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Vulture Funds and Fresh Start Accounting of Firms Emerging from Chapter 11 Bankruptcy

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Abstract:

Historically creditors of firms filing for Chapter 11 Bankruptcy adopted strategies to try and maximise the probability of return of their initial (often pre-Chapter 11) positions. However more recently vulture funds that specifically seek out the purchase of the debt of distressed firms at a discount, have taken a more activist approach. If they succeed in purchasing the fulcrum debt of distressed firms (often during Chapter 11) they can find themselves in a position to do far more than simply get their initial investment refunded with interest. Purchasing the fulcrum debt may allow them to take control of the distressed firm and swap their original debt for securities such as new equity in an emerged successor firm which can be sold for a large capital gain far in excess of any reasonably imputed interest rates on the original debt. Accounting valuations enshrined in Fresh Start Accounting rules play centre stage here in determining which residuals claims are honoured and which are not. This research is the first systematic study of whether there is any evidence that the presence of vulture funds affects the properties of Fresh Start accounting valuations. This study uses three alternate approaches to assess whether the reliability of Fresh Start valuations is affected by the presence of vulture funds. For each of the three specialist reliability metrics we find evidence to support the hypothesis that the properties of Fresh Start accounting valuations depend upon whether vulture funds have a holding of a firm's distressed debt during Chapter 11.

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1. Introduction

In his survey of the market for distressed debt investing Gilson (1995: p8) comments that during his decade of study, which was characterised by a record period for bankruptcies and restructuring, "One of the most important and enduring legacies of this period has been the development of an active secondary market for trading in the financial claims of these companies". The growth in investors who target the purchase of distressed debt – often called vulture funds – has and continues to grow dramatically. In a thought provoking piece Harner (2011: p.155) argues that these activist debt investors are the new corporate raiders and she suggests "that some regulation of strategic debt acquisitions is warranted". To date research on the involvement of vulture funds has reported mixed results. Some finance research has reported on the positive net effect of hedge funds (which include some vulture funds) during restructuring (e.g., Jiang et al., 2012; von Thadden et al., 2010) while other legal research has questioned how vulture funds have aggressively reduced the legal claims of original equity investors (e.g., Baird and Rasmussen, 2003). While the evidence seems to be quite clear that vulture funds improve the likelihood of a company emerging from Chapter 11, the issue that has not been resolved is whether the vulture funds are able to take control at too low a cost. Accounting valuation takes center stage in such a debate. The principal accounting rule that governs valuation of firms emerging from Chapter 11 are the Fresh Start accounting rules of SOP 90-7 updated in FASB ASC 852. At the time of development of SOP 90-7 it was probably never anticipated there would be a significant market in traded distressed debt. Now that there is, this research considers whether there is any evidence that accounting rules designed originally to specifically assist companies in distress, are being influenced by vulture funds to increase returns from a loan (distressed debt) to own strategy. An alternative hypothesis could be that the reason we observe the presence of vulture funds is because increasingly Chapter 11 firms need access to their expertise at strategic restructuring of the operational and financing problems. Put simply the vulture funds assist in weeding out poor management, negotiating refinancing and dealing with operational issues. However a competing hypothesis is that when vulture funds succeed in taking control of fulcrum debt they may disenfranchise existing equity holders by exploiting how Fresh Start accounting valuations are used to determine residual allocations between various claimants. Put simply this competing hypothesis assumes they gain control on the cheap by introducing self-interested bias into the Fresh Start valuation process. To test formally whether such bias exists we consider how reliable the Fresh Start accounting valuations are. We use a bank of three measures of reliability when conducting our testing. We note that purchasing the "right sort" of distressed debt[1] at the right discounted price may not always be possible so vulture funds strategic self-interest will depend critically upon which debt securities they can in reality purchase. Hence we explain the form of bias that a vulture fund would like to introduce into the Fresh Start valuation process will be dependent upon what debt securities they manage to purchase. Specifically we explain how the desired form of bias will be critically dependent upon

[1] We will make precise what we mean by this in our discussion on fulcrum debt in subsection 3.2.

whether the purchased debt security was senior or junior to fulcrum debt (see subsections 3.2 and 3.4).

The paper is now organised as follows. In section 2 we review how Fresh Start accounting works and why potentially this method of accounting may assist vulture funds in gaining control at low cost. We review in detail one specific prominent case which illustrates the issues clearly. In section 3 we review three literatures. In the first the legal literature is covered which focuses upon how residual claims are split between shareholders of the original company and proposed shareholdings in the new company emerging from Chapter 11. Next a review of the finance literature on distressed debt investing is covered which concentrates on the relative performance of emerging companies with or without involvement from vulture funds. We note that this literature has largely missed the role of accounting choices in facilitating / determining returns from this class of investment strategy. Next, some of the accounting literature on accounting choices, marking to market and self-interest is reviewed plus the small number of accounting research papers that have explicitly studied Fresh Start accounting. These three literatures together motivate our primary hypotheses. In section 4 we provide information on our sample of Fresh Start reporting companies and our database of vulture investors. Section 5 provides initial empirical results and Section 6 the conclusions.

2. The Mechanics of Fresh Start Accounting

There are a number of detailed references on the process of filing for and emerging from Chapter 11 Bankruptcy (see for instance Newton, 2010, Vol. 1 & 2). After filing for Chapter 11 the debtor has 120 days to file a plan of reorganization unless a trustee is appointed. An extension may also be granted but this is limited to a maximum of 18 months from filing. "This breathing period is intended to permit the debtor to hold lawsuits and foreclosures in status quo, and to determine the economic causes of its financial predicament while developing a plan. Using the schedules of assets and liabilities, the statement of financial affairs, and post and projected financial statements, the debtor and its advisors will examine the liabilities of the debtor and the enterprise value of the business estimated at confirmation. They will explore sources of funding the plan, such as post confirmation cash flows from the reorganized debtor, partial liquidation, issuance of debt securities at exit, or outside capitalization at exit. They will outline the classes of debt that cannot be deferred or compromised and negotiate with the rest" (Newton, 2010, Vol. 1: p. 500). The negotiations between the debtor and the various classes of creditor and equity holders is constrained by the legal requirement that they can be shown to be in the "best interests" of the creditors and in practice may take some time to complete. When finally a plan of reorganization is agreed and sanctioned by the courts, it is required that the plan should have all assets stated at

market values[2] and the new debt and equity positions recorded – this is the Fresh Start. Clearly the existing creditors take the lead in negotiations with the debtor and within the classes of debt it is the fulcrum creditors which hold the most senior impaired debt. Creditors "who hold a fulcrum position can have a greater say over the negotiation process and the formation of restructuring plans since the restructuring of the fulcrum claim is often at the centre of restructuring bargaining". (Lim, 2012: p.16). The fulcrum level is defined where funds exist to pay creditors who are senior, whereas those junior have a reduced chance of recovery. Thus in practice the fulcrum creditors typically swap debt in the predecessor company for a controlling equity interest in the successor (Chapter 11 emerged) company[3]. The strategy of buying the fulcrum distressed debt is more commonly called a *loan to own* strategy. What equity interest the fulcrum creditors end up with depends critically on the Fresh Start valuations for the company. At midnight at the end of the day immediately preceding emergence all accounting valuations are updated to market based valuations[4]. Thus at midnight the Chapter 11 *predecessor* company is replaced by the emerged *successor* company. Lehavy and Udpa (2011) present a very clear case study which documents (see particularly their Appendix B) how Fresh Start accounting was applied in the Kmart's 2003 Chapter 11 emergence.

Place Lehavy and Upda Table C here

Table C provides a summary of the Fresh Start accounts at emergence. First note that using Fresh Start market based accounting the property portfolio and other current assets are written down to M$10 after recognising a revaluation loss of M$4 613. One immediate repercussion of this write down was that the predecessor shareholders lost all claims to their equity interest. This left the company being completely controlled by the fulcrum creditors who then swapped debt for equity. To summarize; mechanically the Fresh Start market valuations of current assets resulted in the complete *disenfranchisement* of the predecessor company equity holders. One may stop at this point to conclude this is simply Fresh Start accounting at work – a new viable successor company emerges without the burden of excessive debt and now has a chance to trade successfully. This was certainly the intention of the original accounting rule makers. However it is interesting to track what happened to Kmart following emergence.

"Beginning in mid-2004, Kmart began selling its valuable real estate holdings. On June 4, 2004, Kmart sold 24 stores to Home Depot for up to $365 million, or roughly $15 million per store. On June 30, 2004, Kmart announced the sale of 54 stores for $621 million cash to Sears Roebuck & Co., with each store fetching an average price of $11.5 million. Again, on September 29, 2004, Kmart announced it had finalized the sale of another 50 stores to Sears Roebuck & Co., for $575 million in cash. Based on these

[2] FASB ASC 852 sets out a number of requirements that must be satisfied before Fresh Start accounting can be adopted.
[3] Often the fulcrum creditors may also bring additional funding to the company to help insure it can continue trading.
[4] These market based valuations may be conducted by experts in the area.

sales, analysts began to project the value of Kmart's entire real estate portfolio in excess of $18 billion." Lehavy and Upda (2011).

This case nicely illustrates why this research focuses upon potential reliability issues with the Fresh Start valuation process. If they were free of manipulation and bias one would on average expect to see some sort of continuity or consistency in valuation. This would be in marked contrast to the above observed "whiplash" effect where Fresh Start accounting valuations downgrade (or upgrade) predecessor values only for market values established after the firm emerges from Chapter 11 to go in the opposite direction upgrading (or downgrading) the values. As is clear from the Kmart case, one reason why this whiplash effect may arise is because it results in significant wealth transfers to successor equity holders.

An issue then is why does a freely functioning capital market not discipline such behaviour? The main issue here is that during Chapter 11 companies no longer file traditional SEC forms – they effectively only report to the court sanctioned judge. In this environment as the quote from Harner (2011) earlier makes clear, significant purchases of distressed debt or other financial instruments do not need to be disclosed. This point is particularly nicely illustrated by a recent investigation by the Wall Street Journal of the Chapter 11 emergence of Accuride Corp.

"For Accuride Investors, a Big Payday; Big Bondholders Parlayed Position at Negotiating Table During Bankruptcy Into $132 Million Gain; A handful of investment firms generated gains of $132 million from their privileged position in a bankruptcy case, according to unsealed court documents, highlighting how big investors have turned Chapter 11 into a lucrative trading game. By owning a large chunk of Accuride Corp.'s bonds during the truck-parts supplier's bankruptcy proceedings last year, these traders got a valuable perk: a prime spot at the bankruptcy negotiating table where they structured a new convertible-bond deal that triggered the big profits this year, according to the documents. The details of the transactions were outlined in bankruptcy-court disclosures unsealed last month. A federal bankruptcy judge in Delaware ordered the papers unsealed after The Wall Street Journal filed a legal motion to make them public. The investment firms had pushed to keep them secret, as outlined in a Journal page-one article in September that examined debt trades in Accuride and other bankruptcy cases." WSJ, Tom McGinty and Mike Spencer 23 Dec 2010.

This illustrates how difficult it can be to find out who are the claims traders during a Chapter 11 filing and what gains are being realized. With this level of restrictions on information flows it is not hard to see why the market cannot discipline excessive practices if they cannot see them.

