d7c-8c02-11dd-8a4c-0000779fd18c.html>.

35. "Investing in infrastructure – Q&A with Jonathan Simpson is head of European Projects and a partner at international law firm Paul, Hastings, Janofsky & Walker LLP", *Financial Times*, 26 August 2008, [http://www.ft.com/cms/s/0/00db0324-7350-11dd-8a66-0000779fd18c.s01=1.html?nclick\\_check=1](http://www.ft.com/cms/s/0/00db0324-7350-11dd-8a66-0000779fd18c.s01=1.html?nclick_check=1).

36. Douglas, S., "Merrill to change bonus structures", *Banking Times*, 21 January 2008, <http://www.bankingtimes.co.uk/21012008-merrill-to-change-bonus-structures/>.  
The *Financial Times* gives a lower figure of \$33 billion for all of Wall Street's banks, see: Gapper, J.,

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- “Big Freeze: Banking”, *Financial Times*, 4 August 2008, <http://www.ft.com/cms/s/0/cc160f46-624f-11dd-9ff9-000077b07658.html>.
37. Gapper, J., “Big Freeze part 2: Banking”, *Financial Times*, 4 August 2008, <http://www.ft.com/cms/s/0/cc160f46-624f-11dd-9ff9-000077b07658.html>.
38. Amery, P., “Lose the safety net and banks might find balance”, *Financial Times*, 22 July 2008, [http://www.ft.com/cms/s/0/3d97554a-5804-11dd-b02f-000077b07658.html?nclick\\_check=1](http://www.ft.com/cms/s/0/3d97554a-5804-11dd-b02f-000077b07658.html?nclick_check=1).
39. In 2006, the UK’s Centre for Economics and Business Research estimated that some 4,200 people working in the financial institutions that make up “the City” (London’s financial district) would receive bonuses of more than £1m. *See*: Teather, D., “The bonus bonanza”, *The Guardian*, 4 November 2006, <http://www.guardian.co.uk/business/2006/nov/04/executivesalaries.businesscomment>.
40. *See*: Lewis, M., *Liar’s Poker*, Hodder, London, 1989.
41. In 2005, the *average* pay package for the 24,000 people who worked for Goldman Sachs, one of the world’s largest investment banks, was \$520,000. As an average, however, the figure grossly is misleading concerning the earnings of the top management because the total salary figure includes pay to assistants and secretaries as well. *See*: “Goldman Sachs - On top of the world”, *The Economist*, 27 April 2006, [http://www.economist.com/opinion/displaystory.cfm?story\\_id=E1\\_GRVVJTD](http://www.economist.com/opinion/displaystory.cfm?story_id=E1_GRVVJTD).
42. Mackintosh, J., “Investors still pile in”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22Investors+still+pile+in%22&y=4&aje=true&x=9&id=070427001278&ct=0>.  
Hedge funds are estimated to contribute “\$50 billion in fees and interest to Wall Street and City investment banks”.
43. The World Bank estimates that \$40-60 billion over and above current aid flows will be needed each year in order to attain the Millennium Development Goals by 2015. World Bank, *The Costs of Attaining the Millennium Development Goals*, <http://www.worldbank.org/html/extdr/mdgassessment.pdf>.
44. Thomas, H., “The Hedge Fund Salary Calculator”, *Alphaville*, 24 April 2007, <http://ftalphaville.ft.com/blog/2007/04/24/4066/the-hedge-fund-salary-calculator/>.
45. Thomas, H., “The Hedge Fund Salary Calculator”, *Alphaville*, <http://ftalphaville.ft.com/blog/2007/04/24/4066/the-hedge-fund-salary-calculator/>.  
Thomas notes: “[A] junior portfolio manager has a mean salary of \$152,744 plus a \$492,819 bonus. A senior trader’s salary comes in at \$182,019 with a \$431,275 to boot.”
46. The defecating incident has achieved something of an urban legend status on Wall Street. According to *Dealbreaker*, ‘an online business tabloid and Wall Street gossip site’:  

“Earlier this afternoon, CNBC’s Charlie Gasparino reported that some guy in Merrill Lynch’s fixed income research group had ‘inappropriately relieved’ himself in protest of the downsizing of his bonus. Merrill has officially explained that this was simply an unfortunate accident, and then the bank turned red and scurried to the other side of the room. We’ve been digging into this story because the way it’s told by the delicate souls at CNBC, it’s way to vague. What’s worse, the vagueness is giving rise to rumors that are totally untrue. It’s fast becoming the Wall Street equivalent of an urban legend. Here’s what didn’t happen: a guy did not urinate on his desk because he was “pissed off.” The real story is so much worse. In the first place, it wasn’t piss. It was shit. *DealBreaker* can confirm this much. After that the details get a bit fuzzy. The way we first heard it is that a guy took a dump in the rest room, stomped in it, and then dragged it all over the place by walking around with it on his shoes. Merrill’s story is that there was “an unfortunate accident” in one of the stalls—which we take to mean that some guy smeared his shit all over the bathroom because how the Hell could you miss the toilet—and that another person inadvertently stepped in it and tracked it all over.”

*See*: Carey, J., “Setting the story straight on the Merrill bonus rage”, 11 January 2008, [http://www.dealbreaker.com/2008/01/like\\_feces\\_throwing\\_monkeys\\_me.php#more](http://www.dealbreaker.com/2008/01/like_feces_throwing_monkeys_me.php#more).  
*See also* Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006.

47. Will Hutton, chief executive of the research consultancy, The Work Foundation, recalls a consultant friend who was hired to arbitrate over a performance bonus between a hedge fund and one of its asset managers.  

“The individual in question was paid a base salary of some \$100,000 but the investment funds he managed had done well over 2007, rising in value by more than \$500m. His bonus was \$206m but he felt that to conform to industry norms, his bonus should be nearer \$250m – the cause of the dispute. What, I asked, would happen in 2008 if the assets he managed fell in

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value? He would get paid his base salary and no bonus came the reply. And would he be required to repay any of the \$250m he had pocketed this year? Of course not.”

See: Hutton, W., “This reckless greed of the few harms the future of the many”, *The Observer*, 27 January 2008, <http://observer.guardian.co.uk/comment/story/0,,2247583,00.html>.

48. Crosman, P., “Can Financial Models Prevent CDO Problems? Computerized financial models help fund managers at Barclays, Mitsubishi and Point Clear make better decisions”, *wallstreetandtech.com*, 23 September 2007, <http://www.wallstreetandtech.com/asset-management/showArticle.jhtml;jsessionid=HXYYZZ3JBVN10UQSNDLRSKHSCJUNN2JVN?articleID=201806931&requestid=119118>.

49. Gapper, J., “A good name sliced, diced and traded”, *Financial Times*, 23 April 2008, <http://www.ft.com/cms/s/0/770ba47a-1155-11dd-a93b-0000779fd2ac.html>.

50. Schloemer, E., Wei Li, Ernst, K. and Keest, K., “Losing Ground: Foreclosures in the Subprime Market and their Cost to Homeowners”, Centre for Responsible Lending, December 2006, <http://www.responsiblelending.org/pdfs/FC-paper-12-19-new-cover-1.pdf>.

“As this year ends, 2.2 million households either have lost their homes to foreclosures or hold subprime mortgages that will fail over the next several years.”

51. In the USA, an estimated 14 million “subprime” loans were made between late 2004 and early 2006. See: Schloemer, E., Wei Li, Ernst, K. and Keest, K., “Losing Ground: Foreclosures in the Subprime Market and their Cost to Homeowners”, Centre for Responsible Lending, December 2006, <http://www.responsiblelending.org/pdfs/FC-paper-12-19-new-cover-1.pdf>.

52. Tellingly, loans to “subprime” applicants were referred to by the mortgage companies as NINJAs – “No Income No Job No Assets”.

53. Gapper, J., “The wrong way to lend to the poor”, 19 March 2007, *Financial Times*, <http://search.ft.com/ftArticle?queryText=The+wrong+way+to+lend+to+the+poor&y=5&aje=false&x=13&id=070318003384&ct=0/>.

Gapper points out that those selling and securitising the mortgages had “a vested interest” in the loan being unaffordable and the mortgage holder thus periodically being required to refinance with a new one. “The risk had been securitised away and they gained another round of fees.” He also notes: “About 70 per cent of subprime loans were booked by brokers who had no fiduciary responsibility to the borrowers they advised.”

See also: Connon, H., “Why Ninja mortgages could wreak havoc”, *The Observer*, 30 September 2007, <http://www.guardian.co.uk/business/2007/sep/30/5>.

54. Bernanke, B. S., “Fostering Sustainable Homeownership”, Speech at the National Community Reinvestment Coalition Annual Meeting, Washington, D.C., 14 March 2008, <http://www.federalreserve.gov/newsevents/speech/bernanke20080314a.htm>.

Bernanke, Chair of the US Federal Reserve, which is the US Central Bank, stated:

“At the end of last year, more than one in five of the roughly 3.6 million outstanding subprime adjustable-rate mortgages (ARMs) were seriously delinquent, meaning they were either in foreclosure or ninety days or more past due. That rate is about four times higher than it was in mid-2005. Lenders initiated roughly 1-1/2 million foreclosures last year, up from an average of 950,000 in the preceding two years. More than one-half of the foreclosure starts in 2007 were on subprime mortgages.”

Tellingly, Bernanke and others use the language of “delinquency” to refer only to those who have problems paying their mortgages – not to those who sold them. The language used to criticise the mortgage industry, though sometimes harsh, has no criminal overtones: instead mortgage lenders are deemed to have been “irresponsible” or “imprudent”.

See: Bernanke, B. S., “Fostering Sustainable Homeownership”, Speech at the National Community Reinvestment Coalition Annual Meeting, Washington, D.C., 14 March 2008, <http://www.federalreserve.gov/newsevents/speech/bernanke20080314a.htm>.

55. Ferguson, N., “How a local squall might become a global tempest”, *Financial Times*, 8 August 2008, [http://www.ft.com/cms/s/0/72e81d40-64e0-11dd-af61-0000779fd18c.html?nclink\\_check=1](http://www.ft.com/cms/s/0/72e81d40-64e0-11dd-af61-0000779fd18c.html?nclink_check=1).

The figure represents more than one in ten of all US mortgages.

56. Crook, C., “In the grip of implacable subprime forces”, *Financial Times*, 9 March 2008, <http://www.ft.com/cms/s/0/4a871774-edf9-11dc-a5c1-0000779fd2ac.html>.

“In the fourth quarter of 2007, more than 2 per cent of the country’s 46m mortgages were in foreclosure, and nearly 6 per cent past due date – both sharply higher than a year ago. For subprime mortgages, the numbers were 13 per cent in foreclosure and 20 per cent past due.

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House prices have much further to fall – maybe another 20 per cent, analysts say. That will drive many more borrowers into negative equity and force the pace of foreclosures still higher.”

57. Ben Bernanke, chair of the US Federal Reserve, cites data collected under the US Home Mortgage Disclosure Act (HMDA) which show that, for 2006, “more than 45 percent of high-cost first mortgages were originated by independent mortgage companies, which are institutions that are not regulated by the federal banking agencies and that sell almost all of the mortgages they originate”.  
*See:* Bernanke, B. S., “Fostering Sustainable Homeownership”, Speech at the National Community Reinvestment Coalition Annual Meeting, Washington, D.C., 14 March 2008, <http://www.federalreserve.gov/newsevents/speech/bernanke20080314a.htm>.
58. Martin Eakes, chief executive of Self-Help, a US credit union, quoted in Gapper, J., “The wrong way to lend to the poor”, 19 March 2007, *Financial Times*, <http://search.ft.com/ftArticle?queryText=The+wrong+way+to+lend+to+the+poor&y=5&aje=false&x=13&id=070318003384&ct=0/>.  
About 80 per cent of the loans to Afro-Americans were ARMs – adjustable-rate mortgages – rather than fixed rate mortgages: the initial rates were set low to encourage the mortgage holder to take out the mortgage, but the rates subsequently went up – a rise that those in debt were encouraged to cover by taking out new loans.
59. For further analysis, *see:* Callari, A., “Regulation of hedge Funds: Why is it a Social Security Issue?”, *Social Watch Report 2007: In Dignity and Rights, Making the Universal Right to Social Security as reality*, Monevideo, 2007, <http://www.coc.org/index.fpl/1267/article/10954.html>.  
Pension funds are estimated to constitute around 30 per cent of the investor base of hedge funds, attracted by the high returns and as a strategy for diversifying their holdings. Moreover, as Callari reports:  
“Governments are also increasingly investing their pension programme money in hedge funds. In the United States for example, the Securities and Exchange Commission (SEC) reports that about 20% of corporate and public pension funds were using hedge funds in 2002, up from 15% in 2001, and the trend is rising”.  
In effect, “millions of people worldwide, both working and retired, have money invested in hedge funds and might not even know it.”
60. Weinberg, N., “Florida Fund Meltdown – Bad to Worse”, *Forbes*, 12 June 2007, [http://www.forbes.com/2007/12/06/florida-subprime-mortgage-biz-wall\\_cz\\_nw\\_1206florida.html](http://www.forbes.com/2007/12/06/florida-subprime-mortgage-biz-wall_cz_nw_1206florida.html).
61. Clark, A., “A sign of the times in Bankruptsville, USA”, *The Guardian*, 14 June 2008, <http://www.guardian.co.uk/business/2008/jun/14/subprimecrisis.useconomy>.  
In June 2008, the Californian City of Vallejo had a £8.7 million hole in its budget and was unable to pay the salaries of its police and firefighters or provide care for its senior citizens. There have been allegations, *however, that the decision to declare the City bankrupt was politically-motivated*. As The Guardian reports:  
“According to the police union, Vallejo's bankruptcy is a ploy to diddle its members out of money. Only with permission from a bankruptcy judge can Vallejo break its pay contracts. Mat Mustard, vice-chairman of the Vallejo Police Officers' Association, says his members have made \$10.6m in salary concessions over six years. ‘This bankruptcy has nothing to do with financing. This bankruptcy has to do with breaking union contracts and obligations the city has to its employees.’”
62. The foreclosure of mortgages has major cost implications for municipal authorities, not only because of falling revenue from property taxes but also because of the additional bureaucratic and policing burden that serving notices on defaulting homeowners and protecting empty houses entails. A 2005 study by found that the services of more than a dozen municipal agencies may be called up in each foreclosure, generating direct municipal costs that in some cases “exceed \$30,000 per property”. *See:*  
--Apgar, W. C. and Duda, M., *Collateral Damage: The Munipal Impact of Today's Mortgage Foreclosure Boom*, Homeownership Preservation Foundation, 2005, [http://www.995hope.org/content/pdf/Apgar\\_Duda\\_Study\\_Short\\_Version.pdf](http://www.995hope.org/content/pdf/Apgar_Duda_Study_Short_Version.pdf).
63. *See:*  
--van Duyn, A. and Tett, G., “A passing storm? Is the worst over?”, *Financial Times*, 29 April 2008, <http://www.ft.com/cms/s/0/0a52bdbc-1607-11dd-880a-0000779fd2ac.html>;  
--Young, L., “Jefferson County, AL Officials Brief Washington On Threat Of \$4.6B Bankruptcy On Sewer Bonds”, 10 April 2008, <http://www.allheadlinenews.com/articles/7010596486>;  
Evans, B., “Experts predict deal on Alabama county's debt”, The Associated Press, 10 September 2008, <http://www.businessweek.com/ap/financialnews/D933U6PO0.htm>.  
Associated Press put Jefferson County's debt at \$3.2 billion. As of the time of writing (September

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2008), the country's financial crisis had still to be resolved. Jefferson County is one of the most indebted municipal governments in the US, owing an estimated \$7,000 (£3,550) for every adult and child. As van Duyn and Tett reported in April 2008:

"In recent years it took advantage of easy lending conditions in the municipal bond market, mainly to fix its ailing sewerage system. But since the credit crunch started last summer, funding costs have soared and investors have been less willing to lend. The county is now struggling to meet its interest payments. If it cannot reach some kind of agreement with its lenders in the coming weeks, Jefferson could become the site of the largest municipal bankruptcy seen in the US – overshadowing even California's Orange County fiasco from the 1990s."

