Fair Value Accounting and Firm Indebtedness – Evidence from Business Combinations under Common Control

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ABSTRACT: We analyze a choice that parent firms face under IFRS: whether to account a business combination under a common control (BCUCC) at fair value or at the historical cost, to provide evidence that firms would use fair value when they believe it would help them issuing public debt. A BCUCC is a merger of two entities owned by the same parent firm. Although most of BCUCCs do not materially change the composition and the market value of parent firm's assets and liabilities, they can significantly reduce accounting leverage of the parent firm if recorded at fair value. We find that parent firms are more likely to record BCUCCs at fair value when their pre-BCUCC leverage is high and when they have net worth covenants on their debt. Using a propensity score to match firms that used fair value to account for a BCUCC with similar firms that did not conduct a BCUCC, we find that the former are more likely to issue new public debt following the BCUCC.

Keywords: *Accounting choices*; *fair value accounting*; *balance sheet leverage; indebtedness*.

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I. INTRODUCTION

Business combinations are among the most important corporate events. They are almost the only transactions through which firms can record intangible assets on the balance sheet. A unique form of business combination is a business combination under a common control (BCUCC). Paragraph B1 of IFRS 3 *Business Combinations* describes a business combination under common control as:

> "a business combination in which all of the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory".

BCUCCs are different from regular business combinations in two major aspects – the transaction price and the transaction motivation may not reflect those of an arm's-length business combination. The IASB describe these differences as follows:

> "(a) they are (BCUCCs) directed transactions rather than arm's-length exchanges and therefore the transaction price might not be representative of the fair value of the transferred business; and (b) the purpose of such transactions could be different from the purpose of business combinations that are not under common control." (IFRS staff paper: Business combination under common control, June 2014, page 1)

Because of these unique characteristics, U.S. GAAP does not allow parent firms to use the acquisition method of accounting – the method required for business combinations - for BCUCCs and requires parent firms to record these transactions at the historical cost carried on the parent firm balance sheet. Unlike US GAAP, IFRS 3 is silent on the accounting treatment for BCUCCs and allows parent firms to use a consistent policy to record such transactions (IAS 8.10). Parent firms choose between two methods: (1) the acquisition method, which is

consistent with fair value accounting and, (2) carrying the target's book values on the parent balance sheet, which is consistent with historical cost accounting. Under the acquisition method the parent firm allocate the purchase price to target's assets and liabilities. The purchase price allocation typically involves recording intangible assets and goodwill not previously recorded on the parent firm balance sheet and stepping up recorded net assets' to the fair values. The likely effect of choosing the acquisition method over the historical cost to record a BCUCC is an increase in the book value of the parent firm and reduction in its accounting leverage.

Extant literature in accounting provides evidence on the role of firm leverage in revaluation of fixed assets decisions. Easton, Eddey, and Harris (1993) survey Australian firm managers on the incentive to revalue tangible long-lived assets and suggest that the need to maintain low debt-to-equity ratio is an important factor in the decision to revalue long-lived assets. Aboody, Barth, and Kasznik (1999) analyze upward revaluations of fixed assets in U.K. companies and find that while the revaluations are associated with future performance, the association is much weaker in firms with high debt-to-equity ratio. The authors interpret the results as suggesting that when firms have an incentive to window dress their balance sheets, they tend to be opportunistic in applying the option to use fair value to step up their reported value of assets. In another study based in the U.K., Muller (1999) tests firms' choice on whether to capitalize acquired brand names or to write them off immediately to equity. He tests a leverage hypothesis that firms will tend to capitalize brand names when leverage is high, but finds no support for the hypothesis. Finally, in a merger and acquisitions (M&A) setting, Aboody, Kasznik, and Williams (2000) provide evidence of a positive association between firms' debt-to-equity ratio and the choice to use the purchase method, not the pooling of interest method to account for acquisitions.

A recent study by Christensen and Nikolaev (2013) provides a different perspective on the choice to use fair value accounting, in the context of firm leverage. The authors investigate firms' choice, under certain IFRS standards, to commit either to fair value accounting or to historical cost accounting. Because IFRS objects to situations in which firms make fair value accounting choices on an ad-hoc basis—and requires firms to develop a policy with regard to fair value option—this choice is less likely opportunistic. The authors find that firms that rely more on debt financing tend to commit more to use fair value over historical cost accounting. The authors offer the following explanation: highly levered firms are required to provide fair value measurement to lenders as part of loan transactions and therefore find it less costly to reliably estimate, record, and report fair value of non-financial assets on financial statements.