3. Literature Review and Hypotheses Development

3.1. The legal institutional literature

Harner (2011) provides a review of the origins of the Williams Act which was established to regulate[5] certain stock purchases and tender offers. She explains that prior to 1968 equity based takeovers were largely unregulated and that hostile takeovers could be mounted in which control of a company could change hands quickly. "Accordingly, a primary purpose of the Williams Act appears to be providing more information and time to investors to facilitate more thoughtful decisions in the context of equity-based takeovers" (Harner, 2011: p.178). The Williams Act introduced requirements for persons acquiring more than 5% of a company's equity securities to disclose their position. These provisions were designed to alert the market of the possibility of changes in corporate control. Additionally the heightened takeover activity during the 1970s prompted many states to enact state-takeover legislation. All this transparency of the build-up of stock positions has led some commentators to argue that as a result, equity based takeovers ended up transacting at the fair market value for the stock. Harner (2011) explains that this full price with full disclosure scenario, may have encouraged investors' to seek out debt based takeovers as a means for taking control – sometimes called a *loan to own* strategy – because debt "investments" are not subject to the disclosure requirements of the Williams Act and do not trigger state law takeover defensive measures. "This lack of regulation provides a significant advantage to an investor making a control play. Among other things it reinstitutes the element of surprise once prevalent and advantageous to acquirers in the hostile takeover process. Investors generally have no obligation to disclose when they purchase a company's debt. Consequently, management often does not know who holds the company's debt until an investor is already in position to make its move" (Harner, 2011: p.161). The loan to own strategy works best when a company is in financial distress and has to negotiate new terms with its lenders. Harner (2011) reviews the "mechanics" of loan to own transactions and details how vulture funds were able to take control of a selection of Chapter 11 companies by purchasing their fulcrum debt. Given the lack of transparency of deals, Harner (2011) argues that such debt based takeovers can allow vulture funds to gain control of under-valued companies at bargain prices. A major concern with this sort of transaction is "the treatment of the company's pre-takeover shareholders" (p 191) since their prior equity interest may be cancelled (by the new emerging company) if it is concluded that there is only sufficient assets to pay senior debt holders and swap the fulcrum debt holders position for the new equity in the emerging company. Critical to this allocation of interests is the valuation of the emerging company which is determined by the application of Fresh Start accounting. As Harner (2011) explains "A loan-to-own strategy is successful if the investor accurately predicts and purchases the tranche of debt that constitutes the company's fulcrum security. This requires a difficult, sometimes subjective valuation of the company. Once an investor makes this calculation, it has a vested interest in that valuation being adopted by the company and others in the reorganization. That valuation is the means by which the investor acquires the company's stock and extinguishes the rights of all

[5] She also comments on its success p180.

junior shareholders. The question then becomes whether the valuation is a fair representation or a depressed value that benefits the distressed debt investor. A distressed-debt investor may intentionally or unintentionally depress value. For example, if the investor is encouraging a debt-for-equity exchange, the company's value likely will be determined by expert appraisals. These appraisals often are subject to different methodologies, opinions and disputes". (Harner, 2011: p.193) One of our principal contributions will be an ex-post attempt to see if empirical evidence exists to support Harner's claims, that valuations are being depressed to unfairly benefit fulcrum investors at the expense of predecessor shareholders.

3.2. The finance literature on hedge fund involvement in Chapter 11 restructurings

Jiang, Li and Wang (2012) provide a comprehensive review of data on hedge fund activity[6] in Chapter 11 cases. It is an important paper for at least two reasons. It is the first systematic study of hedge fund involvement in Chapter 11 over the last decade and moreover, particularly pertinent to our hypotheses development, reports a largely positive picture resulting from hedge fund intervention. Jiang et al. (2012) has a sample of 474 Chapter 11 cases from 1996 to 2007 and considers hedge fund purchase of equity or debt or what they describe as the hybrid loan to own strategy. They argue that their most salient finding is that there is publicly observable hedge fund involvement in 87% of the Chapter 11 cases. In addition they find that in 61% (53%) of the cases, hedge funds are present on the debt (equity) side and that in total 34% of the cases (including DIP financing) the hedge funds followed a loan to own strategy. Predominantly their findings are suggestive of hedge funds having a favourable effect. They find that hedge fund presence is associated with an increased likelihood of emergence, more favourable distributions of claims, greater CEO turnover, and more frequent adoption of KERPS. In terms of the detailed effects hedge fund presence has, they find a favourable effect on post-emergence firm performance and they find that leverage is reduced although they do not find evidence of improved ex-post operating performance such as industry adjusted return on assets.

Jiang et al. (2012) look at the relation between hedge fund involvement and bankruptcy outcomes as measured by nine variables, one of which is particularly pertinent to this study. The variable (v) *DistEquity* measures distributions after emergence from Chapter 11 to existing shareholders. They note that "equity holders in bankrupt firms seldom receive payoffs if the firm is liquidated. Hence, hedge fund equity holders should target firms that are more likely to survive and should exert their influence to favour emergence". They find that the effect of having hedge fund equity holders is associated with distribution to existing shareholders in 21% of cases. "Hedge fund presence on the

[6] They look at hedge funds which encompasses a larger set of institutions than vulture funds that focus on distressed debt.

equity committee is associated with a 43% point increase in the probability of a positive distribution to existing shareholders, controlling for firm and case characteristics". However this effect is not significant when endogeneity controls are added. Leaving aside issues of statistical significance for a moment, our main concern is that the paper does not model the strategic choices that hedge funds are so famous for. That is, if the hedge fund believes it may be able to influence Fresh Start accounting valuations this may strategically determine whether they choose to invest in the equity or debt of a distressed. Formally recognising that hedge funds make a range of strategic choices means that one needs to exercise caution before concluding that the presence of hedge funds help existing shareholders achieve a distribution. It may be the case that after doing a careful analysis of strategic possibilities, hedge funds choose to have an equity position. They then for self-interested reasons do have a reason to support distributions to existing shareholders. However the more pertinent point here is that when hedge funds look at a Chapter 11 target they may decide not to take an equity position because they see financial merit in taking a loan to own strategy which typically results in little or no distribution to existing shareholders – that is reporting statistics for the restricted case in which hedge funds do take equity positions does not mean a particular specialist class of hedge fund; vulture funds, can be described as in general supporting distribution to existing equity holders – whether they do or not depends on the strategic choice of the respective hedge fund. Moreover it is important to recognise for our sample of 105 firms Fresh Start filing companies – an explicit requirement of SOP 90-7 is that at least 50% of existing shareholders lose their equity stake.

To summarise the largely positive (average) findings about hedge fund activity in the Jiang et al. (2012) paper are derived for a large sample of hedge funds employing a wide mix of strategies. Results are reported on average across all hedge funds, the actions of vulture funds are not separated out. This differs from our approach to just study approximately a third of cases[7] where hedge funds can be described as vulture funds because they purchase distressed debt and whose residual claims are determined by Fresh Start accounting rules which explicitly require at least 50% of existing equity holders voting interests to be cancelled. To summarise, taken at face value the Jiang et al. (2012) paper suggests that it is a choice whether existing shareholders lose their equity interest and hence one should see at a macro level how hedge fund presence affects this choice. However, in the case the hedge fund is specifically following a vulture strategy (buying distressed debt) it does not make sense to talk about preserving distribution to existing shareholders because the loan to own strategy is explicitly designed to disenfranchise existing shareholders.

In a related paper Lim (2012) looks at the role of activist hedge funds in 184 financially distressed companies (vultures) during the period 1998 to 2009 and finds that vulture

[7] See their 34% figure on page 530 and our sample size relative to their 474.

funds were involved in 64.7% of the sample. Based on theoretical work by Gertner and Scharfstein (1991), Lim tests to see whether vulture funds typically target companies that face relatively high contracting problems. For instance, when they have more complex debt structures. Her results suggest that vulture fund involvement increases the likelihood of the loan to own strategy being deployed and that exit from distress occurs quicker. Interestingly she develops a means for estimating deal level returns which she reports are as high as 26% per annum. Her study differs from Jiang et al. (2012) by adding to our understanding of what are the specific characteristics of the firms targeted by vulture funds and details of the contracting complexity they face. In addition she does not just restrict her sample to Chapter 11 companies because she also includes financially distressed companies that use voluntary workouts with their creditors (without court intervention). Lim (2012) finds that vulture funds tend to prefer firms which have more complex contracting situations. She measures complexity by looking at the number of long-term debt classes and whether the company has both public and private debt. In addition, they target fulcrum debt as their instrument of potential control. She estimates that in approximately 70% of cases vulture funds end up with the fulcrum security. Additionally in 41.8% of cases the vulture funds bring new capital to the distressed firm. Her three primary hypotheses for which she finds empirical support are (i) the presence of a vulture fund increases the likelihood that a loan to own strategy will be used (ii) the presence will be associated with a shorter duration of distress and (iii) the presence increases the probability of emergence.

With a view to increasing our understanding of how creditors influence the outcome of restructurings, Ivashina, Iverson and Smith (2011) collect an innovative dataset on trades of debt claims during Chapter 11 restructurings. They are able to collect two snapshots of the list of claimholders, one at the beginning of the Chapter 11 filing and the second comprising a complete list of claim holders eligible to vote at the end of bankruptcy. They classify the institutional claim holders into four groupings; banks, custodians, non-financial corporations and active investors which include asset management firms, hedge funds and private equity affiliated funds. With the two snapshots they are able to produce the first systematic evidence on the trading of claims *during* Chapter 11 and they demonstrate how this "trading has an important impact on ownership and, subsequently, on bankruptcy outcomes" (Ivashina et al., 2011: p.2). In particular they show how active investors increase their average holding from 9.7% to roughly 15% of the claims by the time votes are made on the final plan of reorganization. They explain that not all classes of claimants get to vote on a reorganization plan. "In general, two groups of claimants are not allowed to vote on the plan…. Those that are unimpaired …(who are due under the plan to receive a distribution in full satisfaction of their claims) and those impaired claimants expected to receive zero recovery under the plan" (Ivashina et al., 2011: p. 10) as they are deemed automatically to reject the plan and are not entitled to vote. Ivashina et al. (2011) maintain that although it could be argued that the claims held by active investors such as

vulture funds could be considered to be modest at the time of a Chapter 11 filing, they tend to have a significant involvement when votes are taken for a plan of reorganization since taken together active investors generate nearly a third of all claims purchases during Chapter 11 and sell almost no claims. Consistent with the Gilson et al. (2000) findings they find that bargaining by the concentrated voting classes reduces the overall valuation of the firms emerging from Chapter 11 and "Consistent with the idea that fulcrum class owners push for lower recovery rates in order to squeeze out more junior classes, we find that more concentrated fulcrum classes receive significantly lower assessed recovery rates" (Gilson et al., 2000: p.32) although they critically do not explain how these lower valuations are achieved given that the Fresh Start valuations should be market based.

3.3. The literature on Fresh Start accounting

The two earliest academic papers on Fresh Start accounting are the papers of Lehavy (1999) and Gilson et al (2000). The first detailed published study of Fresh Start accounting is Lehavy (2002). Lehavy and Upda (2011) provide a comprehensive case study of the application of Fresh Start accounting at Kmart.

Lehavy (2002) considers whether the pressures to resolve Chapter 11 negotiations over claims versus pressures to enhance future performance results in Fresh Start accounting valuations being under or overstated relative to market values on the first day of trading of the new emerged company. His research design differs from ours in this respect as he looks only at how market valuations relate to Fresh Start valuations on the first day of emergence, we in contrast use longer windows to develop three measures of reliability.