64. Schiff, P., "The Price of Sanity in a Time of Madness", *Euro Pacific Newsletter*, 12 September 2008, available at <http://caps.fool.com/Blogs/ViewPost.aspx?bpid=86166&t=01004207525612627963>.  
In 2006, Schiff predicted that the US mortgage bubble would burst. Nicknamed "Dr Doom" by CNBC (the US's Consumer News and Business Channel), he is author of "Crashproof: How to profit from the coming economic collapse". He is not alone in forecasting hard times ahead. In an unguarded moment in August 2008, the UK's Chancellor of the Exchequer, Alistair Darling, described the current credit crunch as "the worst economic crisis for 60 years" – a view which that he subsequently sought to downplay, but which has since turned out to be an understatement. *See*:  
--"Peter Schiff", Myface, <http://profile.myspace.com/index.cfm?fuseaction=user.viewprofile&friendid=350791113>;  
--"Peter Schiff predicting our current economic condition back in 2006!", [http://current.com/items/89149339\\_peter\\_schiff\\_predicting\\_our\\_current\\_economic\\_condition\\_back\\_in\\_2006](http://current.com/items/89149339_peter_schiff_predicting_our_current_economic_condition_back_in_2006);  
--Burns, J. and Eaglesham, J., "Worst crisis for 60 years, says UK Chancellor", *Financial Times*, 30 August 2008, <http://www.ft.com/cms/s/0/9662fac2-768f-11dd-99ce-0000779fd18c.html>;  
Guthrie, J., "Credit crunch has 'sown seeds of major downturn'", *Financial Times*, 6 September 2007, <http://search.ft.com/ftArticle?queryText=%27sown+seeds+of+major+downturn%27&y=0&aje=true&x=0&id=070906000663&ct=0>.
65. Whittam-Smith, A., "There is a storm brewing – and it's coming this way", *The Independent*, 10 September 2007, [http://findarticles.com/p/articles/mi\\_qn4158/is\\_20070910/ai\\_n19513875](http://findarticles.com/p/articles/mi_qn4158/is_20070910/ai_n19513875).  
"Respectable, well-established banks are refusing to lend to each other for short periods unless rewarded with super-high interest rates. They have stopped trusting each other. The reasons is that they realise that there is some £500 billion of bad debt somewhere in the system, but they don't know where it is."
66. For an interactive video explanation of how mortgage defaults in the US evolved into a global credit crunch, *see*: <http://media.ft.com/cms/c0b7a3f6-6dbf-11dc-b8ab-0000779fd2ac.swf>.
67. "Defining liquidity", *Financial Times*, 10 August 2007, <http://www.ft.com/cms/s/1/5b2e71cc-471d-11dc-9096-0000779fd2ac.html>.
68. For an account of the Northern Rock bankruptcy and subsequent takeover by the Government, *see*: Brummer, A., *The Crunch: The Scandal of Northern Rock and the Escalating Credit Crisis*, Random House, 2008.
69. "German Government Gives Bank Billion-Euro Bailout", *Der Spiegel*, 14 February 2008, <http://www.spiegel.de/international/business/0,1518,535245,00.html>.
70. The biggest losses were at Citi, which has written down \$56.6 billion since the beginning of 2007. Merrill Lynch came next with \$51.8 billion, followed by Morgan Stanley (\$14.4 billion); J.P. Morgan (\$12.8 billion); Goldman Sachs (\$3.8 billion) and Bear Sterns (\$3.2 billion). *See*: Gapper, J., "Big Freeze part 2: Banking", *Financial Times*, 4 August 2008, <http://www.ft.com/cms/s/0/cc160f46-624f-11dd-9ff9-000077b07658.html>.
71. Strauss, D., "OECD predicts subprime losses to hit \$420bn", *Financial Times*, 16 April 2008, <http://www.ft.com/cms/s/0/2344b3ea-0b4c-11dd-8ccf-0000779fd2ac.html>.
72. The figure of \$3 trillion is an estimate by Nouriel Roubini of New York University's Stern School of Business. *See*: Wolf, M., "Going, going, gone: a rising auction of scary scenarios", *Financial Times*, 12 March 2008, <http://www.ft.com/cms/s/0/aebd8f0e-efd7-11dc-8a17-0000779fd2ac.html>.
73. As Martin Wolf of the *Financial Times* records:  
"Most of the losses will fall not on the financial sector but elsewhere. As Prof Roubini [of New York University's Stern School of Business] notes, a 10 per cent fall in house prices (relative to the peak) knocks off \$2,000bn (14 per cent of gross domestic product) from household wealth. The first 10 per cent fall has already happened. What he sees as a likely 30 per cent

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cumulative fall would wipe out \$6,000bn, 42 per cent of GDP and 10 per cent of household wealth. Already, falling prices are showing up in declining net household wealth . . . Prof Roubini also talks of a \$5,600bn decline in the value of stocks and the possibility of additional trillions of dollars in losses on commercial property. Total losses might even equal annual GDP.”

See: Wolf, M., “Going, going, gone: a rising auction of scary scenarios”, *Financial Times*, 12 March 2008, <http://www.ft.com/cms/s/0/aebd8f0e-efd7-11dc-8a17-0000779fd2ac.html>.

74. Freddie Mac – The Federal Home Loan Mortgage Corporation – was created in 1970 as a privately-owned and run, but government-sponsored, enterprise that makes mortgage loans and guarantees. See: [http://en.wikipedia.org/wiki/Freddie\\_Mac](http://en.wikipedia.org/wiki/Freddie_Mac).
75. Fannie Mae – The Federal Housing Finance Agency – was established by President Roosevelt in 1938 to provide liquidity for the US mortgage market. It was privatised in 1968. See: [http://en.wikipedia.org/wiki/Fannie\\_Mae](http://en.wikipedia.org/wiki/Fannie_Mae).
76. “Freddie Mac and Fannie Mae: After the rescue - John Calverley Q&A”, *Financial Times*, 10 September 2008, [http://www.ft.com/cms/s/0/ffa3bbd4-7f18-11dd-a3da-000077b07658.html?nclick\\_check=1](http://www.ft.com/cms/s/0/ffa3bbd4-7f18-11dd-a3da-000077b07658.html?nclick_check=1).
77. The US government took on anywhere between \$5-\$10 trillion in potential mortgage debt. The two mortgage institutions Freddie Mac and Fannie Mae have \$5.4 trillion in outstanding liabilities. However, investment advisor Peter Schiff put the possible future liabilities of the US government as a result of the deal as high as \$10 trillion. See:  
--Guha, K., Giles, C., Scholtes, S. and Chung, J., “US takes control of Fannie and Freddie”, *Financial Times*, 7 September 2008, <http://www.ft.com/cms/s/0/3a4cb13a-7d04-11dd-8d59-000077b07658.html>;  
--Summers, L., “How to build a US recovery”, *Financial Times*, 7 August 2008, <http://www.ft.com/cms/s/0/c94dd7ac-6417-11dd-844f-0000779fd18c.html>;  
--Schiff, P., “The Price of Sanity in a Time of Madness”, *Euro Pacific Newsletter*, 12 September 2008, available at <http://caps.fool.com/Blogs/ViewPost.aspx?bpid=86166&t=01004207525612627963>.
78. Van Duyn, A., “US move triggers CDS default”, *Financial Times*, 9 September 2008, <http://www.ft.com/cms/s/0/851522e2-7e08-11dd-bdbd-000077b07658.html>.
79. Guha, K., Morris, H., Ward, A., Dombey D., and Parker, G., “Tensions mount over bail-out”, *Financial Times*, 21 September 2008, [http://www.ft.com/cms/s/0/9c89aa3e-8807-11dd-b114-0000779fd18c.html?nclick\\_check=1](http://www.ft.com/cms/s/0/9c89aa3e-8807-11dd-b114-0000779fd18c.html?nclick_check=1).
80. Roche, D., “Contraction of credit will bring a long semi-recession”, *Financial Times*, 16 April 2008, <http://www.ft.com/cms/s/0/7e455ffc-0b4b-11dd-8ccf-0000779fd2ac.html>.
81. As Lawrence Summers, former US Treasury Secretary, writes:

“Beyond housing, there are also grounds for considerable concern about consumer and automobile credit, particularly if the economy turns down. Big and as yet not reported losses on commercial construction lending lie ahead. While the rate of default on corporate debt has not yet reached high levels, this is likely to change in the near future. For example, the pricing of the debt of the big American automobile companies now suggests a probability well over 90 per cent that one or more of them will go into default in the next five years - and the probability would no doubt be greater if markets did not recognise the possibility of extraordinary Federal support.”

See:

--Summers, L., “How to build a US recovery”, *Financial Times*, 7 August 2008,

<http://www.ft.com/cms/s/0/c94dd7ac-6417-11dd-844f-0000779fd18c.html>;

--Plender, J., “The return of the state: How government is back at the heart of economic life”, *Financial Times*, 21 August 2008, <http://www.ft.com/cms/s/0/73dfc892-6fb2-11dd-986f-0000779fd18c.html>.

82. In what many take as being indicative of a looming trend, in August 2008, the US car manufacturer Chrysler “fell \$6 billion short in its attempts to refinance \$30 billion worth of one-year credit lines from banks”.  
See: Davies, P. J., “Companies face prospect of funding getting scarce”, *Financial Times*, 12 August 2008, <http://www.ft.com/cms/s/0/1a86c330-6806-11dd-8d3b-0000779fd18c.html>.

German car manufacturer Daimler had bought US-based Chrysler in 1998 to form DaimlerChrysler. The combined group never quite meshed, however, so Daimler decided to sell Chrysler. Its deal with private equity groups, however, stalled in 2007 because of the credit crunch. The sale finally went ahead to Cerberus Capital Management in August 2007 for \$7.4 billion – even though DaimlerChrysler had to lend the American private equity firm cash to take Chrysler off its hands after banks had refused to lend Cerberus money for the sale.

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83. In the case of mortgages, as Charles Goodhart explains in *Prospect* magazine, the mortgages were:
- “pooled together to be securitised and sold on the capital market or placed in conduits, and the pool is divided into several tranches – from the riskiest (with the highest returns) to the least risky (with the lowest). Each of these tranches can then be sold to different investors. The most risky ‘equity’ tranche, for example, may be held by hedge funds, who can afford to take such risks, particularly since the risk can be partially hedged by investing in assets whose value goes up when house prices fall. The middle tranche may be held by longer term holders, such as pension funds; and the (safest) senior tranches were largely held by these bank conduits, or SIVs [Special Investment Vehicle]. However, when house prices actually fall, particularly at a time when effective interest rates are rising, the probability of default will rise in a non-linear, indeed possibly an exponential way. This means that there is a real credit risk, even on the senior tranches.”
- See: Goodhart, C., “Explaining the financial crisis”, *Prospect*, February 2008, [http://www.prospect-magazine.co.uk/article\\_details.php?id=10003](http://www.prospect-magazine.co.uk/article_details.php?id=10003).
- Goodhart also notes:
- “Under normal circumstances, the probability of a default on a prime mortgage is extraordinarily low: frequently less than .003 per cent per year. But in the sub-prime market, even under normal circumstances, the probability of a default is substantially higher, from 5 to 7 per cent, say over the course of the first five years in which the mortgage is held.”
84. The hived off loans have not been included in the accounts of the banks that originated them. As *The Observer* reported in September 2007 for one UK bank, HBOS:
- “As the credit crunch hit last month, HBOS – the giant UK bank formed by the merger of the Halifax and Bank of Scotland – was forced to announce that it would lend money to a so-called ‘conduit fund’ called ‘Grampian’, ‘to repay maturing debt as market pricing was unacceptable’. This was code for a bail-out: no other institution would lend the facility money. No mention of Grampian is made in HBOS’s 2006 annual report – an indication that the facility was held off-balance sheet. But investigations show that Grampian is a £28 billion financing facility, which appears to have been arranged with the help of leading Channel Islands law firm Ogier, which refers to the arrangement on its website.”
- See: Stewart, H. and Mathiason, N., “Banks hooked on a numbers game that didn’t add up”, *The Observer*, 30 September 2007, <http://www.guardian.co.uk/business/2007/sep/30/4>.
- In September 2008, HBOS agreed to be acquired by another UK bank, Lloyds TSB.
85. In the case of credit card debt, just under half of the \$920 billion owed by consumers in the USA had been securitised as of November 2007. The figure represented a \$40 billion rise on that for the previous year. In Europe, securitised credit card debt amounted to just over \$150 billion – with demand predicted to increase due to implementation of the Basel II Accord (*see* footnote **XX**). Such securitisation has been a prime factor in fuelling the consumer credit boom of the last two decades, new finance for lending has been generated by securitising the income from old lending – the banks being paid an upfront advance on future earnings from repayments. Before 2000, total US consumer debt stood at \$6,400 billion. By the end of 2006, it was more than \$13,000 billion. Borrowers are defaulting on their credit cards at a significantly higher rate than last year, according to the Fitch Credit Card Index.
- For figures on credit card debt and securitisation, *see*:
- Doran, J. and Goodway, N., “Bad credit card debt: the new subprime?”, *Evening Standard*, 15 November 2007, [http://www.thisismoney.co.uk/investing-and-markets/article.html?in\\_article\\_id=426346&in\\_page\\_id=3](http://www.thisismoney.co.uk/investing-and-markets/article.html?in_article_id=426346&in_page_id=3);
- Federal Reserve Statistical Release, December 2007, <http://www.federalreserve.gov/releases/G19/Current>;
- International Financial Services, “Securitisation: City Business Series, March 2007, [http://www.ifsl.org.uk/uploads/CBS\\_Securitisation\\_2007.pdf](http://www.ifsl.org.uk/uploads/CBS_Securitisation_2007.pdf);
- Calomaris, C. W., and Mason, J. R., “Credit card securitisation and Regulatory Arbitrage”, *Working Paper No. 03-7*, Federal Reserve Bank of Philadelphia, April 2003, <http://ideas.repec.org/p/fip/fedpwp/03-7.html>;
- Davis, P. “The evolution of blow-up protection”, *Financial Times*, 18 June 2007;
- Scholtes, S. and van Duyn, A., “Will consumer credit deal the next blow to securities trading?” *Financial Times*, 16 May 2008, <http://www.ft.com/cms/s/0/9d8cb5c0-22e0-11dd-93a9-000077b07658.html>.
86. For an assessment of the dangers of widespread financial collapse, *see*: “Are we headed for an epic bear market”, *MSN Money*, 20 September 2007, <http://articles.moneycentral.msn.com/Investing/SuperModels/AreWeHeadedForAnEpicBearMarket.aspx?page=all>.

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- See also:* Doran, J. and Goodway, N., “Now banks fear bad credit card debts will be as big as subprime”, *Evening Standard*, 15 November 2007.
87. Aitkenhead, D., “Interview with Alistair Darling”, *The Guardian*, 30 August 2008, <http://www.guardian.co.uk/politics/2008/aug/30/alistairdarling.economy>.
  88. Guthrie, J., “Credit crunch has ‘sown seeds of major downturn’”, *Financial Times*, 6 September 2007, <http://search.ft.com/ftArticle?queryText=%27sown+seeds+of+major+downturn%27&y=0&aje=true&x=0&id=070906000663&ct=0>.
  89. Gapper, J., “The wrong way to lend to the poor”, *Financial Times*, 19 March 2007, <http://search.ft.com/ftArticle?queryText=The+wrong+way+to+lend+to+the+poor&y=5&aje=false&x=13&id=070318003384&ct=0/>
  90. For a retrospective review of the failure of banks’ boards to pick up on the risks of subprime and other derivative-based lending, *see:* Guerrero, F. and Larsen, P. T., “Gone by the board? Why bank directors did not spot credit risks”, *Financial Times*, 25 June 2008, <http://www.ft.com/cms/s/0/6e66fe18-42e8-11dd-81d0-0000779fd2ac.html>.
  91. Tett, G., “Big Freeze part 1: How it began”, *Financial Times*, 3 August 2008, <http://www.ft.com/cms/s/0/a09f751e-6187-11dd-af94-000077b07658.html>.
  92. Tett, G., “Banks must learn to trust the word of humans too”, *Financial Times*, 4 July 2008, <http://www.ft.com/cms/s/0/48e00542-4962-11dd-9a5f-000077b07658.html>.
  93. Morley, I., “When you hear ‘new paradigm’ head for the hills”, *Financial Times*, 12 June 2008, <http://www.ft.com/cms/s/0/e8e7e73c-3894-11dd-8aed-0000779fd2ac.html>.
  94. Sender, H., “Profit in adversity – Wall Street debt specialists back in demand”, *Financial Times*, 10 August 2008, <http://www.ft.com/cms/s/7ea431da-670d-11dd-808f-0000779fd18c.html>.
  95. At any one time, the average FTSE 350 firm has around 4.5 per cent of its stock on loan for short selling. In 2008, the UK’s Financial Services Authority announced (and then abandoned) an investigation into the short selling of shares in HBOS, the UK bank formed by the merger of the Halifax and Bank of Scotland, after its shares plunged 17 per cent in half an hour, allegedly due to short sellers spreading false rumours in order to make profits illegally from the falling price. *See:*  
--Kollewe, J., “HBOS, short selling and market rumours”, *The Guardian*, 20 March 2008, <http://www.guardian.co.uk/business/2008/mar/20/hbosbusiness.businessqandas>;  
--Clark, N., “FSA abandons inquiry into HBOS short selling for lack of evidence”, *The Independent*, 2 August 2008, [http://findarticles.com/p/articles/mi\\_qn4158/is\\_20080802/ai\\_n27977181](http://findarticles.com/p/articles/mi_qn4158/is_20080802/ai_n27977181).
  96. As the *Financial Times* explains:  

“At its simplest, the objective of shorting is to profit from an anticipated fall in a security’s price. A manager borrows the security for a fee from a securities lender and sells it in the market. If the security falls in value, the manager can buy back the security, ie close the position, in the future at the lower price. The difference in value between selling and buying back is the manager’s profit. Thus a manager may sell 1,000 shares at \$10, providing \$10,000 in revenue, wait for the price to reduce in value, then close the position by purchasing say at \$5, making \$5,000 net profit.”