Acquisitions under common control provide us with a unique setting to extend the literature. Compared with a common business combination, in which the merger of the two entities may significantly affect the composition and values of acquiring firm's assets and liabilities, and thus also the expectation for future cash flows, a BCUCC is not likely to have a meaningful economic effect on the composition and value of parent firm asset and liabilities. We add to the above literature by studying whether firms opportunistically exploit the choice allowed by IFRS to record BCUCC at fair value in order to reduce accounting leverage in such a way that allows them to subsequently increase economic leverage without increasing their capacity to service debt.

We identify a sample of European parent firms, of which two subsidiaries of the same parent went through a business combination and conduct the following analyses:[1] We start by validating our two working assumptions: (1) the choice to use the acquisition method for a BCUCC results in a decrease in balance sheet leverage. We find that firms that use the

[1] We use the terms "merger and acquisitions" and "business combination" interchangeably.

acquisition method experience a large drop in accounting leverage immediately following the BCUCC (the ratio of debt to equity drops from 64.8% to 49.2% at the median level). A regression analysis suggests that the change in leverage is explained by the choice of accounting method to record the BCUCC; (2) BCUCCs, largely an internal decision, do not change, on average, the composition and market values of parent firm assets and liabilities and thus do not have a meaningful effect on parent firms' expected future cash flows. We find that abnormal announcement-day returns are not statistically different from zero for both fair-value BCUCC parent firms and historical-cost BCUCC parent firms. We also find no difference in long-term stock performance based on the BCUCC accounting choice.

Next we investigate the leverage hypothesis formalized in Muller (1999). Specifically, we test whether the likelihood of a parent firm of two merged subsidiaries to choose the acquisition method to account for the BCUCC rather than the historical cost increases with the parent firm's pre-BCUCC leverage. We find that the likelihood of choosing the acquisition method increases with a firm's leverage. We also test whether the risk of violating net worth covenants drives as well the choice of a method to record the BCUCC. We focus on net worth covenants because a purchase price allocation in many cases results in the recording of a previously unrecorded intangible asset. Newly recorded intangible assets help a firm avoid a covenant violation only if these assets are not excluded from the covenant computation. Net worth covenants (unlike tangible net worth covenants) do not exclude intangible assets from the covenant computation. We find that firms with a net worth covenant on their debt are more likely to choose the acquisition method over the historical cost method.

Finally, we test whether parent firms that conduct a fair value BCUCC attempt to take advantage of the window-dressed balance sheet in the public debt market by issuing new public

debt. Cohen and Zarowin (2010) document that firms' window dress their earnings before seasonal equity offering, suggesting managers have incentive to window dress financial reports before public security offering. We focus on public debt because in Europe, bank debt is largely relationship-based (Boot 2000; Boot and Thakor 2000), and the landing bank likely possesses private information on a borrower. Thus, window dressing of the balance sheet, while possibly helping to avoid technical violations of existing debt covenants, is likely to be less effective in a bid to raise new bank debt. Public debt investors, however, are less likely than banks to fully undo the effect of the BCUCC on a firm's balance sheet leverage. Using a propensity score-matching (PSM) technique, we match firms based on the pre-BCUCC balance sheet leverage and other firm characteristics and identify a control sample of firms that did not conduct a BCUCC. Analysis of the treatment and the control groups suggests that a treated firm is more likely than a control group firm to issue new bonds in each of the four quarters subsequent to the BCUCC. The marginal effect of a fair value BCUCC on the likelihood of issuing new public debt is of 9.6% at the first quarter and of 18.6% in the four quarters following the BCUCC.

Taken together, our results suggest that firms make an accounting choice to use fair value in order to window dress their balance sheet when they are highly levered and will use the window-dressed balance sheet to increase their economic leverage without necessarily increasing their capacity to pay debt.

Our study contributes to the existing literature in the following ways: First, it provides evidence that reported balance sheet values, holding the economic value of the net assets constant, may be a factor in firm's choice and likely also the ability to raise new public debt. Second, it highlights a unique transaction that under IFRS regime could result in a significant change on parent firms' balance sheet and consequently indebtedness. With the SEC allowing

international firms listed in US exchanges to use IFRS this transaction can also impact US investors. Third, it suggests that even as IFRS requires a consistent method for similar transactions, firms may be opportunistic in making a fair value choice when the type of transaction necessitates a commitment that is less binding. Finally, it provides additional evidence on the effect of debt contracts on fair value accounting choice. Note that we do not argue and our evidence does not suggest that the accounting choice allowed is the main driver of BCUCCs. We do believe, however, that accounting choices are likely to be of higher order effect at BCUCCs than at arms-length business combinations.

The remainder of the paper proceeds as follows. In Section 2, we review related literature and develop testable hypotheses. In Section 3, we discuss the sample selection process and descriptive statistics of the BCUCC population. In Section 4, we present our modeling and the related empirical results. We conclude in section 5.