Lehavy (2002) finds that on average that Fresh Start accounting undervalues / misstates company value by 4%. He then investigates the cross sectional variation in misstatement value and shows how it is increasing in the relative bargaining power of junior claimants. He does not explicitly consider the role of fulcrum debt holders. He explains how managers can make discretionary accounting choices not only in going concerns but also in companies that are reorganising in Chapter 11. He explains how the focus of the discretion may be to influence the way the Chapter 11 issues are resolved and explains how new factors come to bear such as the relative bargaining power of creditors. He provides a brief history of how SOP 90-7 was developed explicitly to prescribe how accounting should be conducted while in Chapter 11 and the conditions under which Fresh Start accounting (which he refers to as FSR) could be applied. He explains that a principal reason to use this form of accounting is so that "any negative equity… is eliminated in FSR, this condition also ensures that negotiations lead to write-downs of debt" and the new / successor "Fresh Start value of equity is recorded as the difference between the Fresh Start value of assets and liabilities" (Lehavy, 2002: p.57). He notes that management can influence how fast the company emerges from Chapter 11 "through the values it places on the reorganized entity… Management has the flexibility in determining this value because it typically enjoys a significant

information advantage over creditors and the court about the firm's economic operating conditions" (Lehavy, 2002: p.58). In many cases management lose shares in the predecessor company and hence may be highly incentivised to rebuild up a stock position in the successor company. Typically it will be the creditors committee that will make an approved proposal to the court for new compensation arrangements, so to the extent that management believe that fulcrum debt holders will be influential on this, they may feel pressurised to agree with valuations that are in the interests of the fulcrum creditors. That is, although the Fresh Start valuations are supposed to be market based, it is Lehavy (2002)'s hypothesis, which we also support, that these valuations may be subject to manipulation by management.

A large literature exists on management desire to manipulate accounting valuations. This earlier literature may not be relevant here since Fresh Start valuation the reported accounting numbers are supposed to be market based and by implication manipulation free. However there is now a growing literature typified by Gwilliam and Jackson (2008) that argues that attempts to move to market based valuation have not removed the possibilities for management or other interested parties to introduce bias. They show how senior Enron management were able to influence the "market for fair value expert valuations" in the context of marking to market financial derivative products. That research suggests that relying on an assertion that Fresh Start accounting valuations will be produced by independent experts and hence will be free of bias is problematic especially when interested parties have such clear financial reasons for bias to be introduced.

In Lehavy (2002) tests for such bias are framed in terms of two hypotheses. The first is based upon a notion that the difference between Fresh Start valuations and the market trading price on the day of emergence is positively related to claimants bargaining power and the second that this misstatement is negatively related to the probability of reported losses after emergence. For the first hypothesis, for which he finds support, he proxies claimants bargaining power by – the number of claimant classes allowed to vote, the firms debt to asset ratio and ex post measure of the payout to junior claimants. For the second hypothesis he uses the Zmijewski (1984) probit bankruptcy prediction model to estimate the probability of future losses. While he finds support for the first hypothesis his evidence for support of the second is much weaker.

The main difference between our study and that of Lehavy (2002) is that we focus not just upon the market reaction at the date of emergence but also track the changes before and after. In addition we see whether patterns of these changes are associated with the presence of a particular sort of activist creditor: vulture funds.

3.4. Hypothesis Development

Motivated by the above discussion we now state the formal hypotheses. We will characterise the reliability properties of Fresh Start valuations using three criteria. First we consider the difference between successor and predecessor Fresh Start valuations. Next we look at the likelihood that valuations make large swings moving down from predecessor values to Fresh Start values only to then have experience market values that jump up in the opposite direction upon Chapter 11 emergence. Third we consider how likely it is for the firms that emerge with Fresh Start values to subsequently need to formally report a financial restatement. In each case we consider the incentives of vulture funds to influence Fresh Start valuations.

Our initial starting point is the premise that the magnitude of the difference between predecessor asset values (at Chapter 11 entry) and successor Fresh Start asset values (at Chapter 11 exit) will depend on the presence of vulture funds. As has been explained above the vulture funds looking at the range of seniority of debt claims and then try to estimate what will be the fulcrum debt and purchase it. Such a strategy though clearly has inherent risks as the exact point (in the range of seniorities) that becomes the fulcrum is the result of an uncertain negotiation process with other vultures and the availability for sale and price of the desired debt instrument.

In such a situation vultures have to choose how high or low in the seniority range they target debt instruments such as a specific class of corporate bond. The specific risk reward trade-off is illustrated in the following diagram.

Place Diagram 1 here

Purchasing a distressed debt instrument higher in the range of seniority the more likely the vulture fund simply receives the honouring of the debt level with no opportunity for conversion to successor equity – that is safer but relatively lower expected return. The lower in the range the more likely they are to be closer to the fulcrum debt that gets exchanged for equity but this is very sensitive to the agreed Fresh Start valuations. Too low in the range the vulture fund risks downwards Fresh Start valuations wiping out their claim. Thus this creates countervailing incentives for vulture funds depending upon which debt instrument they can purchase. To understand the nature of this it is helpful to view the vulture fund strategy as comprising three steps. First using predecessor values, determine the predecessor fulcrum debt[8]. Next the vulture fund sees what range of debt instruments can be purchased and at what discount around the predecessor fulcrum. Third the vulture fund needs to conduct the difficult exercise of

[8] Clearly this need not be the same as the successor fulcrum debt at emergence. What we are trying to do here is decompose the estimated successor fulcrum into components – the fixed component determined by predecessor values and the variable component determined by estimated Fresh Start valuation changes.

estimating how Fresh Start values will change the position of the fulcrum at emergence. Clearly if Fresh Start values matched predecessor values it would be safe to purchase debt close to the predecessor fulcrum. However, if Fresh Start values are likely to be far less, this increases the chance that the purchase at the predecessor fulcrum would become worthless since it was too low in priority at the Chapter 11 bargaining table.

An illustration of the nature of the complications involved in estimating the successor fulcrum debt is provided by Reuters News' coverage of the Six Flags Chapter 11 reorganization. The following press report shows how note holders and more junior bond holders fought over valuations in the bankruptcy court. "*At the center of a dispute between Six Flags and competing groups of creditors is whether the company's current proposed reorganization plan undervalues the company, preventing some creditors from getting what they feel they deserve. Over the last 18 months, one of its senior debtholders, Avenue Capital Group, has reduced its estimates of how much the company is worth by about $1 billion. Six Flags filed Chapter 11 in June with a prepackaged restructuring plan that transferred nearly all of its stock to its bank lenders in return for cutting its debt. Since then, two other creditor groups have sought to fight for control of the company. An informal bondholders group led by Avenue Capital has proposed a plan, now supported by the company, that values the company at around $1.5 billion, meaning lower tier creditors would only be eligible to recover a 4.8 percent stake in the reorganized company. A group of those lower tier creditors, known as the "Stark-led noteholders," asked the court earlier this month for permission to file a competing plan of reorganization, saying they have a better proposal that would allow them to take more control over the company after bankruptcy…the ad hoc group led by Stark included Credit Suisse Securities, Tricadia Capital Management, 1798 Global Partners, Capital Ventures International, Altai Capital Management, Pentwater Capital Management, Fortelus Capital Management, H Partners Management LLC*[9] *and Bay Harbour Management LLC.*"

In terms of our above initial premise if the magnitude of the difference between Fresh Start and predecessor valuations could be influenced by vulture funds the amount of influence they would exercise would depend upon where in the seniority range they were able to purchase a debt instrument. If they purchase close to the predecessor fulcrum they would not prefer Fresh Start values to go much lower since these claims may become worthless. Alternatively if they purchase well above the predecessor fulcrum they would in fact prefer Fresh Start procedures to further depress values somewhat so as to increase their share of the residual claims. However as the earlier discussion of the Accuride case makes clear which particular distressed debt claims are traded is not publicly recorded. Hence given the strategy of the vulture fund is dependent upon the priority of the debt instrument they were able to purchase we need

[9] We identify *H Partners Management LLC* as a vulture fund according to the Altman-Kuehne (2011) classification described below.

some way to estimate where in the debt seniority profile they hold distressed debt. We produce an estimate by searching on Factiva news (all newswires and press articles) for each firm during the Chapter 11 process for any vulture funds making claims that movements down in equity values from predecessor levels are warranted or not. Subsection 4.2 explains the process in detail how we collected and classified Factiva news on vulture fund negotiations during Chapter 11. In summary we used key words associated with whether the debt instruments the vulture funds purchased was unsecured more junior debt or not and whether the vulture funds were resisting downward Fresh Start revaluation of assets. In terms of Diagram 1 this allowed us to estimate vulture fund distressed debt purchases as either:

(a) Purchasing below predecessor fulcrum debt and resistant of downward Fresh Start revaluations which we call *Below Predecessor Fulcrum (BelowPF) Vultures*

(b) Purchasing at or well above predecessor fulcrum debt and welcoming downward Fresh Start revaluation which we call *Above Predecessor Fulcrum (AbovePF) Vultures*

With the above classification scheme in mind this now allows us to develop hypotheses for the properties of Fresh Start valuations based on three alternative measures of reliability.

Measure 1: Reliability measured by *FSrevaluation* **= (Successor – Predecessor) asset values**

Taking account of the countervailing incentives of the two classes of vulture funds we have the following hypotheses:

H1a: Self-interested BelowPF vultures funds press Fresh Start revaluations upwards

Successor values (at Chapter 11 exit) are more likely to be greater than predecessor values (at Chapter 11 entry) when there is an increased presence of BelowPF vulture funds.

H1b: Self-interested AbovePF vultures funds press Fresh Start revaluations downwards

Successor values (at Chapter 11 exit) are more likely to be less than predecessor asset values (at Chapter 11 entry) when there is a higher presence of AbovePF vulture funds.

Hypotheses 1a and 1b assume that if a vulture fund can influence Fresh Start values the influence will depend upon how close to predecessor fulcrum debt they purchase an instrument. As explained above it is in the vulture funds strong self-interest to try and influence the properties of Fresh Start (successor) since that will determine what share in the (successor) equity of the emerging firm they will receive.

Whereas Hypothesis 1a and 1b attempt to explain the reliability properties of predecessor relative to successor values we may also be interested in trying to explain the properties of predecessor through to post successor (e.g., 12 months) market values. The discussion of the Kmart case illustrates the issues. In particular vulture funds that successfully follow a loan to own strategy by purchasing close to successor fulcrum debt will gain most by depressing predecessor values in successor Fresh Start values and then trying to sell assets at well above Fresh Start valuations. We call this the whiplash revaluation effect.

Measure 2: Reliability measured by the magnitude of whiplash value

FSwhiplash = **[- (Successor – Predecessor) + (Market value$_{t12}$ – Successor)]**

Here we test to see if BelowPF/AbovePF vulture funds are associated with upward/downward Fresh Start revaluations that 12 months after emergence the market values in the opposite direction.