*See:* Baker, A., “Shorting – an essential, endangered hedge”, *Financial Times*, 8 June 2008, <http://www.ft.com/cms/s/0/41a64588-33f1-11dd-869b-0000779fd2ac.html>.
  97. A case in point is US hedge fund manager John Paulson whose company, Paulson & Co, has \$33billion under management. Anticipating the credit crunch, Paulson bet on a decline in the mortgage market: his best performing fund made a 600 per cent return in 2007. Deutsche Bank has also profited from betting on subprime defaults. *See:*  
--Sender, H., “Subprime seer gloomy about prospects for UK property market”, *Financial Times*, 19 June 2008, <http://www.ft.com/cms/s/0/bf4fa42e-3da7-11dd-bbb5-0000779fd2ac.html>;  
--Tett, G., “Big Freeze Part 1: How it began”, *Financial Times*, 3 August 2008, <http://www.ft.com/cms/s/0/a09f751e-6187-11dd-af94-000077b07658.html>.
  98. For an interactive map of financial market “winners and losers” in the credit crunch, *see:* “Winners and Losers of the subprime and credit market turmoil – How the Crisis unfolded in July and August 2007”, *Financial Times*, <http://media.ft.com/cms/cc2eb1e8-77fb-11dc-8e4c-0000779fd2ac.swf>.
  99. Armitrage J., “As takeover deals dry up in the City, bankers are turning East”, *Evening Standard*, 10 Jan 2008.

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With takeovers and deals down in Western Europe and North America, but booming in Asia, one banker is quoted as saying: “The mantra is ‘emerging markets, emerging markets, emerging markets’ That’s all the bosses want to talk about.”

See also: Kulkarni, N. and Pristy, A., “Private Equity investment strategy in India’s port sector”, *Journal of Private Equity*, Winter 2007. Kulkarni and Pristy write:

“According to the Emerging Markets Private Equity Association, fundraising for emerging market private equity surged in 2005 and 2006. Estimated at \$3.4 billion and \$5.8 billion in 2003 and 2004, the figure shot up to \$22.1 billion in 2005 and \$21.9 billion the first 10 months of 2006. Asia (excluding Japan, Australia, and New Zealand) dominated the surge, rising from \$2.2 billion and \$2.8 billion in 2003 and 2004, to \$15.4 billion in 2005 and \$14.5 billion during the first 10 months of 2006.”

100. David, P., “Business falters as credit becomes scarce”, *Financial Times*, 28 September 2008, <http://www.ft.com/cms/s/0/09f3b58e-8c03-11dd-8a4c-0000779fd18c.html>. Davis notes:

“The emerging market bug has even spread to Africa, where investment by private equity firms has skyrocketed from just four buy-outs valued at a combined \$74m in 2003 to 24 deals last year totalling \$6.4bn, according to data provider Dealogic.”

101. Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Final results*, pp.14 and 20, <http://www.bis.org/publ/rpfx07t.pdf>. The Bank for International Settlements reports for 2007:

“Notional amounts outstanding of commodity derivatives rose more than six-fold to \$8 trillion, although this may reflect a change in the degree of underreporting as well as a genuine increase in positions. Less extreme, but still high rates of growth were reported for the more traditional types of risk traded on the OTC [over the counter] derivatives market. Open positions in interest rate contracts increased by 119% to \$389 trillion, and those in equity contracts by 111% to \$11 trillion. Growth in notional amounts outstanding of OTC foreign exchange derivatives was less brisk at 83%, taking the volume of open positions in such contracts to \$58 trillion.”

102. For example, see:

--IUF (International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations), “Financializing Food: Schroders Closes One Fund, Launches New as Speculative Money Continues to Flood into Commodity Funds”, 12 June 2008, [http://www.iufdocuments.org/buyoutwatch/2008/07/financializing\\_food\\_schroders.html#more](http://www.iufdocuments.org/buyoutwatch/2008/07/financializing_food_schroders.html#more);  
--“African Agricultural Land Fund Launched”, 1 September 2008, <http://www.hedgeco.net/news/09/2008/african-agricultural-land-fund-launch.html>;  
--“Wilmar and Olam to form a 50:50 Joint Venture, Nauvu Investments, to invest in integrated palm oil, natural rubber and sugar assets in Africa”, 15 November 2007, [www.wilmar-international.com/news/press\\_releases/News\\_Release\\_15Nov07.pdf](http://www.wilmar-international.com/news/press_releases/News_Release_15Nov07.pdf);  
--Kramer, A.E., “A land rush in rural Russia”, *International Herald Tribune*, 31 August 2008, <http://www.iht.com/articles/2008/08/31/business/food.php>;  
--Thomas, D., “Food prices drive record rate of farmland costs”, *Financial Times*, 28 July 2008, <http://www.ft.com/cms/s/0/c91dbf22-5c3d-11dd-9e99-000077b07658.htm>.

For investor presentations by agriculture funds, see:

--GlobalAgriCap, “Harvesting Alpha”, <http://www.globalagricap.com/index.html>;  
--Landsbanki and Four Winds Capital Management, “Ceres Agriculture Fund – Investments designed to address the long-term challenges in agriculture for the 21<sup>st</sup> Century”, Presentation to Investors, 23 October 2007;  
--Schroder Alternative Solutions, “Schroder Alternative Investment Group – Agriculture”, Presentation to Investors, May 2008.

103. An example is the Contingent Credit Default Swap (CCDS), which is intended to hedge against the risk that counterparties to debt will default. As the *Financial Times* explains:

“Unlike in a normal credit default swap, where the notional risk that is hedged is defined at the outset of the contract, each CCDS is linked to a second derivative, so the risk being hedged varies over time according to market movements in the underlying transaction. That means these contracts can be used to protect or lock in mark-to-market gains on the values of derivative contracts, as well as to protect dealers against counterparty risk”.

See: Cookson, R., “Banks’ new tool to deal with counterparty risk”, *Financial Times*, 9 April 2008, <http://www.ft.com/cms/s/0/65324696-0660-11dd-802c-0000779fd2ac.html>.

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104. Mackenzie, M., Tett, G., and van Duyn, A., "As consumer prices climb, derivatives find new favour with bankers", *Financial Times*, 17 June 2008, <http://www.ft.com/cms/s/0/aba3127e-3c9b-11dd-b958-0000779fd2ac.html>.
- "Soaring prices for oil and other products might seem like bad news to many policymakers, investors and issuers, but for some bankers this trend is – perversely – almost welcome. That is because rising inflation concerns are leading to a surge of interest in the sector of finance that provides investors with protection against price swings or allows them to place bets on those trends."
105. Tett, G., "Quoted in Derivative thinking", *Financial Times*, 30 May 2008, [http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nclick\\_check=1](http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nclick_check=1).
106. Mackintosh, J., "Hedge fund assets jump to \$2,900bn", *Financial Times*, 6 June 2008, <http://www.ft.com/cms/s/0/1900c8a0-33ed-11dd-869b-0000779fd2ac.html>.
- "Hedge funds have more than \$2,900bn under management, according to a survey of valuers of their assets, sharply up on last year in spite of the credit crunch and a series of high-profile problems in the industry."
107. Saft, J., "Hedge funds, private equity head for the rocks", *Reuters*, 3 October 2008, <http://www.reuters.com/article/reutersComService4/idUSTRE49236D20081003>.  
Hedge funds are typically down 12 per cent on the year.
108. Gangahar, A., "Boomtime for derivatives as investors bet on volatility", *Financial Times*, 24 April 2008, <http://www.ft.com/cms/s/0/8b60aa36-1224-11dd-9b49-0000779fd2ac.html>.
109. Thal Larsen, P., "World's richest cut exposure to property and hedge funds", *Financial Times*, 25 June 2008, <http://www.ft.com/cms/s/0/b3667d26-424e-11dd-a5e8-0000779fd2ac.html>.
110. Tett, G., "A lack of trust spells crisis in every financial language", *Financial Times*, 17 March 2008, <http://www.ft.com/cms/s/0/8e2e787a-f455-11dc-aaad-0000779fd2ac.html>.
111. As MacKenzie notes: "As recently as 1970, the market in derivatives such as options was tiny: indeed many derivatives were illegal." See: MacKenzie, D., "An Equation and its Worlds; Bricolage, Exemplars, Disunity and Performativity in Financial Economics – Paper presented to Inside Financial Markets: Knowledge and Interaction Patters in Global Markets, Konstanz, 15-18 May 2003", April 2003, <http://www.uni-konstanz.de/ssf-conference/MacKenzie.pdf>.
112. In January 2008, the market in credit derivatives alone (with \$45,000 billion in outstanding trades) was bigger than the US government bond and housing market combined. See: Scholtes, S. and Tett, G., "'Shipwrecks and casualties' warning for credit markets", *Financial Times*, 10 January 2008, <http://www.ft.com/cms/s/0/17dd693e-bfb6-11dc-8052-0000779fd2ac.html>.
113. Derivatives, unlike stocks and shares, are not valued according to their market price but according to complex models against which they are "marked". The real value, if they are sold, is much lower.
114. Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Final results*, p.2, <http://www.bis.org/publ/rpfx07t.pdf>
115. In 2007, the Gross Domestic Product (GDP), a measure of the value of all goods and services produced by a country in a given year, of the entire world economy was estimated at \$53,352 billion. See: International Monetary Fund, *World Economic Outlook, October 2007*, <http://www.imf.org/external/pubs/ft/weo/2007/02/weodata/download.aspx>.
- The daily turnover of just two instruments – foreign exchange and interest rate derivatives – was \$4.2 trillion, a 75% increase on 2004. See: Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Final results*, pp.14 and 20, <http://www.bis.org/publ/rpfx07t.pdf>.
- For an overview of the UK market, see International Financial Services London, "Derivatives 2007", November 2007, [http://www.ifs.l.org.uk/uploads/CBS\\_Derivatives\\_2007.pdf](http://www.ifs.l.org.uk/uploads/CBS_Derivatives_2007.pdf).
116. Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Final results*, pp.2-3, <http://www.bis.org/publ/rpfx07t.pdf>. The Bank explains:
- "Notional amounts outstanding provide useful information on the structure of the OTC derivatives market but should not be interpreted as a measure of the riskiness of these positions. While a single comprehensive measure of risk does not exist, a useful concept is the cost of replacing all open contracts at the prevailing market prices. This measure, called gross

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market value, increased at a considerably lower rate (74%) than notional amounts during the reporting period, to \$11 trillion at the end of June.”

117. Bank for International Settlements, *Triennial Central Bank Survey of Foreign Exchange and Derivatives Market Activity in 2007 – Final results*, p.3, <http://www.bis.org/publ/rpfx07t.pdf>.

This represents more than a three-fold increase since 2000 when the gross market value of derivatives was estimated by the Bank for International Settlement at \$3.2 trillion ([http://www.bis.org/publ/otc\\_hy0105.pdf](http://www.bis.org/publ/otc_hy0105.pdf)). Gillian Tett of the *Financial Times* put the rise at fivefold but does not give the source of her figures. See: Tett, G., “The irony is we may have created a new set of risks”, *Financial Times*, 1 May 2007, [http://us.ft.com/ftgateway/superpage.ft?news\\_id=fto050820071016435233](http://us.ft.com/ftgateway/superpage.ft?news_id=fto050820071016435233) and Tett, G., “Growth brings loss of oversight”, *Financial Times* 28 May 2007.

118. In 2007, the Gross Domestic Product (GDP), a measure of the value of all goods and services produced by a country in a given year, of the USA was estimated at \$11,535 billion; that of the United Kingdom, \$1,246 billion. See: International Monetary Fund, *World Economic Outlook, October 2007*, <http://www.imf.org/external/pubs/ft/weo/2007/02/weodata/download.aspx>.

119. Bank for International Settlements, “International banking and financial market developments”, *BIS Quarterly Review*, September 2008, p.20, [http://www.bis.org/publ/qtrpdf/r\\_qt0809.pdf](http://www.bis.org/publ/qtrpdf/r_qt0809.pdf). In the first quarter of 2008, six months after the credit crunch began to bite, the total net turnover was higher still – at \$692 trillion.

120. For discussion of a comparable process in patenting, see Peter Drahos with John Braithwaite, “Who Owns the Knowledge Economy? Political Organising Behind TRIPS”, *Corner House Briefing* 32, The Corner House, September 2004, <http://www.thecornerhouse.org.uk/summary.shtml?x=85821>

121. As Nasser Saber, a lecturer on derivative risks at New York University, notes, the derivatives speculator generally features as one of “those beneficial rascals of finance who bring liquidity to markets the way Prometheus brought fire to human”. The adverse role that speculative capital plays structurally in markets is not mentioned. See: Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.

122. The comparison between genetic engineering and traditional plant breeding is misplaced for several reasons, not least because of the levels of risk to the public involved. Traditional plant breeding does not need a laboratory and does not involve the exchange between species of genetic materials.

123. Siems, T.F., “Policy Analysis: 10 Myths about financial derivatives”, 11 September 1997, <http://www.cato.org/pubs/pas/pa-283.html>. Siems ranks as “Myth Number 1” the fiction that “*Derivatives Are New, Complex, High-Tech Financial Products Created by Wall Street’s Rocket Scientists*”.

124. Aristotle, *Politics* (Vol 1), 350 BCE, translated by Jowett, B, <http://classics.mit.edu/Aristotle/politics.1.one.html>

125. --Taleb, N., *Dynamic Hedging: Managing Vanilla and Exotic Options*, John Wiley and Sons, London, 19997, p.13;  
Levinson, M., *Guide to Financial Markets*, The Economist/Profile Books, London, 2005, p.200;  
--Shane, S., “Derivatives: Trades on lightly regulated markets can make or break companies”, *Baltimore Sun Journal*, 18 January 2002, <http://www.trinity.edu/rjensen/fraudBaltimoreSun.htm>.

The story of Thales was first recounted by Aristotle, who wrote in his *Politics* (Vol 1):

“There is the anecdote of Thales the Milesian and his financial device, which involves a principle of universal application, but is attributed to him on account of his reputation for wisdom. He was reproached for his poverty, which was supposed to show that philosophy was of no use. According to the story, he knew by his skill in the stars while it was yet winter that there would be a great harvest of olives in the coming year; so, having a little money, he gave deposits for the use of all the olive-presses in Chios and Miletus, which he hired at a low price because no one bid against him. When the harvest-time came, and many were wanted all at once and of a sudden, he let them out at any rate which he pleased, and made a quantity of money. Thus he showed the world that philosophers can easily be rich if they like, but that their ambition is of another sort. He is supposed to have given a striking proof of his wisdom, but, as I was saying, his device for getting wealth is of universal application, and is nothing but the creation of a monopoly. It is an art often practiced by cities when they are want of money; they make a monopoly of provisions.”

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- See:* Aristotle, *Politics* (Vol 1), 350 BCE, translated by Jowett, B, <http://classics.mit.edu/Aristotle/politics.1.one.html>
126. Shane, S., “Derivatives: Trades on lightly regulated markets can make or break companies”, *Baltimore Sun Journal*, 18 January 2002, <http://www.trinity.edu/rjensen/fraudBaltimoreSun.htm>
127. In some contemporary accounts, Thales ceases even to be a philosopher and becomes just one trader amongst many using derivatives to make a quick profit. The anonymous author of one history of derivatives available on a financial website writes:
- “In the ancient days of Greece it was not unusual to sell the olive crop on a forward basis. Aristotle described in his book 'Politics' how Thales became rich via the use of options.”
- See:* “Derivatives – history and outlook”, *GiNews.com*, 13 February 2003, <http://www.gtnews.com/article/4880.cfm>
128. Augar, P., *The Greed Merchants: How Investment Banks Played the Free Market Game*, Penguin, 2005, p.77.
129. The relationship between the holder of an option (the person who has bought the right to buy or sell) and the writer of the option (the person who has agreed to sell or buy should the option be exercised) is not equal. As the Financial Policy Forum notes:
- “Whereas the holder of the option has the *right* to exercise the option in order to buy or sell at the more favourable strike price, the writer or seller of the option (know as the short options position) has the obligation to fulfil the contract if it is exercised by the options buyer. The writer of an option is thus exposed to potentially unlimited losses.”
- By contrast all that the holder of the option stands to lose is the premium he has paid to purchase the option. Thales, for example, could have backed out of the deal if the harvest was worse than he predicted, losing only his deposit, since he had only taken out an *option* to rent the olive presses rather than contracting to actually do so. The olive press owners, by contrast, were obligated to rent him the presses at the agreed price should he exercise his option.
- See:* Financial Policy Forum, Derivatives Study Centre, “Primer – Derivative Instruments”, 2004, <http://www.financialpolicy.org/dscinstruments.htm>;
130. Futures and forward contracts are essentially the same: both involve an obligation – rather than just an option – to buy or sell. The distinction, however, is that futures are traded on listed exchanges – and their price is therefore public – while forwards are traded privately, their price remaining undisclosed to the market, the press or government regulators. *See:*
- Financial Policy Forum, Derivatives Study Centre, “Primer – Derivative Instruments”, 2004, <http://www.financialpolicy.org/dscinstruments.htm>;
- Augar, P., *The Greed Merchants: How Investment Banks Played the Free Market Game*, Penguin, 2005, p.77;
- Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.167.
131. Financial Policy Forum, Derivatives Study Centre, “Primer – Derivative Instruments”, 2004, <http://www.financialpolicy.org/dscinstruments.htm>. The Financial Policy Forum summarises:
- “A call option gives the option buyer the right to buy at the strike price, and so the option is profitable if the [market] price goes up. A put gives the option holder the right to sell at the strike price, and so is profitable if the [market] price goes down. Here is a useful memory device: call up – put down”.
132. Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.170.
- “In every trade, the two parties take opposite positions. The buyer of the contract, who agrees to receive the commodities specified, is said to be in a long position . . . The seller of a contract is said to be in a short position.”
133. *See:* Agarwal, J.D. and Agarwal, A., “Savings concept in Derivative Instruments”, Paper presented to 7th International Conference of International Society for Intercommunication of New Ideas, “Frontiers in Finance”, 23 August 2003.
- Agarwal and Agarwal note:
- “[The trade] was centred around Dojima, a district of Osaka and the trade was known as cho-ai-mai a kinai (rice-trade-on-book). This trade in rice grew and flourished to a stage where receipts for future delivery were traded with a high degree of standardisation. In 1730, the market received official recognition from the Tokugawa Shogunate (the ruling clan of shoguns or feudal lords). The Dojima rice market can thus be regarded as the first futures market in the sense of an organised exchange with standardised trading terms”.

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See also: Hedging with Commodities, <http://www.commodity-futures-trading.info/hedging.html>:

“. . . The hedging concept was believed to have started in 17th century Japan where farmers sold tickets for rice crops stored in their warehouses”.

For an analysis of the Dojima market, see: Shigeyuki Hamori, Naoko Hamori, David A. Anderson “An Empirical Analysis of the Efficiency of the Osaka Rice Market During Japan's Tokugawa Era”, *Journal of Futures Markets*, Vol.21, Issue 9, pp.861-874.

134. Bell, A.R., Brooks, C., and Dryburgh, P., “Interest rates and efficiency in medieval wool forward contracts”, *Journal of Banking & Finance*, Volume 31, Issue 2, February 2007, pp. 361-380, [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6VCY-4KGG1PN-1&\\_user=10&\\_rdoc=1&\\_fmt=&\\_orig=search&\\_sort=d&\\_view=c&\\_acct=C000050221&\\_version=1&\\_IVersion=0&\\_userid=10&md5=8c824d3be7235cec53bc5c8273458a90](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VCY-4KGG1PN-1&_user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&_view=c&_acct=C000050221&_version=1&_IVersion=0&_userid=10&md5=8c824d3be7235cec53bc5c8273458a90).

The authors note:

“While it is commonly believed that derivative instruments are a recent invention, we document the existence of forward contracts for the sale of wool in medieval England around 700 years ago. The contracts were generally entered into by English monasteries, who frequently sold their wool for up to 20 years in advance to mostly foreign and particularly Italian merchants”.

135. Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.167.
- “It is known that in Renaissance times the merchants who financed trading voyages sometimes arranged to sell wares that they expected to receive but did not yet have in hand. By the late 1550s, fish dealers in Holland were buying and selling herring that had yet to be caught, and the sale of other commodities on a to-arrive basis soon followed.”
136. See: Melamed, J., “What Joseph Wrought”, Essay published Spring 1981, <http://www.leomelamed.com/essays/81-josph.htm>. Melamed was founder of Chicago Mercantile Exchange's International Monetary Market (IMM).
137. Jacob becomes the first person to default on a derivatives contract. See: “Derivatives – history and outlook”, *GtNews.com*, 13 February 2003, <http://www.gtnews.com/article/4880.cfm>.

The anonymous author writes:

“It is actually amazing how far back in history you'll find derivative-like applications . . . In the bible we find another early use of an option in the book of Genesis – and the first default, as well. Jacob wanted to marry Rachel. Her father made him work for seven years for the right to marry her. After the seven years he defaulted on the agreement and made Jacob marry her older sister Lea instead. He wanted Rachel, however. So he had no choice but to marry Lea, work another seven years and then he could marry Rachel. Which he did to his regret, as that liaison did not turn out to be a happy one.”

See also: “Basics – Learn more about derivatives”, <http://www.derivativesportal.org/Misc/?Id=basics>.

138. “Farmers Teach Wall Street Futures”, Wessels Living History Farm, [http://www.livinghistoryfarm.org/farminginthe50s/money\\_12.html](http://www.livinghistoryfarm.org/farminginthe50s/money_12.html).
139. This example is based upon one cited by the Financial Policy Forum, which is generally critical of the modern derivatives market. See: Financial Policy Forum, Derivatives Study Centre, “Primer – Derivative Instruments”, 2004, <http://www.financialpolicy.org/dscinstruments.htm>.
- For other examples of hedging using futures contracts and options, see: Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, chapters 8 and 9.
140. Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.170.
- “Once a trade has been completed, the participants are obligated to the exchange rather than to each other. Either party separately may terminate its contract at any point by arranging an offset, without affecting the other party's position.”
141. Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.170.
142. For a worked example of hedging using options in the equities market, see: Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.205.
143. Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.207.

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“An engineering company signing a contract to supply automotive components at a fixed price might purchase a call on aluminium on the London Metal Exchange, thus locking in the price of an important raw material without using its capital to amass a stockpile of aluminium”.

Other examples cited by the Financial Policy Forum include banks using:

“derivatives to reduce the risk that the short-term interest rates they pay to their depositors will rise against the fixed interest rate they earn on their loans and other assets” or pension funds and insurance companies using derivatives “to hedge against large drops in the value of their portfolios”.

See: Financial Policy Forum, “Primer – Derivatives”, 2002,  
<http://www.financialpolicy.org/dscprimer.htm>.

144. For a discussion of the impacts of standardised contracts and standardisation of the underlying assets, see: MacKenzie, D., “An Engine, Not a Camera: How Financial Models Shape Markets”, Massachusetts Institute of Technology, 2006, pp.13-15. MacKenzie writes:

“The processes that made Chicago’s trading in grain futures possible were based on the disentanglement of grain from its grower that took place when transport in railroad cars and storage in steam-powered grain elevators replaced transport and storage in sacks. Sacks kept grain and grower tied together, the sacks remaining the latter’s property, identified as such by a bill of lading in each sack, until they reached the final purchaser. In contrast, grain from different growers was mixed irreversibly in the elevators’ giant bins, and the trace of ownership now a paper receipt, redeemable for an equivalent quantity of similar grain but not for the original physical substance . . . The standardisation of grain was both a technical and a social process. In Chicago, the bushel, originally a unit of volume, became a unit of weight in order to permit measurement on scales on top of each elevator. A team of inspectors . . . checked that the scales were fair and made the inevitably contestable judgments that the contents of this bin were good enough to be classed as ‘No. 1 white winter wheat’, which had to ‘be plump, well cleaned and free from other grains’, while that bin contained only ‘No. 2’, which was defined as ‘sound, but not clean enough for No.1’ . . . With grains thus turned into ‘homogenised abstractions’, disentangled at least partially from their heterogeneous physical reality, it was possible to enter into a contract to buy or to sell 5,000 bushels (the standard contract size) of, for example, ‘Chicago No 2 white winter wheat’ at a set price at a given future time. Such a contract had no link to any *particular* physical entity, and because its terms were standardised it was not connected permanently to those who had initially entered into it.”

145. Stringham, E., “The Extralegal development of securities trading in Seventeenth Century Amsterdam”, *The Quarterly Review of Economics and Finance*, 42, 2003, pp.321-344,  
<http://www.sjsu.edu/stringham/docs/Stringham.2003.QREF.Amsterdam.pdf>.

The use of forwards and options were banned in 17th century Amsterdam, although, as Stringham shows, the probation was not widely enforced.

146. Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007,  
<http://www.alphamagazine.com/article.aspx?articleID=1396902>.

147. Nasser Saber, a lecturer on derivative risks at New York University’s Institute of Finance and Banking and author of *Speculative Capital and Derivatives*, notes:

“Ownership acts as a protective cushion against price shocks and as a cover concealing the cost of hedging. If the price of corn declines, the farmer will be happy at having sold it at a higher price. If the price increases, the adverse move appears to him as an opportunity cost. His practical mind sees it as pointless ‘what might have been’ speculation. Under no condition, however, does he risk being ruined. He has eliminated that risk by agreeing to limit his potential profit . . . Now, replace the farmer in our example with an arbitrageur. Suddenly, the effect of adverse price movement that for the farmer was of the ‘what-might-have-been’ kind, becomes a real one for the arbitrageur. He will be long the spot and short the corn futures. That amounts to being short the basis. If the basis increases above its original value . . . the arbitrageur has to pay the difference . . . The change in the basis, which was of little concern to the farmer, becomes a source of real loss to the arbitrageur, especially when his position must be marked to market.”

See: Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.

148. Many hedge funds do not hedge their positions at all. For further details, see Box: “You Know a Hedge Fund When You See It”, p. 35. See also: <http://www.thales.ca/hedge.asp>. Thales, a leading Canadian hedge fund, is unequivocal:

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“The term hedge fund is actually a misnomer because most of them do not even hedge their positions.”

149. For further discussion, *see*:  
--Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>;  
--Davis, J., “Speculative Capital”, Paper presented to Globalisation and Social Justice Conference, Chicago, 9-11 May 2002, <http://www.gocatgo.com/texts/speccap4.pdf>;  
--David, J., “Speculative Capital and the Environment”, Draft, 21 December 2006, <http://www.gocatgo.com/texts/spec.cap.env.3.pdf>.
- As Davis notes:
- “Hedging and speculating are very different acts, as different as buying is from selling. Hedging is an attempt to protect the equity of a firm by maintaining the balance between assets and liabilities. It is, like insurance, the defensive act of preservation. The goal of speculation, on the other hand, is to make money. It is an offensive act.”
150. Nasser Saber, *Speculative Capital and Derivatives*, FT Prentice Hall, 1999.
151. Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.
152. “Should investors expect more from hedge funds?”, *MoneyWeek*, 16 November 2006, <http://www.moneyweek.com/file/21682/should-investors-expect-more-from-hedge-funds.html>.
- “In very simple terms beta is the return that can be explained by market movements and alpha is the return over and above the market return which the manager is capable of generating. If the market is up 7% (beta = 7%) and the manager generates a return of 10%, we say that he generated alpha of 3%. In the hedge fund industry managers are paid to produce alpha.”
153. It has been reported that hedge funds “package up beta and sell it as alpha” – the implication being “that the funds in question charge high fees without delivering any form of hedge”. *See*: “Should investors expect more from hedge funds?”, *MoneyWeek*, 16 November 2006, <http://www.moneyweek.com/file/21682/should-investors-expect-more-from-hedge-funds.html>
154. Tammer Kamel, *The Tao of Alpha*, Iluka Hedge Fund Consulting, <http://www.ilukacg.com/articles/Tao%20of%20Alpha.pdf>.
155. As the economist J.K. Galbraith has observed: “What is recurrently described as financial innovation is, without exception, a small variation on an established design”. *See*: J.K. Galbraith, *A Short History of Financial Euphoria*, 1993, quoted in Whittam Smith, A., “Banks invite trouble if they try to reinvent the wheel”, *The Independent*, 28 January 2008, <http://www.independent.co.uk/opinion/commentators/andreas-whittam-smith/andreas-whittam-smith-banks-invite-trouble-if-they-try-to-reinvent-the-wheel-774876.html>.
156. For a discussion of embedded derivatives, *see*: Sallu, M., “Watch out for embedded derivatives”, PriceWaterhouseCoopers, [http://www.pwc.com/extweb/pwcpublications.nsf/dfef71994ed9bd4d802571490030862f/224f7414aa0174e802570a7002bf8c4/\\$FILE/Watch%20out%20for%20Embedded%20Derivatives.pdf](http://www.pwc.com/extweb/pwcpublications.nsf/dfef71994ed9bd4d802571490030862f/224f7414aa0174e802570a7002bf8c4/$FILE/Watch%20out%20for%20Embedded%20Derivatives.pdf).
- Sallu notes:
- “An embedded derivative is . . . a derivative instrument that is embedded in another contract, which is known as “the host contract”. The host contract might be a debt or equity instrument, a lease, an insurance contract, normal sale or purchase contract, services agreements, loan agreements etc. Embedded derivatives are common and many companies use them on a daily basis, sometimes without their knowledge.”
157. “In finance, a bond is a debt security, in which the authorized issuer owes the holders a debt and is obliged to repay the principal and interest (the coupon) at a later date, termed maturity”. *See*: Wikipedia, “Bond (finance)”, [http://en.wikipedia.org/wiki/Bond\\_\(finance\)](http://en.wikipedia.org/wiki/Bond_(finance)).
158. --Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.68;  
--Augur, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.78.
159. Marc Levinson, former finance editor of *The Economist*, gives an example:
- “Firm A, which obtained a floating-rate bank loan because fixed-rates loans were unattractively priced, may prefer a fixed payment that can be covered by a fixed stream of income, but firm B might prefer to exchange its fixed-rate obligation for a floating rate to

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benefit from an anticipated fall in interest rates. In a simple swap, firm A might pay \$30,000 to exchange its obligation to make payments for two years on a \$1m notional amount at 1% above the London Inter-Bank Offer Rate (LIBOR) for firm B's obligation to pay interest on \$1m at a fixed 7% rate. The notional amounts themselves do not change hands, so neither party is responsible for paying off the other's loan. The value of an interest-rate swap obviously depends on the behaviour of the market rates. If rates were to decline, the swap position held by firm B would increase in value, as it would be required to make smaller payments over the next 2 years: and firm A's fixed-rate position would lose value because the rate is now far above what the market would dictate. However, if rates were to rise, firm A's side of the swap would be worth more than firm B's."

See: Levinson, M., *Guide to Financial Markets*, Financial Times/Profile Books, London, 2005, p.220.

160. For details of the use of such swaps by Gibson Greetings, see:  
--US Securities and Exchange Commission, "In the matter of Gibson Greetings", Accounting and Auditing Enforcement Release No. 730 / October 11, 1995, Administrative Proceeding File No. 3-8866, <http://www.sec.gov/litigation/admin/3436357.txt>;  
--Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.49-53.
161. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.51.
162. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.52.
163. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, pp.53.
164. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, pp.53-57.
165. Hutton, W., "This reckless greed of the few harms the future of the many", *The Observer*, 27 January 2008, <http://observer.guardian.co.uk/comment/story/0,,2247583.00.html>.
166. "According to former derivatives trader Robert Reoch: "The bingo moment was in the coffee queue of [Bank of America's] Chicago office when the two groups met by chance and realised they needed to talk to each other."  
See: Tett, G., "Derivative thinking", *Financial Times*, 30 May 2008, [http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nclink\\_check=1](http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nclink_check=1).
167. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.389.
168. For a full discussion, see: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.388.
169. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.386.
170. Davies, P. J., "Turn any assets into investor gold with alchemy of CDOs", *Financial Times*, 28 May 2007, <http://search.ft.com/ftArticle?queryText=Turn+any+assets+into+investor+gold+with+alchemy+of+CDO&y=8&aje=false&x=13&id=070528000518&ct=0>. Davies writes:  
"A CDO is an almost alchemical process by which minor substances are transmuted into investors' gold. This can mean turning highly risky mortgages into the safest kind of investment-grade debt, or taking individually low-returning investment-grade bonds and creating a higher-paying note."
171. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.287.
172. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.394.
173. --Tett, G., "Battered banks face regulators' harder line on trading books", *Financial Times*, 2 June 2008, <http://www.ft.com/cms/s/0/5227214e-30cb-11dd-bc93-000077b07658.html>;  
--Gapper, J., "A good name sliced, diced and traded", 23 April 2008, <http://www.ft.com/cms/s/0/770ba47a-1155-11dd-a93b-0000779fd2ac.html>.

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174. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.287.
175. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.272.
176. Frank Partnoy, a former derivatives trader and now Professor of Law at the University of San Diego, explains:
- “In a credit default swap, two parties bet on whether a company would default on its loans. The party betting yes was ‘buying protection’, like an individual buying insurance. The party betting no was ‘selling protection’, like an insurance company. If the company they were betting on remained healthy, the buyer of protection would pay the seller an amount resembling an insurance premium. If the company failed to make its loan payments, the seller of protection would pay the buyer a prespecified amount, like the payout on an insurance policy.”
- See:* Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.375.
177. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.287.
178. There may also be other reasons why an investor agrees to a CDS. As Satyajit Das explains, they may like the company or have little exposure to risks in the sector or they may simply be unaware of the risks. *See:* Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.271.
179. Altman, D., “Enron’s many strands – Finance: Enron had more than one way to disguise rapid rise in debt”, *New York Times*, 17 February 2002, <http://query.nytimes.com/gst/fullpage.html?res=9B05E4DC113FF934A25751C0A9649C8B63&sec=&spn=&pagewanted=all>.
- For an account of Enron’s rise and fall, *see:* McLean, B. and Elkind, P., *The Smartest Guys in the Room*, Penguin, 2004.
180. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.376.
- It has been estimated that banks used more than 800 swaps to lay off \$8 billion of Enron risk. *See:* Partnoy, F. and Skeel, D.A., “The Promise and Perils of Credit Derivatives”, Public Law and Legal Theory, University of Pennsylvania Law School, *Research Paper No 06-36*, <http://homepages.ulb.ac.be/~plegros/documents/classes/finance/Themes/Innovations%20financieres/Partnoy-Skeel.pdf>.
181. National Public Radio (NPR), “AIG and the trouble with ‘Credit Default Swaps’”, 18 September 2008, <http://www.npr.org/templates/story/story.php?storyId=94748529>.
182. Van Duyn, A., “US move triggers CDS default”, *Financial Times*, 9 September 2008, <http://www.ft.com/cms/s/0/851522e2-7e08-11dd-bdbd-000077b07658.html>.
- In the wake of the credit crisis, credit default swaps (CDSs) are proving increasingly attractive to investors, because their price has fallen. Some investors are buying them as a heavily discounted means of hedging the risks on bonds, which are also much cheaper. *See:* Dizard, J., “A free lunch available for the few”, *Financial Times*, 1 June 2008, <http://www.ft.com/cms/s/0/24d1db1c-2e6e-11dd-ab55-000077b07658.html>.
183. *See:* Ritson, A., “Us Economy’s next bad think?”, *BBC Newsnight*, 14 July 2008, <http://news.bbc.co.uk/1/hi/programmes/newsnight/7506653.stm>.
184. Davies, P., “Free money to be made from swaps”, *Financial Times*, 4 June 2007, <http://search.ft.com/ftArticle?queryText=%22Free+money+to+be+made+from+swaps%22&y=0&aje=true&x=0&id=070604000763&ct=0>.
- The strategy is very popular with hedge funds, which need to put up only small sums against any potential losses they might incur. Hence the low rate premium on credit default swaps (particularly where these are covered by the interest from the bonds insured) are extremely attractive.
185. Some 800 such swaps were associated with Enron loans alone – involving an estimated £8 billion worth of bets. *See:* Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.376.