The first part of the whiplash effect is the negative of Fresh Start revaluation, and the second part is the difference between the subsequent market value and the Fresh Start value of the firm. If AbovePF vulture funds force a downward Fresh Start revaluation the first part of the whiplash effect will be large and positive. And if, the market value seen 12 months after emergence corrects upwardly the Fresh Start undervaluation the second part of the effect will also be positive. Overall, we will observe a large and positive *FSwhiplash* valuation effect. The opposite is expected for BelowPF vulture funds pushing for upward Fresh Start revaluations. The hypotheses are as follows:

H2a: The magnitude of a whiplash valuation effect being seen 12 months after Chapter 11 emergence decreases with the presence of BelowPF vulture funds

H2b: The magnitude of a whiplash valuation effect being seen 12 months after Chapter 11 emergence increases with the presence of AbovePF vulture funds

As we are testing to see whether vulture funds influence the properties of Fresh Start valuation, another way to test for whether vulture funds' self-interest affects the reliability properties of recorded Fresh Start values is to see whether the likelihood of a Chapter 11 emerged company making a formal restatement increases with the presence of vulture fund involvement. The misreporting of Fresh Start accounting is likely to be

identified in future periods by auditors and the company. As some fair values revert, estimates are re-assessed, and misstatements are amended, sooner or later the company will need to formally restate accounts.

Measure 3: Reliability measured by likelihood of subsequent accounting restatements

FSrestatmt = 1 if restatement 0 otherwise

This leads directly to Hypothesis 3.

H3: The reliability of Fresh Start valuations captured by the likelihood of future restatements decreases with the presence of BelowPF or AbovePF vulture funds

4. Sample selection

4.1. The Sample

To identify vulture funds we start with the Altman-Kuehne (2011) classification which identifies 324 funds. We merge this with the list of 258 distressed debt funds provided by Distressed-Debt-Investing.com and come up with a list of 399 vulture funds. Of the 75 additional vulture funds identified 45 have names similar to those in the Altman classification so for instance Cerebrus Capital Management LP and Cerebus Partners are both identified as vulture funds and so we treat them as one. We suggest this shows how comprehensive the Altman-Kuehne list is. In addition the potential for some double counting of funds with similar names as above does not affect our results because in our statistical tests we look at the total holdings of all vulture funds from the list, not the number of vulture funds that have a holding.

To identify firms that report Fresh Start accounts we start with the complete Lo Pucki database of companies that filed under the Chapter 11 or 7 bankruptcy code and had assets worth $100 million or more measured in 1980 dollars as of the last 10-K filing immediately prior to filing for bankruptcy and filed a 10-K for the year ending not less than 3 years prior to the bankruptcy filing. This grand sample comprises 920 companies over the period 1980 - 2011. For the company to be a possible candidate for Fresh Start accounting it must emerge from Chapter 11 rather than be taken over or liquidated in Chapter 7. The Lo Pucki database has a field “Emerged” which records which firms actually emerged from Chapter 11 which leaves us with 588 companies. In order to be able to collect Fresh Start accounts we need to be able to search the SEC EDGAR database which only records companies back to 1994. We search Lo Pucki removing all companies for which “DateEmerged” is pre- 1994 which leaves us with 429 companies. Next since we are going to need to match the data to Compustat filings we require the Lo Pucki field “CmpstYrFiled” to have an entry. This field records the year in which the debtor filed bankruptcy. Adding this requirement leaves us with 375 companies. In the remaining sample we next removed those companies for which the court entered its

order approving sale of all or substantially all of the assets of the debtor, without contingency which leaves us with a sample of 337 companies.

We note that Lo Pucki includes a field "FreshStartAccounting" which records if the company made a Fresh Start filing upon emergence. In the protocol notes the commentary for this field is:
"This field is "yes" if the company adopted Fresh Start accounting upon emerging from bankruptcy; "no" if it did not, and "no information" if we checked but were unable to obtain information on whether it adopted Fresh Start accounting. The field is blank if we have not sought information. We check the 10-K of the emerging company.

For the sample of 337, we find that LoPucki records yes in this field for 77 companies and no for 16 companies leaving 244 companies unclassified. For this sample of 244 companies we search all the SEC Edgar filings by the company for the phrase "Fresh Start" around the date of emergence. If we do not find the phrase then we exclude the company. If we do find the search phrase we search through the all the filings that quote the phrase Fresh Start and search for the associated accounts. This allows us to add 63 companies to our sample so that our final sample of companies filing Fresh Start accounts is 105[10].

4.2. Characteristics of Vulture fund strategies during bankruptcy

To identify presence of vulture funds in the 105 firms of our sample we start with the list of stakeholders that file a 13K or 13F on the firms' share register upon emergence from Chapter 11 and cross check it with the list of 399 vulture funds described in Section 4.1. We detect vulture funds' presence in 48 firms. We next investigate the characteristics of vulture fund involvement during the bankruptcy period. We search the Factiva database for the news stories that describe claimants' behaviour during bankruptcy in order to identify vulture funds' investment strategy. The intention of this analysis is to pinpoint the layer of a firm's capital structure at which vulture funds purchase debt instruments, i.e., whether the purchased debt is below, above or at the Predecessor fulcrum point[11]. We give consideration to the notion that vulture funds are not only good at estimating fulcrum debt but also take actions to make their claims a fulcrum security (Lim, 2010).

For example, if vulture funds hold unsecured junior claims that are below the predecessor fulcrum point (BelowPF Vultures) and hence face the risk of being wiped

[10] We excluded GM from our analysis as this involved significant state intervention and lead to some unusually high goodwill adjustments that if included could significantly bias the results.
[11] See the diagram 1 that graphically explains Predecessor value fulcrum point and possible scenarios in terms of Vulture funds entry points in distressed firm's capital structure.

out, vulture funds' incentives will be to negotiate upwards Fresh Start revaluation so that their claims get closer to the fulcrum and increase their recovery rates[12].

On the other hand, if vulture funds purchase relatively more senior unsecured claims or secured debt which is above the Predecessor fulcrum (AbovePF Vultures) and as a result less likely to be swapped for equity due to its higher relative seniority status, vulture funds are likely to push for downwards Fresh Start revaluation so that their claims become fulcrum[13]. Vulture funds may also be able to buy debt at the PF point. If so, they have the incentives to push the value down somewhat (but not too much) so that they end up with larger share of successor's equity.

To investigate the scenarios described above, we search Factiva news for reference to each firm using keywords such as "bankruptcy", "unsecured debt", "senior debt", "secured debt", "subordinated notes", "junior debt", "restructuring", "reorganization", "creditors", "dispute", "claimants", etc. We analyse Factiva news to determine which type of claimants end up with large shares of successor's equity, whether there are disputes among various classes of claimants, whether and which type of claimants are negotiating revaluations of Fresh Start values upwards or downward relative to the predecessor's firm value and whether vulture funds are among these claimants. This analysis enables us to unravel vulture funds' strategies during Chapter 11 for the 48 firms with vulture fund involvement.

We distinguish between two general types of vulture funds' strategies in firms' capital structure during bankruptcy: (1) vulture funds holding mostly junior unsecured claims that are below Predecessor fulcrum point (BelowPF) and, (2) vulture funds holding relatively more senior unsecured claims or secured debt that are above or at the Predecessor fulcrum point (AbovePF). We code the two key variables that characterize vulture funds' positions as follows. The first is an indicator variable *VFbelowPF* that takes the value of 1 if vulture funds claims seem to be below the PF at the start of bankruptcy and 0 otherwise. The second variable *VFabovePF* is an indicator variable

[12] An example of this scenario reported by Dow Jones Newswires is in the case of company Solutia whose bonds were purchased by vulture funds *: "Solutia claims its latest proposal is a reasonable compromise between bondholders , creditors and its former parent, Monsanto Co. (MON). It calls for the bondholders to recover about 80 cents on the dollar for their claims. An earlier plan, supported by Monsanto, would have paid bondholders between 48 and 56 cents on the dollar on their claims. The bondholders' better treatment under Solutia's new plan is due to an accounting sleight of hand. Solutia's new proposal assumes the company's equity will be worth $1 billion as opposed to $912 million under the original proposal."*

[13] An example of a vulture fund swapping secured debt for a share of equity post-bankruptcy is in the case of company International Wire's as documented by Dow Jones Newswires : " *In August, a Bankruptcy Court in New York approved a reorganization plan that trimmed $200 million off the company's books through a debt-for-equity swap. Under the plans terms, holders of $305 million in secured subordinated notes would receive $75 million of new unsecured notes and 96% of the reorganized company's new common stock. After the swap, International Wire's largest shareholder is Tennenbaum Capital Partners LLC of Santa Monica, Calif., which holds a 25 percent stake. GSC Partners Inc. of Florham Park, N.J., and Bennett Management Corp. hold stakes of 16 percent and 14 percent, respectively, according to a filing with the Securities and Exchange Commission." Bennet Management Corp*. is identified as a vulture fund according to the Altman-Kuehne (2011) classification.

that is equal to 1 if vulture funds claims are at or above the PF at the beginning of bankruptcy.

To take into account the magnitude of vulture funds' holdings in a particular firm and its effect on Fresh Start values we construct two alternative measures of vulture funds' strategies. The first variable, *VFbelowPF_%holdings* equals the indicator *VFbelowPF* times the vulture funds percentage holdings in the firm. Similarly, the second variable, *VFabovePF_%holdings,* is computed by multiplying the indicator *VFabovePF* with vulture funds' percentage holdings in a particular firm. We obtain the percentage of holdings from the firms' share register.

Overall, we use four specifications of the vulture funds strategy measure in our subsequent tests; *VFbelowPF, VFbelowPF_%holding, VFabovePF, VFabovePF_%holding*

4.3. Measuring Fresh Start revaluation, whiplash and restatements

To empirically test Hypotheses 1a and 1b we need to construct a proxy that captures the change in the firm's value as a result of the application of Fresh Start accounting rules at emergence of Chapter 11. We compute variable *FSrevaluation* as the difference between Successor's Fresh Start asset (at Chapter 11 exit) and Predecessor's asset (at Chapter 11 entry) scaled by book value of equity plus book value of debt four quarters after emergence of bankruptcy.

In Hypothesis 2 we argue that vulture funds which successfully follow a loan to own strategy by purchasing fulcrum debt will gain by depressing somewhat predecessor values so that that they end up with larger share of Successor's equity and then try to sell assets at well above Successor's Fresh Start valuation (e.g., the case of Kmart). We call this the whiplash revaluation effect. The whiplash measure aims to capture subsequent reversals of the Fresh Start revaluations applied at emergence. The reversals are captured by firms' market value at 12 months after emergence. In constructing the whiplash measure we draw on the prior evidence (see for example, Lehavy, 1999) which documents that even two years after the emergence from Chapter 11 and the adoption of Fresh Start valuation, markets appear to adjust for the effects of initial misstatements of firm values reported at the adoption of Fresh Start accounting.

To take into account such reversals of firm value we compute a variable *FSwhiplash* which consists of two elements. The first element is the negative difference between Successor's Fresh Start total assets and Predecessor total assets, scaled by the sum of the total debt and book value of equity four quarters after the emergence from Chapter 11. The first element is equivalent to the negative of the variable *FSrevaluation*. The second element is the difference between the market value of the firm four quarters after emergence and Successor's Fresh Start total assets, scaled by the market value of the firm four quarters after emergence from Chapter 11. The *FSwhiplash* is computed as the

sum of the two elements. The intuitive interpretation of the *FSwhiplash* effect is as follows. If a firm exhibits a large downwards revaluation of Successor's Fresh Start assets value (Successor's assets are smaller than Predecessor's assets) as a result of, say, presence of vulture funds with strong incentives to depress Fresh Start asset values, the first element of the *FSwhiplash* construct will be large and positive. Such initial depressing of Fresh Start asset values at emergence from Chapter 11 may, in turn, reverse in period subsequent to the emergence. This reversal will result in a relatively large second element of the variable *FSwhiplash.* Taken together, the large downwards Fresh Start asset revaluation and the subsequent market adjustment of firm value result in a large value of the *FSwhiplash* variable. We use the *FSwhiplash* to empirically test our Hypotheses 2a and 2b.