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186. *See:*  
 --Ritson, A., "Us Economy's next bad think?", *BBC Newsnight*, 14 July 2008, <http://news.bbc.co.uk/1/hi/programmes/newsnight/7506653.stm>;  
 -- Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.278.
187. "Of scorpions and starfighters", *The Economist*, 31 January 2006, [http://www.theelectronicconomist.com/research/articlesbysubject/displaystory.cfm?subjectid=2512631&story\\_id=5463265](http://www.theelectronicconomist.com/research/articlesbysubject/displaystory.cfm?subjectid=2512631&story_id=5463265)
188. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.385-386. Partnoy writes:  
 "Synthetic CDOs might seem like unusual or esoteric side bets, but by 2002 they were the mainstay of corporate finance. In 2001, banks created almost \$80 billion of Synthetic CDOs. During 2002, even after the bankruptcies of Enron, Global Crossing and WorldCom – companies whose debts were referenced in the credit default swaps of numerous Synthetic CDOs – financial institutions still were continuing to do these deals".
189. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.385. Partnoy explains:  
 "A Synthetic CDO was like a standard cash-flow CDO, except that a bank substituted credit default swaps for loans or bonds. In other words, the 'assets' of the SPE [Special Purpose Entity, also called an SPV or SIV] were credit default swaps. As a result, the companies whose debts formed the basis of a Synthetic CDO has *no relationship* at all to the deal: most likely, the companies would not even know about it."
190. "Delphi (auto parts)", [http://en.wikipedia.org/wiki/Delphi\\_\(auto\\_parts\)](http://en.wikipedia.org/wiki/Delphi_(auto_parts))
191. "Of scorpions and starfighters", *The Economist*, 31 January 2006, [http://www.theelectronicconomist.com/research/articlesbysubject/displaystory.cfm?subjectid=2512631&story\\_id=5463265](http://www.theelectronicconomist.com/research/articlesbysubject/displaystory.cfm?subjectid=2512631&story_id=5463265).
192. Bank for International Settlement, "Statistical Annex", *BIS Quarterly Review*, September 2008, "Table 19: Amounts Outstanding of over-the-counter (OTC) derivatives by risk category and instrument", p.A103, [http://www.bis.org/publ/qtrpdf/r\\_qa0809.pdf](http://www.bis.org/publ/qtrpdf/r_qa0809.pdf).
193. As *Financial Times* columnist John Gapper comments with respect to changing lending practices by banks:  
 "Banks used to balance two factors in deciding whether to make a loan – how much the borrower would pay in interest and fees and how likely it was to default. They refused to lend if they thought the risk of default outweighed the reward because they would be the ones to suffer. But, as the risk that they would be hit if borrowers ran into problems receded, they became less cautious."  
*See:* Gapper, J., "Now banks must relearn their craft", *Financial Times*, 30 July 2007, <http://search.ft.com/ftArticle?queryText=Banks+must+now+relearn+their+craft&y=6&aje=false&x=14&id=070730000425&ct=0>.
194. In part, the scale of imposed risks arises from the globalisation of financial and other markets; and in part, from the emergence of new social networks that release speculators from face-to-face contact with those who are directly affected by the risks that their speculation imposes. In that respect, the issue is not one of "depersonalization" of markets: social networks are as critical to modern derivatives trading as they were to such trading in 18th century Amsterdam or elsewhere. Today's networks are, however, now rooted predominantly in transnational markets rather than local ones. Indeed, as sociologist Marieke de Groede notes, quoting Andres Leyshon and Nigel Thrift:  
 "financial globalisation has not led to the depersonalisation and abstraction of financial activity, but, on the contrary, 'social networking has become an even more important activity because of the increased amounts of knowledge of all kinds that now circulate [and] the need to interpret this knowledge.'"  
*See:*  
 --de Groede, M., "Resocialising and Repoliticising Financial Markets: Contours of Social Studies of finance", *Economic Sociology Newsletter*, May 2005, <http://econsoc.mpifg.de/archive/esjuly05.pdf>;  
 --Leyshon, A. and Thrift, N., "Spatial flows and the Growth of the Modern City", *International Social Science Journal*, 47, 1997.
- For a discussion of social networks and their role in regulating the (illegal) 17th century Amsterdam derivatives market, *see:* Stringham, E., "The Extralegal development of securities trading in Seventeenth

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Century Amsterdam”, *The Quarterly Review of Economics and Finance*, 42, 2003, pp.321-344, <http://www.sjsu.edu/stringham/docs/Stringham.2003.QREF.Amsterdam.pdf>.

Stringham stresses the importance of reputation in regulating the market: cheats – or those known to “impose on their neighbours” – were at risk of being squeezed out of the market because they could not rely on the social networks that were critical to the enforcement of contracts.

195. Davies, P.J. and Beales, R., “New players join the credit game”, *Financial Times*, 14 March 2007, <http://search.ft.com/ftArticle?queryText=New+players+join+the+credit+game&y=0&aje=true&x=0&id=070313010109&ct=0>.

“The single most important factor that has turned credit from a dull backwater into a financial market blockbuster is the emergence of credit derivatives. Before these instruments sprang to life in the late 1990s, buying and selling of bonds was a relatively long-winded process. It was also almost impossible to sell bonds short, meaning that expressing opinions of relative value between the debts of one company and another was, at best, difficult.”

Davies and Beales quote one broker:

“ ‘It is the growth of derivatives that have made credit a tradeable asset class’, says one prime broker, who considers the growth of credit funds one of the ‘megatrends’ of the past three to five years that have changed the hedge fund landscape.”

196. Grundfest, J. A., “The limited future of unlimited liability: A capital markets perspective”, *Yale Law Journal*, Volume 102, 1992, pp.410-411, quoted in Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.161.
197. MacKenzie, D., “An Equation and its Worlds; Bricolage, Exemplars, Disunity and Performativity in Financial Economics - Paper presented to Inside Financial Markets: Knowledge and Interaction Patters in Global Markets, Konstanz, 15-18 May 2003”, April 2003, <http://www.uni-konstanz.de/ssf-conference/MacKenzie.pdf>.
198. Agarwal, J.D. and Agarwal, A., “Savings concept in Derivative Instruments”, Paper presented to 7th International Conference of International Society for Intercommunication of New Ideas, “Frontiers in Finance”, 23 August 2003.
199. Agarwal, J.D. and Agarwal, A., “Savings concept in Derivative Instruments”, Paper presented to 7th International Conference of International Society for Intercommunication of New Ideas, “Frontiers in Finance”, 23 August 2003.
200. Agarwal, J.D. and Agarwal, A., “Savings concept in Derivative Instruments”, Paper presented to 7th International Conference of International Society for Intercommunication of New Ideas, “Frontiers in Finance”, 23 August 2003.
201. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.144.
202. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.142.
203. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.147.
204. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.148.
- The Mercantile Exchanges’ lawyers had been warned that opening the new market could run foul of the law.
205. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.146.
206. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.147, quoting an interview with Melamed, 8 November 200.
- Elsewhere Melamed gives a figure of \$7,500 as the price agreed. See: Melamed, J., “If it’s good enough for Milton”, The Milton Friedman Commemoration, University of Chicago, Rockefeller Chapel, 29 January 2007, <http://www.leomelamed.com/essays/07-Friedman-oral.htm>.
207. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.148.
208. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.149.

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- One senior SEC official, recalling the speculation of the 1920s, also remarked that he had “never seen a [market] manipulation” in which options were not involved.
209. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.149.
- The consultancy firm was Nathan Associates, “with which the Board would have had personal contact because the firm had studied the grain futures market for the Department of Agriculture.” The six economists were: Paul Cootner, James Lorie, Merton Miller, William Baumol, Burton Malkiel and Richard Quandt.
210. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.149-50.
- The report argued that options “enrich the investor’s repertoire of strategies by allowing him to realise a different set of payoffs than he would have realised in their absence.”
211. Quoted in MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.155.
- The Board of Trade’s Options Exchange suffered similarly in its early days.
212. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.155.
213. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.2. As MacKenzie explains:
- “Every evening, after a futures exchange such as the Merc closes, the process of clearing is undertaken. Those whose trading positions have lost money must transfer cash or collateral to the exchange’s clearinghouse for deposit into the accounts of those whose positions have gained. After a normal day on the Merc in the late 1980s, \$120 million would change hands. On the evening of October 19, however, those who had brought S&P [Standard & Poor’s] futures contracts owed those who had sold such contracts twenty times that amount.”
214. Melamed, L. quoted in MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.173.
215. For discussion on Royal Dutch/Shell prices, *see*: MacKenzie, D., “An Engine, Not a Camera: How Financial Models Shape Markets”, Massachusetts Institute of Technology, 2006, p.221.
- For discussion on arbitrage, derivatives and speculation, *see*: Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.
- For influence on hedging on price differentials in the credit derivatives market, *see*: Davies, P. J., “Derivatives: Free money to be made from swaps”, *Financial Times*, 4 June 2007, <http://search.ft.com/ftArticle?queryText=Free+money+to+be+made+from+swaps&y=6&aje=true&x=12&id=070604000763&ct=0>.
216. *See*, for example:
- International Swaps and Derivatives Association, “A Survey of Finance Professors’ Views on Derivatives”, March 2004, <http://www.isda.org/press/pdf/Academic-Survey-Report.pdf>;
  - Greenspan, A., “World Finance and Risk Management,” speech presented at Lancaster House, London, U.K., September 25, 2002, [http://www.hm-treasury.gov.uk/newsroom\\_and\\_speeches/speeches/speech\\_greenspanlancaster\\_02.cfm](http://www.hm-treasury.gov.uk/newsroom_and_speeches/speeches/speech_greenspanlancaster_02.cfm);
  - Melamed, L., “White Cats, Black Cats”, Keynote Address, China Seminar, Shanghai, 26 September 2005, <http://www.leomelamed.com/essays/05-shanghaiseminar-WhiteCatsBlackCats.htm>;
  - Greenspan, A., “Remarks by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, at the annual convention of the American Bankers Association, Phoenix, Arizona (via satellite)”, 7 October 2002, <http://www.bis.org/review/r021009a.pdf>.
- Alan Greenspan in particular, former Chair of the US Federal Reserve, the USA’s central bank, has stressed the risk mitigation benefits of derivatives:
- “As the market for credit default swaps expands and deepens, the collective knowledge held by market participants is exactly reflected in the prices of these derivative instruments. They offer significant supplementary information about credit risk to a bank’s loan officer, for example, who heretofore had to rely mainly on in-house credit analysis. To be sure, loan officers have always looked to the market prices of the stocks and bonds of a potential borrower for guidance, but none directly answered the key question for any prospective loan: What is the probable net loss in a given

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time frame? Credit default swaps, of course, do just that and presumably in the process embody all relevant market prices of the financial instruments issued by potential borrowers.”

Elsewhere, in a speech to the American Bankers Association in 2002, Greenspan has stated:

“Improved risk management and technology have also facilitated, of course, the growth of markets for securitized assets and the emergence of entirely new financial instruments - such as credit default swaps and collateralized debt obligations. These instruments have been used to disperse risk to those willing, and presumably able, to bear it. Indeed, credit decisions as a result are often made contingent on the ability to lay off significant parts of the risk. Such dispersal of risk has contributed greatly to the ability of bank – indeed of the financial system – to weather recent stresses. More generally, the development of these instruments and techniques have led to greater credit availability, to a more efficient allocation of risk and resources, and to stronger financial markets.”

217. Leo Melamed, who established the Chicago Mercantile Exchange’s International Monetary Market (IMM), made this argument in a 2006 article:
- “Nobel Laureate, Merton Miller, once stated that the simple standard for judging whether a product increases social welfare is whether people were willing to pay their hard earned money for it. By that measurement, our futures markets have proved their worth a billion times over and will continue to do so.”
- See:* Melamed, L., “In the 21st Century: The Future of Futures”, *FIA magazine*, March/April 2006, <http://www.leomelamed.com/essays/06-InThe21stCenturyTheFutureofFutures.htm>.
218. Other assumptions add to the unwordliness of economic theory. The principle model for pricing options – the Black-Scholes model – assumes, for example, that “there are no transaction costs in buying or selling the stock or option” and that it is “possible to borrow any fraction of the price of a security to buy it or hold it” at a riskless rate of interest. *See:* MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.142.
219. MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.151.
220. For anthropological studies of the social influences on daily practice in markets, *see*, for example:  
--Granovetter, M., “Economic Action and Social Structure: The Problem of Embeddedness”, *American Journal of Sociology*, Vol. 91, No. 3 (November 1985), pp.481-510;  
--Abolafia, M.Y., *Making Markets: Opportunities and Restraints on Wall Street*, Harvard University Press, 1997.
- Abolafia’s ethnography of Wall Street traders documents how the stock, bond and futures markets are socially constructed institutions in which the behaviour of traders is “suspended in a web of customs, norms, and structures of control”. What propels Wall Street “is not a fundamental human drive or instinct, but strategies enacted in the context of social relationships, cultural idioms, and institutions – a cycle that moves between phases of unbridled self-interest and collective self-restraint”.
221. *See also* Donald MacKenzie, *Material Markets: How Economic Agents are Constructed*, Oxford University Press, Oxford, forthcoming October 2008.
222. *See:* Ivkovic, I, “Rationale for Derivatives Markets: A Brief review of why efficient markets need derivatives”, [http://derivatives-investing.suite101.com/article.cfm/rationale\\_for\\_derivatives\\_markets](http://derivatives-investing.suite101.com/article.cfm/rationale_for_derivatives_markets).
223. *See:* MacKenzie, D., *An Engine, Not a Camera: How Financial Models Shape Markets*, Massachusetts Institute of Technology, 2006, p.221.
224. For discussion on Royal Dutch/Shell prices, *see:* MacKenzie, D., “An Engine, Not a Camera: How Financial Models Shape Markets”, Massachusetts Institute of Technology, 2006, p.221.  
For discussion on arbitrage, derivatives and speculation, *see:* Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.  
For influence on hedging on price differentials in the credit derivatives market, *see:* Davies, P. J., “Derivatives: Free money to be made from swaps”, *Financial Times*, 4 June 2007, <http://search.ft.com/ftArticle?queryText=Free+money+to+be+made+from+swaps&y=6&aje=true&x=12&id=070604000763&ct=0>.
225. For discussion: *see*, Nasser Saber, “Speculative Capital: The Upper Hand”, *Institutional Investor’s Alpha*, July/August 2007, p.41, <http://www.alphamagazine.com/article.aspx?articleID=1396902>.
226. Scholtes, S and Tett, G., “Does it all add up? Worries grow about the true value of repackaged debt”, *Financial Times*, 28 June 2007,

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[http://search.ft.com/ftArticle?queryText=Does+it+all+add+up%3F+&y=8&aje=true&x=14&id=070628000751&ct=0&nlick\\_check=1](http://search.ft.com/ftArticle?queryText=Does+it+all+add+up%3F+&y=8&aje=true&x=14&id=070628000751&ct=0&nlick_check=1).

227. Greenspan, A., "Remarks by Mr Alan Greenspan, Chairman of the Board of Governors of the US Federal Reserve System, at the annual convention of the American Bankers Association, Phoenix, Arizona (via satellite)", 7 October 2002, <http://www.bis.org/review/r021009a.pdf>.
228. For examples, see: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004.
- Partnoy quotes one recorded conversation between two traders at Bankers Trust discussing a highly leveraged deal with Proctor & Gamble:
- " 'I think my dick just fell off' 'Oh, my ever-loving God. Do they understand that . . . what they did?' 'No. They understand what they did, but they don't understand the leverage, no.' 'They would never know. They would never be able to know how much money was taken out of that.' 'Never, no way, no. That the beauty of Bankers' Trust'".
229. Nor is this a hidden agenda. Merton Miller, the Nobel Laureate in economics, argued in 1986 that the main impulse in financial innovation was a desire to avoid regulation. For Miller – a free marketeer to the core – such innovation could only be for the public good; regulation meant government interference in the market – and "regulatory arbitrage" was to be encouraged to rid markets of "senseless" rules. See: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.48.
230. For more information on private equity, see Kavaljit Singh, *Taking it Private: Consequences of the Global Growth of Private Equity*, Public Interest Research Centre/The Corner House, September 2008 (work in progress).
231. "Frank Partnoy", <http://www.sandiego.edu/usdlaw/faculty/facprofiles/partnoyf.php>
232. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.39-40.
233. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p40.
234. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.41.
- Partnoy (pp.43-45) gives other examples of Bankers Trust circumventing rules designed to keep various sectors of the financial services industry apart. In the USA, for example, commercial banks were banned from acting as investment banks under rules introduced in the wake of the 1929 stock exchange crash. Commercial banks were not, for example, allowed to underwrite securities. Bankers Trust got around the rules by distributing securities – mainly bonds – through deals known as private placements. "In a private placement, the borrower did not need to register under the securities laws, and did not need to comply with generally accepted accounting practices."
235. Commodity swaps typically involve a floating rate of payment for a commodity being exchanged for a fixed rate of payment, or vice versa. See: <http://www.fincad.com/support/developerfunc/mathref/Commodity%20Swaps.htm>.
236. Index funds (also known as index tracker funds) bet on the rise (long only funds) or fall (short only funds) of standard commodity indexes, like the Standard & Poor's Goldman Sachs Commodity Index, by taking positions in a basket of commodities. For discussions on the alleged influence of such funds on commodity price increases in 2008, see:
- Epstein, G., "Commodities – Who's Behind the Boom?", *Baron's*, 31, March 2008, <http://setup1.barrons.com/article/SB120674485506173053.html>;
- Henriques, D., "Lieberman seeks limits to reduce commodity speculation", *International Herald Tribune*, 12 June 2008, <http://www.iht.com/articles/2008/06/12/america/12trade.php>;
- Masters, M., "Testimony before the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, US Senate", 20 May 2008, <http://hsgac.senate.gov/public/ files/052008Masters.pdf>;
- Masters, M., "Testimony before the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, US Senate", 24 June 2008, <http://hsgac.senate.gov/public/ files/062408Masters.pdf>;
- Irwin, S., "Is speculation by long-only index funds harmful to commodity markets?", Testimony before the House of Representatives Committee on Agriculture, 6 August 2008, <http://www.resourceinvestor.com/pebble.asp?relid=45107>.