In the discussion leading to the Hypothesis 3 we argue that the influence of vulture funds is reflected in the reporting properties of Fresh Start values, in terms of their reduced reliability which, in turn results in misstatement and misreporting of Fresh Start accounting numbers. Such misstatements of reported numbers are usually identified in subsequent periods by auditors, SEC or the company, creating a need for formal accounting restatements (Palmrose et al., 2004). One way to measure the reliability of the reported Fresh Start numbers is to investigate whether a company makes formal restatements of accounting reports in periods subsequent to Chapter 11 emergence. Hence, we include a dummy variable *Restatement post-emergence* that is defined as one if a restatement of financial statements occurs in quarter after emerging from bankruptcy and zero otherwise.

4.4. Firm-level bankruptcy, financial, market and other control variables

During the bankruptcy process a number of events can take place which potentially may affect Successor's Fresh Start asset values. For example, prior to the official filing to Chapter 11 a firm can arrange a pre-packaged bankruptcy by which it obtains the acceptance of the bankruptcy plan by impaired claimants. Prior research by Lehavy (2002) finds that pre-packaged bankruptcies are less likely to result in misstated Fresh Start asset values, as the negotiations between claimants take place before the court filing for bankruptcy, which may reduce the scope for changes in asset valuations during the bankruptcy period. To control for the possibility that the form of bankruptcy impacts the Successor's Fresh Start asset values we include an indicator variable *Pre-packaged* that is coded one if a firm has a pre-packaged bankruptcy, and zero otherwise.

Also, during Chapter 11 the firm may receive a court approval for debtor-in-possession (DIP) financing. Debtor-in-possession lenders have an increasing importance in Chapter 11 bankruptcy, and greatly influence the characteristics and outcomes of the reorganization (Bharat et al., 2010). To control for the possibility that providers of Debtor-in-possession financing may affect Fresh Start asset values, we introduce an indicator variable *DIP financing* that takes the value of one if a firm has DIP financing, and zero otherwise.

We also control for the possible influence exercised by firm's management on valuations (Lehavy, 2002; Gilson et al., 2000; Hotchkiss, 1995) with the variable *CEO time at bankruptcy*, calculated as the log transformation of the number of days the CEO has served in the firm at the filing date.

In addition, Fresh Start revaluations can be influenced by the complexity of the negotiations among claimants in complicated bankruptcy cases which takes longer to resolve. Prior research documents that the time spent in bankruptcy is an indication of the negotiation power of different claimants and conflicts among them which are likely to impact on reorganization values (Ivashina et al., 2011). Hence, we include a *Bankruptcy duration* variable which is defined as the log transformation of the number of days between the Chapter 11 filing date and the emerging date.

We control for the financial deficiency of the firm captured by the *Debt to assets* variable, measured as the average of the ratio of debt to assets in the last year before filing for bankruptcy (Lehavy, 2002).

To control for firm's economic situation we include *Operating income to sales*, measured as the average of the ratio of operating income to sales in the last year before filing for bankruptcy (Ivashina et al., 2011; Lim, 2012).

Finally, we include an indicator variable coded one if the bankruptcy filing date is *after year 2000*, and zero otherwise, to account for the fact that we observe more Chapter 11 cases after that year.

Table 1 provides descriptions of all the variables used in our empirical analysis.

Place Table 1 here

We obtain the data on Predecessor and Successor accounts from LoPucki and SEC EDGAR databases, while the financial and stock price data are retrieved from Compustat and CRSP databases. The data on financial restatements is obtained from Audit Analytics through WRDS.

4.5. Sample Overview

In Panel A of Table 2 below we report mean and median values of Fresh Start Balance Sheet items.

Place Table 2 above

We see that moving from the predecessor to successor accounts there is a significant decrease in property plant and equipment values, a significant increase in goodwill, a significant decrease in short term debt and a significant increase in total equity. These last two variables illustrate clearly how the liability side of the Balance sheet is typically reorganized in Chapter 11. Total equity switches from being negative to positive because in Chapter 11 there is typically insufficient assets to cover equity interests

which are written down to zero and then some of the previous short debt holders are given equity in the successor entity.

Next in Panel B of Table 2 we stratify by the directional sign of the Fresh Start revaluations. That is we look to see whether Total Assets for the Successor are greater or less than for the Predecessor. We then identify what sub-account categories are largely responsible for such directional changes.

In the case of an upward revaluation in Total Assets when adopting Fresh Start accounting (which did for half of the sample) the main explanatory variable is a revaluation upwards of Goodwill and Intangibles. In the case of a downward revaluation in Total Assets the main explanatory variable is a revaluation downwards of Property Plant and Equipment.

Thus there seems to be are two distinct types of companies: (a) companies (N=51) where Successor total assets increase (mean increase is 1,033.51 mUSD). The increase is mostly done by increasing intangibles & goodwill including the "*reorganization value in excess of amounts allocable to identifiable assets*"; (b) companies (N=50) where Successor total assets decrease (mean decrease is -797.58.56 mUSD). The decrease is done by reducing drastically PPE and at some extent other non-current assets.

These changes reflect revaluations before market trading in the assets commence i.e. before Chapter 11 emergence.

Place Table 3 here

In Table 3 we distinguish between firms with and without vulture fund involvement. Panel A reports summary statistics of key firm and bankruptcy characteristics across the two groups of firms. In the first eight rows of the table we compare key firm-level financial measures in the year preceding bankruptcy between the two groups of firms and find little variation for all financial measures except for the *Operating income to sales* ratio which has a positive mean for firms with vulture funds and a negative mean for those without. This initial descriptive statistic is indicative of vulture funds choosing economically healthier firms.

Turning the focus to Fresh Start adjustments (in the next three rows of the table) we find similarities between the two groups of firms in Fresh Start revaluations of Goodwill and intangibles (which on average increase) and Plant, property and equipment (which decrease on average). However, the Fresh Start revaluations of Total assets show significant difference between firms with and without vulture fund involvement. Consistent with our initial premise that the magnitude of the difference between Successor Fresh Start asset values (at Chapter 11 exit) and Predecessor asset values (at Chapter 11 entry) depends on the presence of vulture funds, we find that the Total assets

for firms with vulture funds are re-valued downwards (i.e., Successor total assets are smaller than Predecessor total assets) while for firms without vulture funds they are re-valued upwards (i.e., Successor total assets are greater than Predecessor total assets).
In terms of bankruptcy characteristics, we find that the figures on DIP financing, bankruptcy duration, CEO time in bankruptcy and pre-packaged bankruptcy are similar between the two groups of firms.

In Panel B of Table 3 we turn our attention to firms with vulture fund involvement and refine their classification by distinguishing between the two strategies employed by vulture funds: purchasing debt below (*VFbelowPF*) versus purchasing debt at or above the predecessor fulcrum point (*VFabovePF*). We observe four post-bankruptcy variables across the two strategies. First, we compare the percentages of equity holdings at emergence and find that vulture funds purchasing debt below the predecessor fulcrum end up with a significantly higher percentage of a successor's equity compared to vulture funds purchasing debt at or above the PF point (*VFabove PF*). Second, we find that firms whose debt has been purchased below PF (*VFbelowPF*) exhibit positive Fresh Start revaluations of total assets, while firms whose debt has been purchased at or above PF have negative Fresh Start revaluations. The difference between the two groups of firms is statistically significant at the 1% level. This initial finding is in line with our prediction that BelowPF vultures have incentives to negotiate increases in Fresh Start asset values, whereas AbovePF vulture funds are more likely to push for the depressing of Fresh Start asset values. Third, we find that initial positive and negative Fresh Start revaluations are likely to be reversed in subsequent quarters as measured by the whiplash effect, and that the direction of the reversal depends on the type of the vulture fund strategy. For example, firms with the AbovePF vulture fund presence and with negative Fresh Start revaluation, will experience positive whiplash effects on average, 24 months after emergence. The opposite is found for firms with the BelowPF vultures, i.e., negative whiplash effects on average subsequently. The difference in whiplash effects between the two groups of firms is statistically significant at the 1% level. Finally, we find that firms with AbovePF vultures are more likely to restate their financial statements in periods subsequent to bankruptcy compared to firms with BelowPF vultures, however the difference between the two groups is not statistically significant. The patterns emerging from the descriptive analysis set out in Panel B of Table 3 will further be examined by a bank of multivariate analyses in Section 5.

Place Table 4

Table 4 sets out summary statistics for all the variables used in the multivariate regression analyses. The median *FSrevaluation* of total assets is zero, which is expected since half of the sample firms experience decrease and the other half increase in successor Fresh Start asset values relative to the predecessor. The mean of the *Whiplash* variable is positive while the median is negative indicating a positive skewness of its distribution. Both the median and the mean ratios of *Debt to assets* are close to one, higher than the mean and median for the Compustat universe, which is indicative of

financial distress and comparable to the leverage ratios found for distressed firms in other studies (e.g., Jiang et al., 2012). The mean (median) *Operating income to sales* ratios are 0 (0.044), lower than the mean (median) for the Compustat universe and comparable to those found in other papers on Chapter 11 firms. Finally, Table 5 reports the pairwise correlation coefficients among variables used in regression models.

5. Vulture fund strategy and the reliability of Fresh Start revaluations

5.1. Vulture fund strategy and Fresh Start revaluations

In this section we examine the effect of vulture fund investment strategy on Fresh Start revaluations. We estimate the following regression model to test the hypothesis that vulture funds investing in debt instruments that are below the predecessor firm fulcrum point have incentives to push Fresh Start revaluations upwards (H1a), and the hypothesis that vulture funds holdings claims that are above or at the predecessor fulcrum point will influence Fresh Start revaluations downwards (H1b).

$$FSrevaluation = \alpha_0 + \alpha_1 VFstrategy + \sum \alpha_n Controls + \varepsilon \quad (1)$$

The dependent variable *FSrevaluation* is the difference between the successor and predecessor asset values, scaled by the sum of book value of equity and book value of debt in the year after emergence. *VFstrategy* refers to the two vulture fund investment strategies identified in H1a and H1b, and captured by the indicator variables *VFbelowPF* (takes the value of 1 if vulture funds take positions below the predecessor fulcrum point) and *VFabovePF* (takes the value of 1 if vulture funds take positions at or above the predecessor fulcrum point). We also re-estimate the model using variables *VFbelowPF_%holding* and *VFabovePF_%holding* computed as the corresponding indicator times the vulture funds total percentage holding in the emerging firm. Control variables are the firm-specific incentives likely to affect Fresh Start revaluations as described in section 4.4. (*DIP financing*, *Bankruptcy duration*, *Debt to assets*, *Operating income to sales*, *CEO time in bankruptcy*, *Prepackaged*, *After year 2000*).

Place Table 5 and 6 here

The estimation results are presented in Table 6. Panel A reports the results related to H1a, and Panel B the results related to H1b. For each hypothesis we estimate the model using the full sample of 105 observations (columns 1 and 2) and the sub-sample of observations where there is vulture fund involvement (columns 3 and 4). Panel A of Table 6 shows that when vulture funds hold instruments below the predecessor fulcrum point, generally holdings on unsecured junior claims, Fresh Start revaluations increase significantly. The estimated coefficients for both variable specifications (*VFbelowPF and VFbelowPF_%holdings*), and for the two samples, are positive and significant at

the 1% level in line with hypothesis 1a. Self-interested belowPF vulture funds risk receiving nothing in the reorganized firm if the valuations are too low. That risk creates incentives for pushing the valuations up to the point that they are guaranteed a share in the equity of the new firm. The empirical results indicate that the effect is economically important: for a sample firm with no BelowPF vulture funds the predicted Fresh Start revaluation is -0.19 (with all other variables at their means and for the sample of firms with vulture fund involvement). But the presence of BelowPF vulture funds changes the predicted Fresh Start revaluation to 0.23, i.e., an increase of approximately 220%.

Anecdotal evidence corroborates our empirical findings. For example, a company Visteon filed a reorganisation plan under which secured lenders would get 96.2% of the shares in the new company, leaving the remaining 3.8% ownership to pension plans. A few days after the filing, Visteon's unsecured creditors (including vulture funds) asked the US bankruptcy court to force the firm to provide details of the reorganisation plan, which they stated left them "dramatically short-changed." Various rounds of negotiations took place. Finally, to buy peace and bring the company out of bankruptcy as quickly as possible, secured lenders agreed to increase the firm's value in order to provide a share of the company to shareholders and unsecured lenders. The following statement illustrates the end result: *"We went from unsecured receiving zero and pension plans being terminated to where unsecured creditors are getting a substantial recovery and pension plans are reinstated."* Reuters, Tom Hals, 20 August 2010)

As the example shows these valuation "games" involve tough negotiations and amendments to the reorganization plan which often result in longer time in bankruptcy. We observe that effect in our sample as bankruptcy duration significantly increases. Unsurprisingly, pre-bankruptcy operating profitability is positively related with Fresh Start revaluations as economically stronger firms have higher expected Fresh Start asset value.

Panel B of Table 6 reports the revaluation effects of vulture funds investing in relatively more senior claims which are at or above the predecessor fulcrum point. The negative and significant coefficients for *VFabovePF* and *VFabovePF_%holdings* for the sample with vulture fund involvement indicate that an above the fulcrum investment strategy decreases Fresh Start revaluations. This evidence confirms hypothesis 1b. In economic terms the predicted Fresh Start revaluation changes from 0.27 if there is no AbovePF vulture funds to -0.17 in the presence of AbovePF vulture funds. As seniors claims have higher priority status AbovePF vulture funds are less likely to be swapped by equity. To ensure equity holdings in the emerging firm AbovePF vulture funds negotiate to lower firm value so that their investment position reaches the swap point.

5.2. Vulture fund strategy and subsequent market valuation (whiplash)

We now include valuation dynamics in periods after emergence from Chapter 11. Specifically, we test hypothesis 2 that subsequent whiplash reversals of Fresh Start

revaluations are associated with vulture fund investment strategies. We estimate the following regression model:

$$FSwhiplash = \beta_0 + \beta_1 VFstrategy + \sum \beta_n Controls + \vartheta \quad (2)$$

Recall that *FSwhiplash* captures the reversal of the Fresh Start revaluation and is calculated as the sum of: (1) the negative difference between Successor and Predecessor total assets, scaled by the book value of the firm 12 months after emergence; and (2) the difference between the market value of the firm 12 months after emergence and successor total assets, scaled by the market value of the firm 12 months after emergence. *VFstrategy* and control variables are as in model (1).

Place Table 7 here

Table 7 reports the estimated whiplash effect for BelowPF vulture funds (Panel A), and for vulture funds AbovePF (Panel B). Consistent with hypothesis 2 we find that for both vulture fund strategies the Fresh Start revaluations applied at emergence revert in future periods. In Panel A, the negative and significant estimated coefficients for the *VFstrategy* variables indicates that the first part of the whiplash effect [-(*Sucessor value – Predecessor value*) *at mergence*] exceeds the second part of the effect [(*Market value – Sucessor value*) *post-emergence*]. We interpret this result as follows: vulture funds with low priority investments (*VFbelowPF*) negotiate to increase firm value at emergence to guarantee participation in the debt-to-equity swap. But in subsequent periods the market corrects the overvaluation and the excessive Fresh Start adjustment reverts. Panel B of Table 7 also shows a reversal of the Fresh Start revaluations. The estimated coefficients are positive (significant for the VF involvement sample) suggesting that the subsequent market adjustment is higher than the Fresh Start accounting adjustment. Firms with depressed Fresh Start revaluations, due to the influence of vulture funds with high priority investments (*VFbelowPF*), are subsequently valued by the market above the Fresh Start value. Our findings indicate that the power to influence firm value at emergence from bankruptcy gives vulture funds opportunities to earn significant returns from the subsequent value shifts. For example, vulture funds can earn rents by forcing Fresh Start accounting values downwards to guarantee equity holdings in the new firm which is subsequently sold at higher market values.

5.3. Vulture fund strategy and subsequent accounting restatements

Hypothesis 3 tests the impact of vulture fund investment strategies on the third measure of reliability of Fresh Start revaluations. We assess Fresh Start reliability (*FSrestatmt*) as the probability of a firm having an accounting restatement in quarters after emerging from bankruptcy. We estimate the following logit model (Ψ is the logistic function):

$$P[FSrestatmt = 1] = \Psi(\gamma_0 + \gamma_1 VFstrategy + \sum \gamma_n Controls + \mu) \quad (3)$$

We find that the probability of having an accounting restatement after emergence increases when vulture funds hold relatively more senior claims that are above the fulcrum point (Table 8 Panel B).

Place Table 8 here

But it is unlikely that the probability of subsequent restatements changes for firms where vulture funds hold claims below the predecessor fulcrum point (Panel 8 Panel A). Considering the full sample of firms in Panel B, the probability of a firm reporting a subsequent accounting restatement increases from 0.35 to 0.55 in the presence of self-interested vulture funds AbovePF, which represents a 83% increase in that probability. This finding suggest that firms that emerge from bankruptcy with depressed Fresh Start values because of the presence of vulture funds with incentives to lower firm value, are more likely than other emerging firms to amend their accounts. In other words the Fresh Start revaluations of those firms are less reliable.

6. Conclusions

When companies go through Chapter 11 restructuring accounting revaluation practices are applied to try and give the company a Fresh Start. The Fresh Start accounting rules require that market based valuations be applied. However for some asset classes such as property plant and equipment a deep and liquid market may not exist. In this case valuations performed by experts are used. However we know from the well documented case of Enron that these expert valuations may in some cases be subject to influence by interested parties (see for instance Gwillian and Jackson, 2008).

In the case of Enron, self-interested senior management influenced the way models were used to mark illiquid assets to market. Here we consider whether self-interested vulture funds could be associated with less reliable Fresh Start accounting valuations. We have explained how vulture funds observe where in the range of seniorities predecessor fulcrum debt is located and how they then attempt to purchase distressed debt at a discount close to the estimated (successor) fulcrum level. When they are able to purchase distressed debt above the predecessor fulcrum point they benefit from Fresh Start valuations that lower predecessor values. This is because the lower values disenfranchise more predecessor equity holders and lower seniority debt holders. Given these clear incentives it is natural to ask whether there is any empirical evidence that vulture funds could have influenced the valuation process. We address this question by looking at the reliability properties of Fresh Start valuations conditioned upon the level of vulture fund presence. We measure reliability in three ways. The absolute difference between predecessor and successor values, whether Fresh Start valuations and market values go in opposite directions (whiplash) and finally whether restatements are more likely after emergence based on Fresh Start values. For each measure of reliability we provide evidence that supports the hypothesis that Fresh Start valuations are less reliable in the presence of self-interested vulture funds.

Clearly valuation of asset and liability classes for Chapter 11 companies will always be subject to some level of forecasting error. However in the case where this forecasting error seems to consistently higher and this is highly beneficial to vulture funds (that are following a loan to own strategy), we suggest significant fresh attention be given to the basis for estimated market valuations used in Fresh Start accounting when the said market is not deep and liquid.

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Table 1 - Variable definition for variables in regression analysis

FSrevaluations	Successor total assets minus predecessor total assets scaled by the sum of book value of equity and book value of debt in the year after emergence of bankruptcy.
FSwhiplash	- [(Successor total assets – predecessor total assets) / (total assets in the year after emergence of bankruptcy)] + [(Market value of equity + book value of debt - successor total assets) / (Market value of equity + book value of debt)]
FSrestatmt	An indicator coded as 1 the company restates the financial statements in periods subsequent to emerging from bankruptcy
VFbelowPF	An indicator coded as 1 if vulture funds hold claims below the Predecessor fulcrum point, typically junior unsecured debt, and 0 otherwise
VFbelowPF_%holdings	Indicator variable VFbelowPF times the percentage of equity holdings of the vulture fund in the firm
VFabovePF	An indicator coded as 1 if vulture funds hold claims above the Predecessor fulcrum point, typically senior unsecured debt or secured debt, and 0 otherwise
VFabovePF_%holdings	Indicator variable VFabovePF times the percentage of equity holdings of the vulture fund in the firm
DIP financing	An indicator coded as 1 if a firm has DIP financing, and 0 otherwise
Bankruptcy duration	The log transformation of the number of days between the chapter 11 filing date and emerging date
Debt to assets	The average of total debt to assets in the year prior to filing for chapter 11 bankruptcy
Operating income to sales	The average of operating income to sales in the year prior to filing for chapter 11 bankruptcy
CEO time at bankruptcy	The log transformation of the number of days the CEO has served in the firm at the filing date
Prepackaged	An indicator coded as 1 if a firm has a prepackaged bankruptcy, and 0 otherwise
After year 2000	An indicator coded as 1 if the bankruptcy filing date is after year 2000, and 0 otherwise

Table 2 – Statistics on Fresh Start revaluations

Panel A: Balance sheet revaluations

		In Million $			Percentage of Total Assets		
		Predecessor	Successor		Predecessor	Successor	
Cash	*Mean*	336.247	301.405	*	0.088	0.073	*
	Median	50.928	50.928		0.053	0.051	
Inventory	*Mean*	136.782	150.513	***	0.078	0.085	
	Median	20.566	19.866		0.013	0.009	
Other current assets	*Mean*	633.579	546.368		0.120	0.115	
	Median	86.089	83.919		0.099	0.085	
PPE	*Mean*	1,048.852	899.856	**	0.376	0.319	***
	Median	317.500	258.406		0.364	0.288	
GW and Intangibles*	*Mean*	262.027	760.190	***	0.117	0.195	***
	Median	38.315	113.000		0.048	0.139	
Other non current assets	*Mean*	320.295	238.638	*	0.100	0.084	*
	Median	49.925	31.368		0.042	0.033	
Total assets	*Mean*	3,125.059	3,252.088				
	Median	1,053.780	911.341				
Current liabilities	*Mean*	569.900	575.789		0.225	0.215	
	Median	203.900	210.493		0.203	0.195	
Short term debt	*Mean*	308.479	57.233	**	0.144	0.023	***
	Median	30.039	7.376		0.030	0.009	
Long term debt	*Mean*	1,241.326	1,774.962	*	0.290	0.449	***
	Median	249.067	462.462		0.164	0.446	
Liabilities subj. to compromise	*Mean*	2,094.067			0.973		
	Median	798.043			0.793	0.000	
Total Liabilities	*Mean*	4,213.773	2,410.371	***	1.632	0.690	***
	Median	1,642.799	720.017		1.328	0.698	
Total equity	*Mean*	-1,517.665	796.520	***	-0.707	0.295	***
	Median	-435.567	239.571		-0.425	0.272	
Retained earnings	*Mean*	-2,007.250			-0.913		
	Median	-328.621			-0.416		
Nr. observations =	105						

Table 2

Panel B: Important positive and negative Fresh Start revaluations

FS revaluations	Positive Fresh Start revaluations (Million $)				Negative Fresh Start revaluations (Million $)			
(Successor - Predecessor)	N	Mean	Median	St.dev.	N	Mean	Median	St.dev.
	51				50			
Total assets		1,033.508	202.200	2,311.061		-797.580	-190.365	1,996.725
GW and Intangibles		988.148	198.161	2,525.814		-1.622	0.000	430.859
PPE		1.287	1.942	496.381		-302.284	-72.828	778.666
Other non current assets		33.451	0.000	469.817		-199.068	-4.975	577.918

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. This Table reports balance sheet statistics at the Chapter 11 entry (Predecessor) and at the Chapter 11 exit (Successor). The data on Predecessor and Successor accounts is obtained from the LoPucki and SEC Edgar databases.