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237. Epstein, G., “Commodities – Who’s Behind the Boom?”, *Baron’s*, 31, March 2008, <http://setup1.barrons.com/article/SB120674485506173053.html>.
238. Masters, M., “Testimony before the Permanent Subcommittee on Investigations, Committee on Homeland Security and Governmental Affairs, US Senate”, 20 May 2008, [http://hsgac.senate.gov/public\\_files/052008Masters.pdf](http://hsgac.senate.gov/public_files/052008Masters.pdf).
- “When Congress passed the Commodity Exchange Act in 1936, they did so with the understanding that speculators should not be allowed to dominate the commodities futures markets. Unfortunately, the CFTC [Commodity Future Traders Commission] has taken deliberate steps to allow certain speculators virtually unlimited access to the commodities future markets. The CFTC has granted Wall Street banks an exemption from speculative position limits when these banks hedge over-the-counter swaps transactions. This has effectively opened a loophole for unlimited speculation. When Index Speculators enter into commodity index swaps, which 85-90% of them do, they face no speculative position limits.”
239. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.68.
240. If the Thai baht went down relative to the basket, the investor lost money; if it went up, the investor would earn huge sums because of the leverage embedded in the formula. *See*: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.69.
241. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.69.
242. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.69.
243. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.71.
244. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.72.
245. For an account of the bankruptcy of Orange County, *see*: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, pp.115-122.
246. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.121.
247. The Basel Accords are recommended banking regulations issued by the Basel Committee on Banking Supervision, whose secretariat is based at the Bank of International Settlements (“a bank for central banks”) in Basel, Switzerland. The Committee is made up of representatives of the central banks or other supervisory authorities of Belgium, Canada, France, Germany, Italy, Japan, Luxembourg, The Netherlands, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Its recommendations have no formal authority but have been widely adopted by national governments. Current banking regulations are based on the Basel I Accord, agreed in 1998. A new Accord, Basel II, published in 2004 and updated in 2006, is in the process of being implemented. *See*:  
 --Basel Committee on Banking Supervision, Bank for International Settlements, “Basle Capital Accord – International Convergence of Capital Measurement and Capital Standards”, April 1998, <http://www.bis.org/publ/bcbsc111.pdf?noframes=1>;  
 --Basel Committee on Banking Supervision, Bank for International Settlements, “International Convergence of Capital Measurements and Capital Standards – A Revised Framework: Comprehensive Version”, June 2006, <http://www.bis.org/publ/bcbs128.pdf>;  
 --European Banking Federation, “The Basel Capital Accord and the Capital Requirements Directive”, [http://www.euractiv.com/29/images/Basel%20Cap%20Accord%20FBE%201\\_tcm29-141420.pdf](http://www.euractiv.com/29/images/Basel%20Cap%20Accord%20FBE%201_tcm29-141420.pdf);  
 --US Federal Reserve Bank, “Capital Standards for Banks: The Evolving Basel Accord”, 2003, <http://www.federalreserve.gov/pubs/bulletin/2003/0903lead.pdf>.
248. Basel Committee on Banking Supervision, Bank for International Settlements, “Basle Capital Accord – International Convergence of Capital Measurement and Capital Standards”, April 1998, p.13, para 44, <http://www.bis.org/publ/bcbsc111.pdf?noframes=1>.
249. Basel Committee on Banking Supervision, Bank for International Settlements, “Basle Capital Accord – International Convergence of Capital Measurement and Capital Standards”, April 1998, p.11, para 41, <http://www.bis.org/publ/bcbsc111.pdf?noframes=1>. “Loans fully secured by mortgage on occupied residential property have a very low record of loss in most countries.”
250. Mehta, N., “Do the New BIS Capital Rules Make Sense?”, *Derivatives Strategy*, October 200, <http://www.derivativesstrategy.com/magazine/archive/2000/0100fea3.asp>.

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251. Bank for International Settlements, “International Convergence of Capital Measurements and Capital Standards – A Revised Framework: Comprehensive Version”, June 2006, p.2 para 5, <http://www.bis.org/publ/bcbs128.pdf>.
- The Basel II Accord gives more flexibility for the weighting of assets – Triple A rated private sector loans could be weighted at 20 per cent, for example, rather than 100 per cent under the Basel II rules.
252. Huertas, T. and Dewar, S., “Market-based risk is changing banking”, Special Report: Risk Management, *Financial Times*, 1 May 2007, [http://search.ft.com/ftArticle?queryText=Market-based+risk+is+changing+banking&y=9&aje=true&x=17&id=070501000512&ct=0&nlick\\_check=1](http://search.ft.com/ftArticle?queryText=Market-based+risk+is+changing+banking&y=9&aje=true&x=17&id=070501000512&ct=0&nlick_check=1).
- Thomas Huertas is banking sector leader and Sally Dewar capital market sector leader at the UK Financial Services Authority, the body that regulates banking in Britain. Huertas and Dewar comment:
- “From ‘hold what you originate’, the business model of banking is shifting to ‘underwrite to distribute and buy what makes sense to hold’ . . . Banks still originate loans, but aim to reduce their exposure, either by selling participation in the loan to other investors – not all of them necessarily banks – by securitising the loans, or by buying credit protection in the derivatives market. At the same time, banks are buying exposure to credits they have not originated, so as to build an efficient portfolio – one that optimises the return on the level of risk assumed.”
253. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.289.
254. Under the 1998 Basel rules – known as Basel I – there was no requirement for such a legal opinion. However, since 2004, new rules – known as Basel II – have come into play, which the banks are now in the process of implementing. These require that “off balance sheet” securitised exposures meet certain requirements if they are to be excluded from the bank’s risk-weighted assessment of its assets. *See*: Bank for International Settlements, “International Convergence of Capital Measurements and Capital Standards – A Revised Framework: Comprehensive Version”, June 2006, p.136, para 554 (“Operational Requirements for Traditional Securitisations”, <http://www.bis.org/publ/bcbs128.pdf>).
255. The extent to which banks retain control over “securitised” loans has already been the subject of court action. In one case, brought by US regulators in 2001, Nextbank was forced to reabsorb its securitised credit card debt after the securitisation was deemed not to be a “true sale”, resulting in Nextbank’s required capital reserves falling by 12% to below the legal limit. The bank was subsequently seized by the US government’s FDIC (Federal Deposit Insurance Corporation). The bank had been removing “delinquent” debt from a securitised receivables stream by reclassifying defaults as frauds. This was held to be evidence that it still had an interest in the assets it had supposedly sold when they were securitised. *See*: Calomaris, C. W., and Mason, J. R., “Credit card securitisation and Regulatory Arbitrage”, *Working Paper No. 03-7*, Federal Reserve Bank of Philadelphia, April 2003, p.8-9, <http://ideas.repec.org/p/fip/fedpwp/03-7.html>.
256. Quoted in Gross, D and Micossi, S., “The beginning of the end game”, Centre for European Policy Studies, 18 September 2008, [http://shop.ceps.be/downloadfree.php?item\\_id=1712](http://shop.ceps.be/downloadfree.php?item_id=1712).
257. Quoted in Gross, D and Micossi, S., “The beginning of the end game”, Centre for European Policy Studies, 18 September 2008, [http://shop.ceps.be/downloadfree.php?item\\_id=1712](http://shop.ceps.be/downloadfree.php?item_id=1712).
258. Tett, G., and Guha, K., “The cost of a lifeline: Humbled financial groups brace for more regulation”, *Financial Times*, 23 April 2008, [http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nlick\\_check=1](http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nlick_check=1).
259. Garnsworthy, C., “Insurers show investors a new frontier”, in Mann, H., (ed), *Global Securitisation Review 2006/2007*, Euromoney Yearbooks, 2006, p.15.
- “While economic and market conditions favour the development of . . . securitisation, the most powerful driver of insurance securitisation, both in Europe and in the US, is regulation.”
260. Garnsworthy, C., “Insurers show investors a new frontier”, in Mann, H., (ed), *Global Securitisation Review 2006/2007*, Euromoney Yearbooks, 2006, p.15.
261. Example drawn from Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.289.
262. Banks charge substantial fees for each loan they arrange. Bonuses are paid at the end of each year to staff, based in part on the fees they have earned. The bonus culture prevalent in banks has been widely cited as a cause of the excessive risk-taking that has resulted in the credit crunch. *See*: --Baker, S., “Britain and France take ‘fat cat’ bonus culture to task”, Reuters, 21 September 2008, <http://uk.news.yahoo.com/rtrs/20080921/tuk-uk-economy-britain-bonuses-fa6b408.html>;

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- Hutchinson, S., "Revealed – the Bank Bonus Game", 3 September 2006, [thisismoney.co.uk, http://www.thisismoney.co.uk/campaigns/article.html?in\\_article\\_id=412313&in\\_page\\_id=163](http://www.thisismoney.co.uk/campaigns/article.html?in_article_id=412313&in_page_id=163).
263. For a discussion, *see*:  
 --Calomaris, C. W., and Mason, J. R., "Credit card securitisation and Regulatory Arbitrage", *Working Paper No. 03-7*, Federal Reserve Bank of Philadelphia, April 2003, <http://ideas.repec.org/p/fip/fedpwp/03-7.html>;  
 --Roubini, N., "Ten fundamental issues in reforming financial regulation and supervision in a world of financial innovation and globalisation", *RGE Monitor*, 31 March 2008, <http://www.rgemonitor.com/redirect.php?sid=1&tgid=0&cid=252412>.
- Calomaris and Mason conclude that the charge that securitisation has not brought about a commensurate reduction in risk in assets held by banks is unfair because securitisation, while avoiding the capital requirements placed on banks, leads to a more efficient use of capital. Roubini is more sanguine:
- "In fact, while the securitization process implied a partial transfer of the credit risk from the mortgage originators and the managers of the CDOs [collateralized debt obligations] to final investors the reality is that – even with widespread securitization - banks and other financial institutions maintained a significant exposure to mortgages, MBS [mortgage backed securities] and CDOs. Indeed in the US about 47% of all the assets of major banks are real estate related; and the figure for smaller banks is closer to 67%. i.e. the model of "originate and distribute" securitization did not fully transfer the credit risk of mortgages to capital market investors: rather, banks, other financial institutions and broker dealers (for example Bear Stearns) did keep in a variety of forms a significant fraction of that credit risk on their balance sheet. Indeed, if that credit risk had been fully transferred such banks and other financial intermediaries would have not suffered the hundreds of billions of dollars of losses that they have recognized so far and the many more that they will have to recognize in the near future."
264. Das, S., *Traders, Guns and Money: Knowns and Unknowns in the Dazzling World of Derivatives*, Financial Times/Prentice Hall, 2006, p.289.
- Das who is a derivatives specialist, notes of the banks' use of CDOs to "transfer risk":
- "The transactions didn't reduce the selling bank's credit risk, it usually had to keep the equity piece. The first losses were for its account – this is 'hurt money' or the 'skin in the game'. Investors want to make sure that you aren't selling them a whole lot of dud loans, they want you to take the first loss. Generally, the first loss piece was set at a level that was way above the anticipated level of loan losses on the portfolio. In effect, the bank was keeping most of the risk."
265. "Credit guide: risk allocation – Creating CDO tranches", *Credit*, August 2004, <http://www.creditmag.com/public/showPage.html?page=168502>.
- "The tranching of CDOs not only allows leveraged investments on a basket of credits but also means investors can take exposure to the degree of correlation between defaults".
266. Even where derivative-based instruments have been kept on banks' books, the more flexible risk weighting they have adopted under Basel II has dramatically underestimated the amounts they should set aside against such instruments. Swiss bank UBS, for example stockpiled tranches of super-senior CDOs (supposedly low risk). After the credit crunch, they lost 30 per cent or more in value, creating a \$10 billion loss – but the funds set aside (on a 20 per cent risk weighting) were insufficient to cover the losses. The bank's subprime-related losses had totalled \$37 billion by April 2008. *See*:  
 --Tett, G., "Battered banks face regulators' harder line on trading books", *Financial Times*, 2 June 2008, <http://www.ft.com/cms/s/0/5227214e-30cb-11dd-bc93-000077b07658.html>;  
 --Gapper, J., "A good name sliced, diced and traded", *Financial Times*, 23 April 2008, <http://www.ft.com/cms/s/0/770ba47a-1155-11dd-a93b-0000779fd2ac.html>.
267. In the early 1990s, for example, federal regulators sued Bankers Trust for mis-selling complex swaps to customers. For details, *see*: Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.249.
268. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.249.
269. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.250.
270. The construction of Dabhol was accompanied by numerous human rights abuses. The deal was also heavily tainted by corruption. *See*:  
 --Human Rights Watch, "The Enron Corporation: Corporate Complicity in Human Rights Violations", <http://www.hrw.org/reports/1999/enron/enron-toc.htm>;

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- Hawley, S., *Turning a Blind Eye: Corruption and the UK Export Credits Guarantee Department*, The Corner House, 2003, <http://www.thecornerhouse.org.uk/pdf/document/correcgd.pdf>.
271. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.297.
272. Augar, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.81.
273. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.301.
274. Augar, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.81.
275. For a full discussion of the various ploys used by Enron, see:  
 --Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.308-319;  
 --McLean, B. and Elkind, P., *The Smartest Guys in the Room: The Amazing Rise and Scandalous Fall of Enron*, Penguin, 2004.
276. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.338.
277. Quoted in Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.339.
278. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.339.
279. Feline Prides are a “contract to purchase Common Stock at a specified time (i.e. within 3 years) with the amount of stock required to be purchased equal to the purchase price of the unit, and with the number of shares to be received determined by a schedule based on the stock trading price prior to the specified date of purchase (i.e the 20 days prior to the purchase date).”
- See:  
 --“Explanations of Security Acronyms”, Income Investor Information, Quantumonline, <http://www.quantumonline.com/SecurityAcronyms.cfm>;  
 --Grant Thornton, “Hot Topics”, 13 January 2005, [http://www.grantthornton.com/downloads/Hot\\_Topics\\_108731.pdf](http://www.grantthornton.com/downloads/Hot_Topics_108731.pdf).
280. Partnoy, F., *Infectious Greed: How deceit and risk corrupted the Financial Markets*, Profile Books, 2004, p.339.
281. Augar, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.83.
282. Fuller, J., “Victims should have halted failure”, *Financial Times*, 12 April 2004, <http://search.ft.com/ftArticle?queryText=siphoned+off+for+family+purposes+&y=6&aje=false&x=11&id=040412002919&ct=0>.
283. Augar, P., *The Greed Merchants: How the Investment Banks Played the Free Market Game*, Penguin, London, 2005, p.15.
284. The criteria are set out in Article 121(1) of The European Union Treaty. See: Europa, Summaries of Legislation, <http://europa.eu/scadplus/leg/en/lvb/125014.htm>.
285. The pact was adopted in 1997 and is based on Articles 99 and 104 of the European Community Treaty. See: “Stability and Growth Pact”, [http://en.wikipedia.org/wiki/Stability\\_and\\_Growth\\_Pact](http://en.wikipedia.org/wiki/Stability_and_Growth_Pact).
286. “Fiddling while budgets bulge”, *Business Week*, 22 November 2004, [http://www.businessweek.com/magazine/content/04\\_47/b3909085\\_mz054.htm](http://www.businessweek.com/magazine/content/04_47/b3909085_mz054.htm).
287. “Fiddling while budgets bulge”, *Business Week*, 22 November 2004, [http://www.businessweek.com/magazine/content/04\\_47/b3909085\\_mz054.htm](http://www.businessweek.com/magazine/content/04_47/b3909085_mz054.htm).
- Business Week* reports that the sum raised from the securitisations “ could amount to between 0.5% and 1% of gross domestic product.”
- See also: Messina, P. “New Horizons for the Italian Securitisation Market”, Orrick, Herrington & Sutcliffe, 2004, [http://www.orrick.com/practices/structured\\_finance/messina\\_italian\\_securetizations.pdf](http://www.orrick.com/practices/structured_finance/messina_italian_securetizations.pdf).
- Commenting on the factors that have spurred government securitisation, Messina notes:

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- “The introduction of the Internal Stability Pact local governments (municipalities, provinces, metropolitan cities, mountain communities, island communities and unions among municipalities), in addition to other public entities, have been asked by the central Government to reduce their debt in accordance with strict provisions for controlling public borrowings.”
288. Hellenic Republic, “Government budget report 2002”, Ministry of Finance, General Accounting Office, [http://www.mof-gl.k.gr/en/budget/exec\\_sum\\_2002.pdf](http://www.mof-gl.k.gr/en/budget/exec_sum_2002.pdf).
  289. Letter from Livio Mignana, SACE, to Francesco Odone, 7 January 2008.
  290. “Fitch withdraws SovRisk rating as deals postponed”, Reuters, 30 July 2007, <http://www.reuters.com/article/newIssuesNews/idUSL3023441020070730>. *See also:* “ABN Amro prices new Asset class with USD 1 billion SovRisk issue”, 26 October 2005, [http://www.corporates.abnamro.com/corporates/docs/news/26102005\\_SovRisc.jsp](http://www.corporates.abnamro.com/corporates/docs/news/26102005_SovRisc.jsp).
  291. ECGD statement to meeting of NGOs with Export Guarantees Advisory Council, 10 October 2007.
  292. “Fitch withdraws SovRisk rating as deals postponed”, Reuters, 30 July 2007, <http://www.reuters.com/article/newIssuesNews/idUSL3023441020070730>
  293. “Beneficial ownership”, [http://en.wikipedia.org/wiki/Beneficial\\_ownership](http://en.wikipedia.org/wiki/Beneficial_ownership).
  294. Coffee, J., “Regulators need to shed light on derivatives”, *Financial Times*, 29 June 2008, <http://www.ft.com/cms/s/0/1ec6fce6-45e5-11dd-9009-0000779fd2ac.html>.
  295. Hughes, J. and Mackintosh, J., “FSA rules on derivatives disclosure trigger mixed reactions from hedge funds”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/697897f2-4899-11dd-a851-000077b07658.html>.
  296. For further details, *see:* Huges, C., “Contracts for Difference”, *Financial Times*, 4 September 2006, <http://www.ft.com/cms/s/0/647050a6-3c3e-11db-9c97-0000779e2340.html>.
  297. “Contracts for Difference”, [http://en.wikipedia.org/wiki/Contracts\\_for\\_difference](http://en.wikipedia.org/wiki/Contracts_for_difference).
  298. “Contracts for Difference”, [http://en.wikipedia.org/wiki/Contracts\\_for\\_difference](http://en.wikipedia.org/wiki/Contracts_for_difference).
  299. Braham, E., Higgins, D., Hewes, S. and Embley, B., “Hedge Funds challenge traditional M&A models”, in *The IFLR Guide to Mergers and Acquisitions 2005*, International Financial Law Review, Supplement, 2005, <http://www.iflr.com/?Page=17&ISS=16143&SID=508301>.
  300. “Equity derivatives: Back in Business”, *Risk Management*, September 2005, Vol. 18, No. 9, <http://www.risk.net/public/showPage.html?page=295400>.
  301. *See:* Braham, E., Higgins, D., Hewes, S. and Embley, B., “Hedge Funds challenge traditional M&A models”, in *The IFLR Guide to Mergers and Acquisitions 2005*, International Financial Law Review, Supplement, 2005, <http://www.iflr.com/?Page=17&ISS=16143&SID=508301>.
  302. *See:* Braham, E., Higgins, D., Hewes, S. and Embley, B., “Hedge Funds challenge traditional M&A models”, in *The IFLR Guide to Mergers and Acquisitions 2005*, International Financial Law Review, Supplement, 2005, <http://www.iflr.com/?Page=17&ISS=16143&SID=508301>.
  303. Hughes, J. and Mackintosh, J., “FSA rules on derivatives disclosure trigger mixed reactions from hedge funds”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/697897f2-4899-11dd-a851-000077b07658.html>.
  304. Saigol, L., “SBC’s cunning ploy was precursor to the growing influence of CFDs”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/f90d47a2-4897-11dd-a851-000077b07658.html>.
  305. --Saigol, L., “SBC’s cunning ploy was precursor to the growing influence of CFDs”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/f90d47a2-4897-11dd-a851-000077b07658.html>;  
--Hughes, J. and Mackintosh, J., “FSA rules on derivatives disclosure trigger mixed reactions from hedge funds”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/697897f2-4899-11dd-a851-000077b07658.html>.
  306. Coffee, J., “Regulators need to shed light on derivatives”, *Financial Times*, 29 June 2008, <http://www.ft.com/cms/s/0/1ec6fce6-45e5-11dd-9009-0000779fd2ac.html>.
  307. Hughes, J. and Mackintosh, J., “FSA rules on derivatives disclosure trigger mixed reactions from hedge funds”, *Financial Times*, 3 July 2008, <http://www.ft.com/cms/s/0/697897f2-4899-11dd-a851-000077b07658.html>.
  308. Coffee, J., “Regulators need to shed light on derivatives”, *Financial Times*, 29 June 2008, <http://www.ft.com/cms/s/0/1ec6fce6-45e5-11dd-9009-0000779fd2ac.html>.

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309. Quoted in “Hedge Funds”, *Energy Risk*, Vol. 8, No.3, June 2003, <http://www.energyrisk.com/public/showPage.html?page=12078>.
310. International Trade Union Confederation, *Where the House always wins: Private Equity, Hedge Funds and the New Casino Capitalism*, 2007, p.10, [http://www.ituc-csi.org/IMG/pdf/ITUC\\_casino.EN.pdf](http://www.ituc-csi.org/IMG/pdf/ITUC_casino.EN.pdf).
311. Morgenstern, M and Nealis, P., “Going Private: A Reasoned Response to Sarbanes-Oxley”, 2004, <http://www.sec.gov/info/smallbus/pnealis.pdf>.
312. Guerra, F. and Politi, J., “Life on the Other Side”, *Financial Times*, 24 April 2007.  
 “Corporate executives protest that compliance with the new law [2002 Sarbanes-Oxley Act] which had increased the risk of legal action against companies and individuals, is an expensive time-consuming affair that dilutes their focus on company performance and strategy.”  
 The US Public Company Accounting Reform and Investor Protection Act, commonly known as the Sarbanes-Oxley Act (after its sponsors Senator Paul Sarbanes and Representative Michael G. Oxley), Sarbox or SOX, was brought in to strengthen corporate accounting standards and procedures following the 2001 collapse of US energy company Enron and other major bankruptcies. It established new or enhanced financial reporting and disclosure standards for all US publicly listed companies and public accounting firms, but does not apply to privately held companies. Its requirement for companies to produce an annual report, in which outside auditors attest to their quality, is expensive, especially for smaller firms. Such costs are encouraging some companies not to list on US stock exchanges or are pushing them towards private equity.
313. “Seeking friendlier guards: Differences in regulation matter in a world of global trading”, *The Economist*, 12 April 2006.  
 Avoiding regulation is also a determining factor in where companies that are public chose to list themselves. As *The Economist* reports, the London Stock Exchange:  
 “has had success in attracting listings by overseas firms, often at NASDAQ’s expense, in part owing to American laws such as the USA PATRIOT and Sarbanes-Oxley acts. Greater financial disclosure and the obligation for bosses to take responsibility for accurate reporting are two examples of rules that seem onerous to many. At a time when hedge funds and other active investors are eager to move their money around the world and technology allows it to happen faster, regulators remain one of the last barriers to seamless global capital flows. Exchanges, meanwhile, are consolidating and accelerating their shift from floor to electronic trading, leaving them less tied to particular locations. ‘Exchanges aren’t geographic concepts any more, they’re legal concepts,’ says Benn Steil, an exchange expert at the Council on Foreign Relations in New York . . . Virt-x, a London exchange best known for trading Swiss blue-chip stocks, has another approach: it has a dual regulatory structure under British and Swiss authorities, and traders decide where they want transactions cleared.”
314. International Trade Union Confederation, *Where the House always wins: Private Equity: Hedge Funds and the New Casino Capitalism*, 2007, p.11, [http://www.ituc-csi.org/IMG/pdf/ITUC\\_casino.EN.pdf](http://www.ituc-csi.org/IMG/pdf/ITUC_casino.EN.pdf).
315. See: Hildyard, N. and Mansley, M., *The Campaigners Guide to Financial Markets*, The Corner House, <http://www.thecornerhouse.org.uk/pdf/document/camguide.pdf>; “Financial Market Lobbying: A New Political Space for Activists”, *CornerHouse Briefing 25*, The Corner House, January 2002, <http://www.thecornerhouse.org.uk/summary.shtml?x=51979>.
316. Hedge Fund Standards Board, “The Hedge Fund Sector: History and Present Context”, [http://hfsb.org/sites/10109/files/what\\_is\\_a\\_hedge\\_fund.pdf](http://hfsb.org/sites/10109/files/what_is_a_hedge_fund.pdf).  
 The UK Hedge Funds Standards Board “acts as custodian of the best practice standards published by the Hedge Fund Working Group”. The Hedge Fund Working Group comprises “14 of the leading hedge funds based mainly in London” and was set up in 2007 “in response to concerns about the industry including financial stability and systemic risk”. For further details, see: <http://hfsb.org/?section=10561>.
317. As the International Monetary Fund noted almost a decade ago:  
 “Defining and describing hedge funds is further complicated by the fact that other investors engage in many of the same practices. Individuals and some institutions buy stocks on margin. Commercial banks use leverage in the sense that a fractional-reserve banking system is a group of leveraged financial institutions whose total assets and liabilities are several times their capital. The proprietary trading desks of investment banks take positions, buy and sell derivatives, and alter their portfolios in the same manner as hedge funds. For all these reasons, any line between hedge funds and other institutional investors is increasingly arbitrary.”  
 See: Eichengreen, B and Mathieson, D., “Hedge Funds: What do we really know?”, International Monetary Fund, 1999, <http://www.imf.org/external/pubs/ft/issues/issues19/>.

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The *Financial Times* also notes the increasing use of hedging strategies by companies:

“Whereas companies once might have simply crossed their fingers, and ‘hoped’ that commodity prices, interest rates, foreign exchange or credit markets did not move in an adverse way, these days many companies are taking active steps to protect themselves from adverse events.”

See: Tett, G., “The irony is we may have created a new set of risks”, *Financial Times*, 1 May 2007, [http://us.ft.com/ftgateway/superpage.ft?news\\_id=fto050820071016435233](http://us.ft.com/ftgateway/superpage.ft?news_id=fto050820071016435233).

318. Mackintosh, J., “Hedge fund assets jump to \$2,900bn”, *Financial Times*, 6 June 2008, <http://www.ft.com/cms/s/0/1900c8a0-33ed-11dd-869b-0000779fd2ac.html>. This figure of \$2.9 trillion in 2007 compares with \$1 trillion at the end of 2004 and only \$130 billion in 1996. For 2007 figures, see: --Mackintosh, J., “Investors still pile in”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22Investors+still+pile+in%22&y=4&aje=true&x=9&id=070427001278&ct=0>;  
--Hedge Fund Standards Board, “The Hedge Fund Sector: History and Present Context”, [http://hfsb.org/sites/10109/files/what\\_is\\_a\\_hedge\\_fund.pdf](http://hfsb.org/sites/10109/files/what_is_a_hedge_fund.pdf).
319. In 2007, the World Bank’s annual commitments (including loans, grants, guarantees and credits) totalled \$24.7 billion. I: World Bank, ‘Fiscal Year Overview’, <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTANNREP/EXTANNREP2K7/0..contentMDK:21489961~menuPK:4186949~pagePK:64168445~piPK:64168309~theSitePK:4077916.00.html>.
320. Barber, L., “Foreword”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007,
321. In 1996, hedge funds managed \$130 billion in assets. By the end of 2006, the figure stood at \$1.5 trillion if not more. See: Hedge Fund Standards Board, “The Hedge Fund Sector: History and Present Context”, [http://hfsb.org/sites/10109/files/what\\_is\\_a\\_hedge\\_fund.pdf](http://hfsb.org/sites/10109/files/what_is_a_hedge_fund.pdf).  
See also: Mackintosh, J., “Investors still pile in”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22Investors+still+pile+in%22&y=4&aje=true&x=9&id=070427001278&ct=0>.
322. Gross, D., “The Kingdom of Hedgistan”, *New York Magazine*, 9 April 2007, <http://nymag.com/news/features/2007/hedgefunds/30347/>.
323. “About hedge funds”, Thales Alternative Investments Inc, accessed 26 September 2008, <http://www.thales.ca/hedge.asp>.
324. “Launching a hedge fund?” HedgeCo.net, accessed 25 September 2008, <http://www.hedgeco.net/hedgeducation/Are-all-Hedge-Funds-hedged-faq1.htm>.
325. Barclays, for example, runs Barclays Global Investors, which, according to the *Financial Times*, is “among the world’s biggest hedge fund managers”. See: “100 Hedge Funds to watch”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://media.ft.com/cms/7705e2e6-f735-11db-86b0-000b5df10621.pdf>.
326. Gangahar, A., “A force for massive change”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22A+force+for+massive+change%22&y=1&aje=false&x=10&id=070427000708&ct=0>. Gangahar writes:
- “Goldman Sachs itself is often said to be a big hedge fund dressed up as an investment bank. And most of the largest investment banks have proprietary trading desks that are – in essence – internal hedge funds.”
327. “100 Hedge Funds to watch”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://media.ft.com/cms/7705e2e6-f735-11db-86b0-000b5df10621.pdf>. The listing notes: “Cerberus runs both hedge fund and private equity, where it specialises in distressed companies.” Conversely, some hedge funds, such as SAC Capital, have recently moved into private equity.
328. Brewster, D., “Perils of having a hedge fund on the side”, *Financial Times*, 25 June 2007, <http://www.ft.com/cms/s/f5274e58-15cb-11dc-a7ce-000b5df10621.html>.
329. Stewart, H. and Elliot, L., “Will these men save the world?”, *The Observer*, 13 April 2008, <http://www.guardian.co.uk/business/2008/apr/13/imf.globaleconomy1>.
330. “Are we headed for an epic bear market”, *MSN Money*, 20 September 2007, <http://articles.moneycentral.msn.com/Investing/SuperModels/AreWeHeadedForAnEpicBearMarket.aspx?page=all>.

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331. Tett, G., “Out of the shadows: How banking's secret system broke down”, *Financial Times*, 16 December 2007, <http://www.ft.com/cms/s/0/42827c50-abfd-11dc-82f0-0000779fd2ac.html>.
332. Tett, G. and Guha, K., “The cost of a lifeline: Humbled financial groups brace for more regulation”, *Financial Times*, 23 April 2008, [http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?ncllick\\_check=1](http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?ncllick_check=1).
333. Dizzard, J., “Slicing and dicing risk rebounds on the banks”, *Financial Times*, 22 October 2007. Dizzard writes:  
“Hedge funds and their related speculative vehicles are now so identified with engorged private wealth that we forget that a few years ago the policy tribe saw them as a tool for the general public’s interest. In the late 1970s and early to mid-1980s, the big worry among central bankers and the like was that too much risk was being concentrated in the big banks. ‘Third World’ or ‘LDC’ (lesser-developed countries) debt, speculative real estate loans, unemployed oil tankers – they were all on balance sheets that were ultimately underwritten by central banks and government deposit insurance. The big question was how to avoid the risk of a forced nationalisation of the banking sector.”
334. Tett, G., “Out of the shadows: How banking's secret system broke down”, *Financial Times*, 16 December 2007, <http://www.ft.com/cms/s/0/42827c50-abfd-11dc-82f0-0000779fd2ac.html>.
335. Tett, G., “Out of the shadows: How banking's secret system broke down”, *Financial Times*, 16 December 2007, <http://www.ft.com/cms/s/0/42827c50-abfd-11dc-82f0-0000779fd2ac.html>.
336. Tett, G., “Deals galore in a world awash with cheap money”, Special Report – Corporate Finance, *Financial Times*, 27 September 2006, [http://www.ft.com/cms/s/1/1fad9808-4d72-11db-8704-0000779e2340.dwp\\_uuid=824a0bea-4d72-11db-8704-0000779e2340.html](http://www.ft.com/cms/s/1/1fad9808-4d72-11db-8704-0000779e2340.dwp_uuid=824a0bea-4d72-11db-8704-0000779e2340.html).  
Tett quotes Michael McLaughlin, head of global structured products at Bank of America:  
“There is a massive shift of assets underway from European banks to hedge funds and asset managers.”
337. Mackintosh, J., “Investors still pile in”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007.  
Hedge funds account for 80 per cent of distressed debt trading. Elsewhere the *Financial Times* quotes Girish Reddy, a former partner at Goldman Sachs, who now runs Prisma Capital Partners, a Jersey City-based fund of hedge funds:  
“It used to be that if you had a restructuring meeting for a distressed company, the process was driven by banks. Now if you go to a distressed company meeting, very often there are no banks present at all, just hedge funds.”  
See: Gangahar, A., “A force for massive change”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22A+force+for+massive+change%22&y=1&aje=false&x=10&id=070427000708&ct=0>.
338. Mackintosh, J., “Investors still pile in”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007.  
“Hedge funds are increasingly buying companies themselves, competing with private equity groups, and are even bypassing banks by acting as marketmakers and lending money directly.”  
Gillian Tett of the *Financial Times* similarly notes:  
“... while hedge funds used to be almost non-existent in the leveraged finance sphere in Europe, they have recently entered this new territory on a large scale gobbling up leveraged loans not just in the secondary market – from banks – but participating in primary loan auctions as well.”  
See: Tett, G., “Funds are ousting the banks”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22Funds%20are%20ousting%20the%20banks%22&y=6&aje=false&x=15&id=070427001276&ct=0>.
339. Hedge funds that lend directly include Och-Ziff, with \$21 billion of funds under management. See: “100 Hedge Funds to watch”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://media.ft.com/cms/7705e2e6-f735-11db-86b0-000b5df10621.pdf>.
340. Leverage or “financial gearing” is a mechanism through which, by borrowing money, a small percentage gain can be transformed into a large one. Andreas Whittam Smith of *The Independent* explains:  
“Most homeowners have seen this technique in action. You purchase a property for, say, £200,000. You put up £50,000 yourself and borrow the balance, £150,000. Then suppose

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[house] prices rise by 10 per cent. Your home is now worth £220,000, your loan remains at £150,000 and your so-called equity in the property has risen from £50,000 to £70,000, an increase of 40 per cent . . . [However, the process can also work in the reverse, turning] a minor loss into a serious shortfall, or even wipe you out.”