Table 3: Descriptive evidence on vulture fund involvement in Fresh Start firms

Panel A: Characteristics of firms with and without vulture fund involvement

	Vulture fund involvement N= 48			**No vulture fund involvement** N= 53		
	Mean	Median	St.Dev.	Mean	Median	St.Dev.
Financial measures in the year before bankruptcy						
Market Cap. (Million $)	361.724	107.968	755.391	349.278	129.272	840.243
Total Assets (Million $)	4,021.579	1,577.628	10,811.040	4,184.500	1,663.349	6,442.626
Debt to assets	0.916	0.858	0.442	1.094	0.884	0.920
Operating income to assets	-0.005	0.000	0.021	0.000	0.000	0.033
Operating income to sales	0.049	0.043	0.188	-0.048	0.050	0.980
Positive operating income	0.813	1.000	0.394	0.717	1.000	0.455
PPE to assets	0.404	0.369	0.205	0.386	0.375	0.235
Cash to assets	0.055	0.035	0.052	0.064	0.037	0.069
Fresh Start revaluations (Million $)						
Total assets	-56.483	2.647	2,785.567	310.171	0.689	1,854.788
GW and intangibles	402.392	2.452	1,927.702	590.900	22.512	1,874.962
PPE	-116.326	-3.109	644.022	-178.584	-13.503	686.377
Bankruptcy characteristics						
DIP financing	0.750	1.000	0.438	0.566	1.000	0.500
Bankruptcy duration	5.562	5.734	0.969	5.451	5.434	1.100
CEO time at bankruptcy	6.161	6.203	1.443	6.412	6.914	1.763
Prepackaged	0.083	0.000	0.279	0.132	0.000	0.342

Table 3

Panel B: Post-bankruptcy events by vulture fund strategy

		% equity holdings at emergence		FS revaluations to total assets		Whiplash [- FS revaluations + Market adjustment]		Restatement post-emergence	
	N	Mean	Median	Mean	Median	Mean	Median	Mean	Median
(1) VFbelowPF	16	0.218	0.175	0.305	0.255	-0.362	-0.336	0.313	0
(2) VFabovePF	28	0.146	0.108	-0.206	-0.086	0.155	0.162	0.571	1
(3) Both	5	0.055	0.052	-0.055	-0.080	-0.011	-0.096	0.400	0
All	49	0.160	0.111	-0.024	0.010	-0.031	-0.061	0.469	0
Difference in VF strategy (1) - (2): p-value		*0.027*	*0.050*	*<0.001*	*<0.001*	*<0.001*	*0.007*	*0.247*	*0.242*

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. Panel A presents summary statistics of key firm and bankruptcy characteristics for firms with and without vulture fund involvement. Panel B sets out summary statistics of key post bankruptcy variables across vulture funds' strategies. Fresh Start revaluation is Successor total assets minus Predecessor total assets. Variables are defined in Table 1. The data on vulture fund involvement is obtained from the Altman-Kuehne (2011) classification and firms' share register, the data on Predecessor and Successor accounts is from LoPucki and SEC Edgar databases, the financial and stock price data are from Compustat and CRSP databases.

Table 4: Descriptive statistics for variables in the regression analysis

	Mean	Median	St.dev.	Min.	Max.
FSrevaluations	-0.215	0.000	1.378	-13.032	0.958
FSwhiplash	0.156	-0.051	1.381	-1.151	12.570
FSrestatmt	0.419	0.000	0.496	0.000	1.000
VFbelowPF	0.181	0.000	0.387	0.000	1.000
VFbelowPF_%holdings	0.031	0.000	0.089	0.000	0.529
VFabovePF	0.314	0.000	0.466	0.000	1.000
VFabovePF_%holdings	0.042	0.000	0.081	0.000	0.411
DIP financing	0.657	1.000	0.477	0.000	1.000
Bankruptcy duration (years)	1.091	0.739	1.107	0.086	6.192
Debt to assets	1.003	0.867	0.721	0.279	6.916
Operating income to sales	0.000	0.044	0.706	-6.811	1.309
CEO time at bankruptcy (years)	3.491	1.731	3.867	0.003	15.325
Prepackaged	0.114	0.000	0.320	0.000	1.000
After year 2000	0.810	1.000	0.395	0.000	1.000

Observations = 105

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. The Table displays summary statistics of all variables used in multivariate analyses. Variables are defined in Table 1. The data on vulture fund involvement is obtained from the Altman-Kuehne (2011) classification and firms' share register, the data on Predecessor and Successor accounts is from LoPucki and SEC Edgar databases, the financial and stock price data are from Compustat and CRSP databases.

Table 5: Correlations

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1)	FSrevaluations	1												
(2)	FSwhiplash	-0.9742*	1											
(3)	FSrestatmt	0.0360	0.0034	1										
(4)	VFbelowPF	0.1543	-0.1505	-0.0482	1									
(5)	VFbelowPF_%holdings	0.1283	-0.1264	-0.0998	0.7457*	1								
(6)	VFabovePF	0.0154	-0.0133	0.1734	-0.0518	-0.1738	1							
(7)	VFabovePF_%holdings	0.0086	0.0051	0.1668	-0.1575	-0.1555	0.7588*	1						
(8)	DIP financing	-0.0234	0.0406	0.0442	0.2353*	0.2225*	0.1000	0.0952	1					
(9)	Bankruptcy duration	0.1947*	-0.2077*	-0.0372	0.2614*	0.1261	-0.0666	-0.1316	0.0968	1				
(10)	Debt to assets	0.0927	-0.0938	0.1553	-0.1024	-0.0175	-0.1005	-0.0596	-0.1936*	-0.1861	1			
(11)	Operating income to sales	0.8914*	-0.8779*	0.1043	-0.0044	0.0158	0.0663	0.0586	-0.0492	0.0785	0.0720	1		
(12)	CEO time at bankruptcy	-0.0600	0.0466	0.1300	0.0154	0.0031	-0.0244	0.0363	0.0525	-0.2213*	0.1188	-0.0219	1	
(13)	Prepackaged	0.0382	-0.0255	0.0589	-0.1688	-0.1259	0.0147	0.1142	0.1333	-0.5970*	0.0769	0.1187	0.2513*	1
(14)	After year 2000	-0.0646	0.0766	0.1662	0.1650	0.1217	0.0672	0.0824	0.1095	0.1526	0.0208	-0.0789	0.0619	-0.2069*
	Observations = 105													

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. The Table displays pairwise correlations of variables used in the regression analyses. Variables are defined in Table 1. The data on vulture fund involvement is obtained from the Altman-Kuehne (2011) classification and firms' share register, the data on Predecessor and Successor accounts is from LoPucki and SEC Edgar databases, the financial and stock price data are from Compustat and CRSP databases. The symbol *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

Table 6: The influence of vulture funds in Fresh Start revaluations

	Panel A: VF investment below predecessor fulcrum point				**Panel B: VF investment above predecessor fulcrum point**			
	All firms		*Firms with VF involvement*		*All firms*		*Firms with VF involvement*	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
VFbelowPF	0.526***		0.419***					
	(3.55)		(4.17)					
VFbelowPF_%holdings		1.638***		1.349***				
		(4.13)		(3.86)				
VFabovePF					-0.088		-0.443***	
					(-0.73)		(-4.82)	
VFabovePF_%holdings						-0.383		-1.292***
						(-0.61)		(-2.95)
DIP financing	-0.035	-0.021	-0.041	-0.051	0.063	0.059	0.005	0.041
	(-0.26)	(-0.14)	(-0.39)	(-0.43)	(0.42)	(0.41)	(0.04)	(0.36)
Bankruptcy duration	0.154**	0.189***	0.077	0.136*	0.183**	0.185***	0.099	0.124
	(2.43)	(2.98)	(1.03)	(1.91)	(2.56)	(2.63)	(1.62)	(1.56)
Debt to assets	0.127	0.110	0.167**	0.098	0.111	0.114	0.084	0.134*
	(1.27)	(1.17)	(2.21)	(1.32)	(1.10)	(1.14)	(1.22)	(1.68)
Operating income to sales	1.701***	1.695***	-0.050	-0.218	1.711***	1.709***	-0.088	-0.158
	(13.40)	(12.57)	(-0.22)	(-0.79)	(12.34)	(12.34)	(-0.40)	(-0.63)
CEO time	-0.026	-0.020	0.032	0.051	-0.019	-0.018	0.060	0.060
	(-0.63)	(-0.47)	(0.73)	(1.09)	(-0.43)	(-0.41)	(1.45)	(1.30)
Prepackaged	0.112	0.131	0.056	0.081	0.049	0.062	0.046	0.106
	(0.52)	(0.60)	(0.31)	(0.42)	(0.22)	(0.28)	(0.26)	(0.54)
After year 2000	-0.107	-0.081	-0.233**	-0.225	-0.050	-0.049	-0.182	-0.159
	(-0.82)	(-0.61)	(-2.13)	(-1.67)	(-0.36)	(-0.35)	(-1.44)	(-1.08)
Intercept	-1.024**	-1.228***	-0.738	-1.047**	-1.198**	-1.228**	-0.574	-0.993*

	(-2.29)	(-2.78)	(-1.36)	(-2.07)	(-2.38)	(-2.54)	(-1.24)	(-1.77)
Observations	105	105	49	49	105	105	49	49
Adjusted R2	81.9%	81.0%	28.8%	23.0%	80.0%	79.9%	35.7%	15.1%

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. The Table presents the OLS regression results examining the impact of vulture fund strategies on Fresh Start revaluations. Panels A and B report the results related to the strategy when vulture funds invest in instruments that are below and above the predecessor fulcrum point, respectively. In Columns 1 and 2 regression models are estimated using the full sample of 105 observations. In Columns 3 and 4 regression models are estimated using the sub-sample of observations where there is vulture fund involvement. Regression variables are defined in Table 1. Standard errors are adjusted for group correlation at the firm level. We. Robust t-statistics corrected for firm-level clustering are reported in the parenthesis. The symbol *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

Table 7: The influence of vulture funds in subsequent market valuations *(whiplash)*

	Panel A: VF investment below predecessor fulcrum point				**Panel B: VF investment above predecessor fulcrum point**			
	All firms		*Firms with VF involvement*		*All firms*		*Firms with VF involvement*	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
VFbelowPF	-0.496***		-0.371**					
	(-2.84)		(-2.53)					
VFbelowPF_%holdings		-1.596***		-1.271**				
		(-2.70)		(-2.32)				
VFabovePF					0.096		0.423***	
					(0.79)		(3.09)	
VFabovePF_%holdings						0.619		1.418***
						(1.13)		(3.15)
DIP financing	0.065	0.052	0.067	0.082	-0.031	-0.030	0.030	-0.005
	(0.46)	(0.35)	(0.60)	(0.62)	(-0.21)	(-0.20)	(0.25)	(-0.04)
Bankruptcy duration	-0.175**	-0.208***	-0.145*	-0.197***	-0.202**	-0.201**	-0.162**	-0.182**
	(-2.32)	(-2.83)	(-1.93)	(-2.72)	(-2.56)	(-2.58)	(-2.52)	(-2.39)
Debt to assets	-0.129	-0.114	-0.184	-0.121	-0.115	-0.116	-0.106	-0.153
	(-1.34)	(-1.25)	(-1.39)	(-0.91)	(-1.18)	(-1.20)	(-0.85)	(-1.41)
Operating income to sales	-1.650***	-1.644***	-0.177	-0.030	-1.661***	-1.661***	-0.154	-0.098
	(-14.27)	(-13.39)	(-0.56)	(-0.08)	(-13.17)	(-13.18)	(-0.52)	(-0.29)
CEO time	0.010	0.005	-0.050	-0.067	0.004	0.003	-0.075*	-0.075
	(0.25)	(0.11)	(-1.11)	(-1.43)	(0.09)	(0.07)	(-1.81)	(-1.62)
Prepackaged	-0.127	-0.147	0.045	0.018	-0.070	-0.087	0.051	-0.020
	(-0.62)	(-0.71)	(0.22)	(0.08)	(-0.33)	(-0.42)	(0.25)	(-0.09)
After year 2000	0.159	0.138	0.368**	0.362**	0.109	0.102	0.322*	0.295
	(1.05)	(0.89)	(2.24)	(2.05)	(0.68)	(0.64)	(1.98)	(1.62)
Intercept	1.105**	1.296**	1.041*	1.305**	1.255**	1.269**	0.850	1.219**

	(2.06)	(2.48)	(1.76)	(2.38)	(2.22)	(2.31)	(1.60)	(2.18)
Observations	102	102	49	49	102	102	49	49
Adjusted R2	79.3%	78.5%	19.5%	17.9%	77.5%	77.5%	25.6%	15.8%

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. The Table presents the OLS regression results examining the impact of vulture fund strategies on whiplash. Panels A and B report the results related to the strategy when vulture funds invest in instruments that are below and above the predecessor fulcrum point, respectively. In Columns 1 and 2 regression models are estimated using the full sample of 105 observations. In Columns 3 and 4 regression models are estimated using the sub-sample of observations where there is vulture fund involvement. Regression variables are defined in Table 1. Standard errors are adjusted for group correlation at the firm level.. Robust t-statistics corrected for firm-level clustering are reported in the parenthesis. The symbol *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

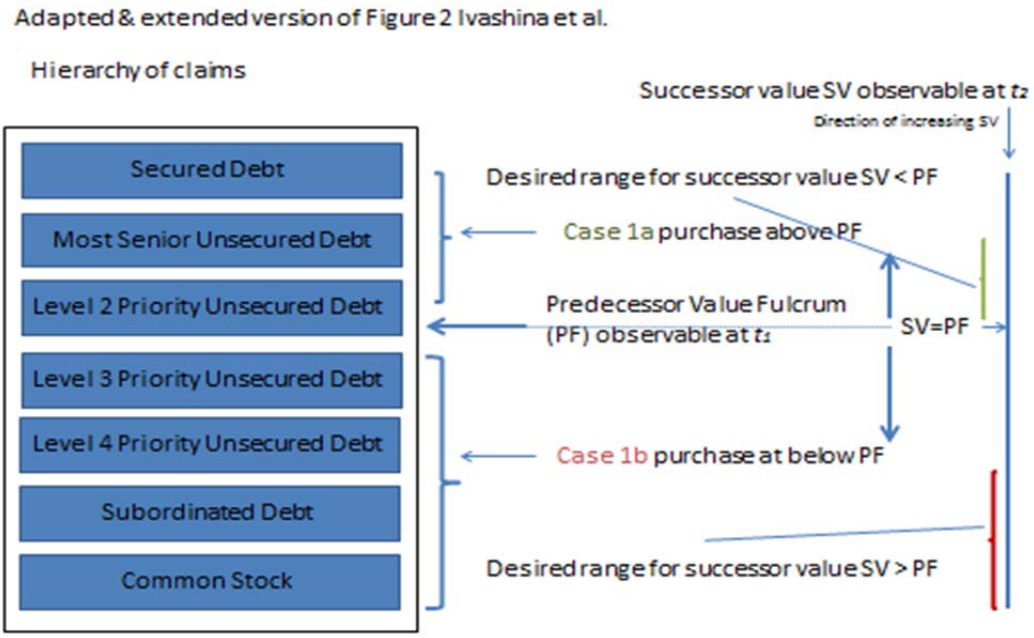
Table 8: The influence of vulture funds on post-emergence restatements

	Panel A: VF investment below predecessor fulcrum point				Panel B: VF investment above predecessor fulcrum point			
	All firms		*Firms with VF involvement*		*All firms*		*Firms with VF involvement*	
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
VF below PF	-0.409		-1.211					
	(-0.70)		(-1.58)					
VF below PF_%holdings		-3.580		-8.031**				
		(-1.55)		(-2.49)				
VF above PF					0.820*		1.680**	
					(1.84)		(2.02)	
VF above PF_%holdings						4.074*		3.189*
						(1.74)		(1.71)
DIP financing	0.280	0.369	0.786	1.159	0.139	0.160	0.849	0.160
	(0.56)	(0.74)	(0.88)	(1.20)	(0.28)	(0.33)	(0.96)	(0.35)
Bankruptcy duration	0.039	0.020	-0.239	-0.459	0.082	0.068	-0.346	-0.213
	(0.14)	(0.07)	(-0.44)	(-0.77)	(0.28)	(0.24)	(-0.60)	(-0.80)
Debt to assets	0.482	0.539	1.914*	2.401**	0.586	0.544	2.584**	0.917**
	(1.41)	(1.36)	(1.65)	(2.29)	(1.57)	(1.54)	(2.28)	(2.08)
Operating income to sales	0.557	0.578	-1.388	-0.964	0.554	0.564	-1.544	-0.890
	(0.95)	(0.99)	(-0.96)	(-0.72)	(0.73)	(0.79)	(-1.05)	(-1.04)
CEO time	0.138	0.134	0.212	0.206	0.148	0.136	0.105	0.043
	(1.00)	(0.97)	(0.95)	(0.90)	(1.03)	(0.97)	(0.50)	(0.32)
Prepackaged	0.208	0.106	-1.046	-1.616	0.356	0.230	-1.094	-0.574
	(0.23)	(0.12)	(-0.62)	(-0.86)	(0.38)	(0.25)	(-0.63)	(-0.63)
After year 2000	1.050*	1.064*	2.527*	2.801**	0.963	0.929	2.861**	1.259*
	(1.78)	(1.82)	(1.95)	(2.03)	(1.58)	(1.54)	(1.99)	(1.77)
Intercept	-2.920	-2.872	-4.028	-3.699	-3.523	-3.192	-5.373	-1.518
	(-1.37)	(-1.36)	(-1.07)	(-0.98)	(-1.55)	(-1.49)	(-1.33)	(-0.79)

Observations	105	105	49	49	105	105	49	49
Pseudo R2	6.7%	7.7%	20.5%	25.7%	8.6%	8.0%	23.7%	15.8%
Wald Chi2	9.0	11.1	12.3	12.5	10.5	11.3	11.1	12.9

Notes: The sample includes 105 U.S. Chapter 11 companies that emerged from bankruptcy and adopted Fresh Start accounting. The Table presents the logit regression results examining the likelihood of future financial restatements conditional upon the vulture fund strategy. Panels A and B report the results related to the strategy when vulture funds invest in instruments that are below and above the predecessor fulcrum point, respectively. In Columns 1 and 2 regression models are estimated using the full sample of 105 observations. In Columns 3 and 4 regression models are estimated using the sub-sample of observations where there is vulture fund involvement. Regression variables are defined in Table 1. Robust t-statistics corrected for firm-level clustering are reported in the parenthesis. The symbol *,**, and *** indicate statistical significance at the 10%, 5%, and 1% levels respectively.

Diagram 1


Adapted & extended version of Figure 2 Ivashina et al.
Hierarchy of claims
Secured Debt
Most Senior Unsecured Debt
Level 2 Priority Unsecured Debt
Level 3 Priority Unsecured Debt
Level 4 Priority Unsecured Debt
Subordinated Debt
Common Stock
Successor value SV observable at t_2
Direction of increasing SV
Desired range for successor value SV < PF
Case 1a purchase above PF
Predecessor Value Fulcrum
(PF) observable at t_1
SV=PF
Case 1b purchase at below PF
Desired range for successor value SV > PF

Appendix

Table C: Lehavy and Upda 2011

Kmart Reorganization Adjustments

	Predecessor Company April 30, 2003	Fresh Start Adjustments	Recapitalization	Successor Company April 30, 2003
Assets				
Current assets				
Cash and cash equivalents	$1,232	$—	$—	$1,232
Merchandise inventories	4,446	(15)	—	4,431
Other current assets	528	168[a]	195[b]	891
Total current assets	$6,206	$153	$195	$6,554
Property and equipment, net	4,623	(4,613)[a]	—	10
Other assets and deferred charges	212	(154)[a]	38[b]	96
Total assets	$11,041	$(4,614)	$233	$6,660
Liabilities and Shareholders' Equity (Deficit)				
Current Liabilities				
Long-term debt due within one year	$—	$—	$8[b]	$8
Accounts payable	1,151	—	9[b]	1,160
Other current liabilities	915	117[a]	563[b]	1,595
Total Current Liabilities	$2,066	$117	$580	$2,763
Long-term debt	—	—	108[b]	108
Capital lease obligations	415	—	—	415
Other long-term liabilities	174	279[a]	1,208[b]	1,661
Total Liabilities Not Subject to Compromise	2,655	396	1,896	4,947
Liabilities Subject to Compromise	8,896	114[a]	(9,010)[b]	—
Trust convertible securities	387	(387)[a]	—	—
Other comprehensive income	(908)	908[a]	—	—
Common stock	537	(537)[a]	1[c]	1
Other equity	(526)	(5,108)[a]	7,346[d]	1,712
Total Liabilities and Shareholders' Equity (Deficit)	$11,041	$(4,614)	$233	$6,660