See: Whittam-Smith, A., “Why I fear a financial crisis is in the offing”, *The Independent*, 16 July 2007, <http://www.independent.co.uk/opinion/commentators/andreas-whittam-smith/andreas-whittam-smith-why-i-fear-a-financial-crisis-is-in-the-offing-457399.html>.

341. The *Financial Times* reports that, in March 2007, the “proportion of European leveraged finance accounted for by banks dropped below 50 per cent for the first time . . . At the start of the decade, the figure was 95 per cent.” See: Hughes, C. and Tett, G., “Over-complex refinancing leaves all parties at risk”, *Financial Times* 1 May 2007, <http://www.ft.com/cms/s/0/d79a2ab8-f780-11db-86b0-000b5df10621.html>.

In the US, in 2007, three-quarters of loans to junk-rated US companies were provided by hedge funds and other non-banks – up from one third ten years ago. See: Beales, R., “Hedge funds lead US junk sector lending”, *Financial Times*, 2 April 2007, <http://www.ft.com/cms/s/0/57e2f2f4-e0b6-11db-8b48-000b5df10621.html>.

Companies are also using hedge fund-generated loans because they generally come with fewer strings attached, leading to fears that investors could see “their legal rights to organise a bankruptcy” curtailed if loan restructuring causes a company to run into trouble. Loose restructuring legislation is now a factor in deciding where companies are based, as they seek to take advantage of more favourable regulatory regimes. As the *Financial Times* notes:

“The UK’s restructuring regime has made it a preferred venue for loan structuring. Some companies – most recently Schefenacker, the German car parts company – have even redomiciled to the UK to take advantage of the legal and regulatory framework.”

See: Hughes, C. and Tett, G., “Over-complex refinancing leaves all parties at risk”, *Financial Times*, 1 May 2007, <http://www.ft.com/cms/s/0/d79a2ab8-f780-11db-86b0-000b5df10621.html>.

342. Tett, G. “US hedge funds lead European leveraged lending”, *Financial Times*, 24 April 2007, <http://www.ft.com/cms/s/0/3fc92cce-f28b-11db-a454-000b5df10621.html>.
- Allen and Overy, “Covenant-lite in Leveraged Credit Agreements”, 21 June 2007, <http://www.allenoverly.com/AOWEB/Knowledge/Editorial.aspx?contentTypeID=1&contentSubTypeID=7944&itemID=35835&prefLangID=410>.
343. Tett, G., “Funds are ousting the banks”, Special Report: Hedge Funds, *Financial Times*, 27 April 2007, <http://search.ft.com/ftArticle?queryText=%22Funds%20are%20ousting%20the%20banks%22&y=6&aje=false&x=15&id=070427001276&ct=0>
344. “Europe’s new deal junkies”, *The Economist*, 16 February 2006.
345. Mackintosh, J., “Hedge funds bail out ailing corporate world”, *Financial Times*, 1 July 2008, <http://www.ft.com/cms/s/0/bb43c0ca-479f-11dd-93ca-000077b07658.html>.
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The *Financial Times* explains the attraction of infrastructure funds for pension funds:

"These pioneering investors first spotted what others have since found out: that infrastructure assets offer stable, long-term and inflation-proof cashflows which make a neat match for long-term pension liabilities. The business of the typical infrastructure company tends not to vary much as the economic cycle ebbs and flows, and many of the companies are monopolies working within a regulatory framework which ensures a predicable cashflow over time . . . The steady characteristics of the infrastructure asset class make it an attractive alternative to other forms of income investment such as bonds and property."

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"Investment banks have also been piling into the sector. Credit Suisse and General Electric recently joined forces to create Global Infrastructure Partners, a \$1bn fund that will concentrate on energy, transport and water investments in the developed and developing world. It recently clinched its first deal as part of a consortium that bought London's City Airport. Goldman Sachs is raising a fund which will include investments such as Associated British Ports, the UK group it bought earlier this year. Deutsche Bank and UBS have launched infrastructure funds, and Morgan Stanley is in the process of raising a fund."

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The Ontario Teachers' Pension Plan is one of several institutions reported to be *bricolaging* such deals. Unlisted infrastructure funds – which bypass public markets and access institutional investors directly – are also increasingly favoured over listed funds, in part, it would appear, to avoid the hefty management fees charged by listed funds.

474. Inflation swaps are derivatives that enable investors and companies to hedge their exposure to the risk that inflation will exceed their predictions. As the *Financial Times* explains:

"In a typical inflation swap, two counterparties agree on a long-term contract based on an agreed inflation rate. If, at the end of the contract, prices are higher than originally expected, the seller of inflation makes a payment to the buyer. If prices turn out lower than expected, the buyer pays the seller."

Because infrastructure funds are based on derivatives that are tied to revenues that are generally inflation linked (such as toll road fees), infrastructure funds have become major sellers of inflation protection.

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timeframe". Hedging and instruments such as debt swaps are therefore key to borrowing shorter-term finance, while insuring against the risk of exchange rate and interest rate fluctuations.

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*The Legal Wire* notes:

"The government [of Chile] is looking for ways to combat the looming energy crisis, which is partly the result of a regional drought which has affected the production of hydro-electricity . . . Luckily, there are newly-discovered capacities for generation across Chile. Several dams are being constructed in southern Chile, and power plants are being built in the north of the country. Traditional project financing is giving way to collateralised syndicated loans as a means to raise capital." Collateralised syndicated loans involve corporate loans being bundled up and their interest and principle repayments being sold to investors.

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- “By creating a portfolio of assets that have proven to have relatively low correlations with traditional portfolio assets we believe that achieving leverage through the capital markets is a viable alternative to project finance debt.”
509. Davis, H. A., “Introduction”, in Davis, H.A. (ed), *Infrastructure Finance – Trends and Techniques*, Euromoney books, 2008, p.xxxii and xxxvi.
- Under European Union rules governing the permitted levels of government debt for member states that are part of the Eurozone, government liabilities for Public-Private Partnerships must be declared unless it can be shown that the private companies bear most of the risks in the partnership. Because guarantees are, in accountancy terms, “contingent” – it is unknown whether or not they will be invoked – they do not count as part of the assets of the Public-Private Partnership. In accountancy terms, therefore, the companies retain the risk. Consequently, the guarantees do need not be recorded as government debt.
510. Carbon markets, in which permits to emit carbon dioxide are bought and sold (traded), are the main current international response to climate change and the centrepiece of the 1997 Kyoto Protocol, the main international agreement to tackle climate change. Carbon trading has two parts. First, governments hand out free tradable rights to emit carbon dioxide to big industrial polluters. Second, companies buy additional pollution credits from projects in the South (such as coal mines, waste dumps and tree plantations) that claim to emit less greenhouse gas than they would have without the investment.
- For a history of carbon markets and carbon trading, a detailed critique of why they will not reduce the risk of climate change but exacerbate it, and their environmental and human rights impacts on the ground, *see*:
- Lohmann, L. (ed), *Carbon Trading: A critical conversation on climate change, privatisation and power*, Dag Hammarskjold Foundation, Durban Group for Climate Justice and The Corner House, October 2006, <http://www.thecornerhouse.org.uk/pdf/document/carbonDDlow.pdf>.
- For a range of other documents on carbon markets and carbon trading, *see also*: <http://www.thecornerhouse.org.uk/subject/climate/>
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518. For a detailed critique of carbon trading – why it will not reduce the risk of climate change but on the contrary exacerbate it – and the environmental and human rights impacts of carbon trading on the ground, *see*: Lohmann, L. (ed), *Carbon Trading: A critical conversation on climate change, privatisation and power*, Dag Hammarskjold Foundation, Durban Group for Climate Justice and The Corner House, October 2006, <http://www.thecornerhouse.org.uk/pdf/document/carbonDDlow.pdf>. For other documents, *see* <http://www.thecornerhouse.org.uk/subject/climate/>
519. Weather derivatives are bets on the weather and are used by companies to offset the risk to their business of variations in temperature, precipitation, wind speed and so on. A power utility, for example, might take out a bet on a particular period being colder than usual, in order to hedge against the need to buy in electricity via the grid from another supplier. Natural-catastrophe bonds (“cat bonds”) are similarly used

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to bet on the risk of unusual and devastating events such as a hurricane. Hedge funds have been keen investors in both catastrophe bonds and weather derivatives. As *The Economist* reported in late 2005:

“The popularity of weather derivatives . . . has surged in recent years. Energy and agricultural firms are the biggest users, but even fizzy-drink makers have hedged against foul weather. Swiss Re, a big reinsurer, puts the value of weather derivatives at about \$5 billion worldwide. At the Chicago Mercantile Exchange (CME), 612,000 weather contracts have been traded so far this year (to September 20th), up from 4,446 in all of 2002. The CME's contracts cover 29 cities worldwide, focusing primarily on popular measures such as temperature.”

See: “Weather risk - Natural hedge”, *The Economist*, 29 September 2005,  
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  527. Davies, P., “Death knell sounds for CDOs of ABS”, *Financial Times*, 2 April 2008, <http://www.ft.com/cms/s/0/28fdeed4-005a-11dd-825a-000077b07658.html>.
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538. A report by the European Parliament's Economic and Scientific Policy Department for the Committee on Economic and Monetary Affairs recommends:
- "The Arranger of CDO should be required to retain a proportion (say, 20%) of any CDO on its own balance sheet. This would not only encourage the Arranger to assess its own exposure carefully, it would also attract a capital charge. Banks' liabilities to SIVs should be recognised on their balance sheets, and hence in their regulatory capital."
- See: Alexander, K., Eatwell, J., Persaud, A., Reoch, R., "Financial Supervision and Crisis Management in the EU", Paper commissioned by European Parliament's Committee on Economic and Monetary Affairs, Policy Department, Economic and Scientific Policy, Brussels, December 2007, p.viii, <http://www.efinancialnews.com/downloadfiles/2008/03/2350094036.pdf>.
539. See: Roubini, N., "Ten fundamental issues in reforming financial regulation and supervision in a world of financial innovation and globalisation", *RGE Monitor*, 31 March 2008, <http://www.rgemonitor.com/redir.php?sid=1&tgid=0&cid=252412>. Roubini notes:
540. The Institute of International Finance, the UK's trade association for the financial services industry, states:
- "In the wake of the credit market turmoil . . . restoration of confidence requires more accessible and useful information about products and transparency on the part of firms". More specifically, the Basel Committee on Banking Supervision recommends "regular public disclosures, both quantitative and qualitative, of a bank's liquidity risk profile and management".
- Martin Wolf of the *Financial Times* also argues that greater transparency is an essential component of any reform of the banking system:
- "Lack of information, asymmetric information and uncertainty are inherent in financial activities. These are why they are vulnerable to swings in collective mood. The transactions-oriented financial system is particularly vulnerable, because information has to flow freely across arms-length markets. So a big challenge is to generate as much clarity as is possible. One issue is the calamitous recent role of the rating agencies and the conflicts of interest under which they operate."
- See:
- Institute of International Finance, "Final Report of the IIF Committee on Market Best Practices: Principles of Conduct and Best Practice Recommendations – Financial Service Industry Response to the Market Turmoil of 2007-2008", July 2008, <http://www.iif.com/download.php?id=Osk8CwI08yw=>;
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- Wolf, M., "Seven habits that finance regulators must acquire", *Financial Times*, 7 May 2008, <http://www.ft.com/cms/s/0/a8d59dae-1bd1-11dd-9e58-0000779fd2ac.html>.
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- For a discussion, see also: Tett, G. and Guha, K., "The cost of a lifeline: Humbled financial groups brace for more regulation", *Financial Times*, 23 April 2008, [http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nclick\\_check=1](http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nclick_check=1).
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- Martin Wolf of the *Financial Times* adds:
- "But there must also be greater attention to the adequacy of that other cushion: liquidity. Having assets that cannot be sold, after all, is no cushion at all."
- See:
- Wolf, M., "Seven habits that finance regulators must acquire", *Financial Times*, 7 May 2008,

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- <http://www.ft.com/cms/s/0/a8d59dae-1bd1-11dd-9e58-0000779fd2ac.html>;  
 --Tett, G. and Guha, K., “The cost of a lifeline: Humbled financial groups brace for more regulation”, *Financial Times*, 23 April 2008, [http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nlick\\_check=1](http://www.ft.com/cms/s/0/a7a843ba-115d-11dd-a93b-0000779fd2ac.html?nlick_check=1).
543. Wolf, M., “Seven habits that finance regulators must acquire”, *Financial Times*, 7 May 2008, <http://www.ft.com/cms/s/0/a8d59dae-1bd1-11dd-9e58-0000779fd2ac.html>.  
 Robert Reoch, of Reoch of Reoch Credit Partners LLP and co-author of a report on the responses to the credit crunch for the European Parliament (*see* footnote X) also argues for the standardisation of CDOs: “There is scope to create a standard CDO product”. For interview with Reoch, *see*: Tett, G., “Derivative thinking”, *Financial Times*, 30 May 2008, [http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nlick\\_check=1](http://www.ft.com/cms/s/0/a7cf1d76-2bae-11dd-9861-000077b07658.html?nlick_check=1).
544. Cohan, W., “Regulators must reform Wall Street”, *Financial Times*, 1 May 2008, <http://www.ft.com/cms/s/0/b3baf160-1794-11dd-b98a-0000779fd2ac.html>. William Cohan is author of *The Last Tycoons: The Secret History of Lazard Frères & Co*, and is working on a book about the meltdown of Bear Stearns.  
*See also*:  
 --Alexander, K., Eatwell, J., Persaud, A., Reoch, R., “Financial Supervision and Crisis Management in the EU”, Paper commissioned by European Parliament’s Committee on Economic and Monetary Affairs, Policy Department, Economic and Scientific Policy, Brussels, December 2007, Chapter 4, <http://www.efinancialnews.com/downloadfiles/2008/03/2350094036.pdf>;  
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 Martin Wolf of the *Financial Times* also stresses the need for global action:  
 “Perhaps the most obvious lesson is the dangers of regulatory arbitrage: if the rules required certain capital requirements, institutions shifted activities into off-balance-sheet vehicles; if rules operated restrictively in one jurisdiction, activities were shifted elsewhere; and if certain institutions were more tightly regulated, then activities shifted to others. Regulatory coverage must be complete. All leveraged institutions above a certain size must be inside the net.”  
*See*: Wolf, M., “Seven habits that finance regulators must acquire”, *Financial Times*, 7 May 2008, <http://www.ft.com/cms/s/0/a8d59dae-1bd1-11dd-9e58-0000779fd2ac.html>.
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*See*:  
 --Blas, J., “US acts to curb commodities speculators as pressure mounts”, 12 September 2008, <http://www.ft.com/cms/s/1a6ddca0-8064-11dd-99a9-000077b07658.html>  
 --Masters, M., comment posted on <http://americanmadness.com/2008/09/19/selective-favoritism-in-action/>.
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- “Most academics are prisoners of the Efficient Market Hypothesis that assumes man acts rationally and efficiently in economic matters in ways that can be caught in elegant mathematical models . . . In such a convenient world, there can be no bubbles and no crashes. A related belief is that sensible, disciplined control of money supply will drive away all ills, including the madness of crowds, and, therefore, a sensible central banker is all powerful. Unfortunately, both concepts are complete illusions.”
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- Tett, G., “ESF unplugs the music and Cannes the champagne”, *Financial Times*, 6 June 2008, <http://www.ft.com/cms/s/0/966a6f6a-338b-11dd-ba8a-0000779fd2ac.html>.
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- Vander Stichele, M., Ignoring the Crises? How Further GATS Liberalisation Impacts the Financial and Food Crisis, SOMO, June 2008, [http://somo.nl/publications-en/Publication\\_2590/view](http://somo.nl/publications-en/Publication_2590/view);
- Ellen Gould, Financial Instability and the GATS Negotiations, Canadian Centre for Policy Alternatives, July 2008, [http://www.policyalternatives.ca/documents/National\\_Office\\_Pubs/2008/Financial\\_Instability\\_and\\_GATS.pdf](http://www.policyalternatives.ca/documents/National_Office_Pubs/2008/Financial_Instability_and_GATS.pdf).
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