II. INSTITUTIONAL BACKGROUND, RELATED RESEARCH, AND HYPOTHESES DEVELOPMENT

BCUCCs and IFRS

A business combination under common control (BCUCC) is a transaction in which all of the combining entities or businesses are controlled by the same parent firm before and after the transaction. In terms of the parent firm financial reporting, both the acquirer and the target in the BCUCC were consolidated into the parent firm financial reports pre-BCUCC and the merged firm continues to be consolidated into the parent firm reports post-BCUCC. Figure 1 provides illustrations of possible structures of business combinations under common control.

BCUCCs represent a broad spectrum of transactions motivated by a range of different business purposes. A common reason provided by parent firms for conducting the BCUCC is "rationalizing group operations," but other explanations such as, helping develop a premium brand at the acquiring firm, and to allow a superior balance between capital intensive (offshore) and less capital intensive (onshore) activities are also used.[2] In many cases the decision to engage in a BCUCC is an internal decision of the parent firm. As such both the transaction price and the transaction motivation can be different from what is observed in an arm-length business combination. For that reason, U.S. GAAP requires parent firms to record BCUCCs at historical cost and thus entails no change in firms' financials as a result of the combination (ASC 805-50-30-05). While U.S. GAAP and IFRS issued identical standards for business combinations conducted at arm's length between two transacting parties, IFRS allows parent firms to decide how to account for a BCUCC, provided they develop a system that will consistently apply the same accounting method to similar transactions over time. Unlike the fair value option in other IFRS standards, such as IAS 16–*Property Plant and Equipment*, and IAS 40–*Investment Property*, in which similar transactions occur frequently and hence a commitment to a consistent accounting method can be binding, BCUCCs are very infrequent and unique so that each such transaction practically involves an ad-hoc decision on the accounting method.

IASB has long viewed the current state of BCUCCs accounting as undesirable. Thus in 2007 the board started a project on BCUCCs. The project was put on hold in 2009 and subsequently received high priority in 2012. The purpose of the project is to find commonalities in BCUCC transactions to enable the IASB to arrive at a consistent policy. To date no policy has emerged. Throughout our sample period, two methods are most often chosen to account for

[2] Appendix B provides 4 examples of press releases in which the parent firms provide the motivation behind the BCUCC.

business combinations between entities under common control: the acquisition method, which entails evaluating a target's assets and liabilities at fair value through a purchase price allocation process; and the predecessor values method, which entails using the historical cost of a target's net assets that are recorded pre-BCUCC on the parent balance sheet.

In making the choice between the acquisition method and the historical cost method parent firms weigh the costs and benefits of using each method. The benefit of using fair values in the acquisition method is the reduction of balance sheet leverage. The costs of using acquisition method are increased likelihood of write-offs of goodwill, if it is recorded in the purchase price allocation, and potentially additional amortization and depreciation expense for newly recorded intangible assets and stepped up property plant and equipment. Li, Shroff, Venkataraman, and Zhang (2011) and Bens, Heltzer, and Segal (2011) show that goodwill impairment write-offs trigger significant negative market reactions. With regard to the additional depreciation and amortization, while Dechow, Huson, and Sloan (1994), and Gaver and Gaver (1998) find that CEO cash compensation is shielded from non-recurring losses, Shalev, Zhang, and Zhang (2013) suggest that managers would allocate the purchase price in a way that minimizes recurring items such as depreciation and amortization when they have compensation based incentive to do so.

Accounting choices and debt contracts

Fields, Lys, and Vincent (2001) define accounting choice as,

> "Any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system in a particular way."

In the context of this study, the choice allowed by the IFRS to account for BCUCCs using the acquisition method effectively allows the parent firm to record multiple assets at fair value—i.e., to step up the value of recorded assets and to record previously unrecorded

intangible assets on the balance sheet. The likely outcome of the fair value choice is an increase in the value of net assets on the balance sheet and a decrease in accounting leverage.

The relation between debt contracts and firms accounting choices drew much attention of accounting literature. Beatty and Weber (2003) suggest that borrowers whose bank contracts allow accounting method changes to affect contract calculations are more likely to make income-increasing changes than income reducing changes. Beatty, Ramesh, and Weber (2002) provide evidence that borrowers are willing to pay an additional charge in order to retain flexibility in debt contracts with regard to accounting changes. The authors estimate that for borrowers, the extra cost for not excluding voluntary and mandatory accounting changes from the covenant calculation at 84 basis points for voluntary changes and 71 points for mandatory changes.

The willingness to pay for accounting flexibility likely stems from the cost of covenants violations. Beneish and Press (1993) compile a sample of firms that went through a large-enough technical default and estimate the cost of renegotiating to refinance and restructure the debt at 0.37% of a firm's market equity value. Several studies document firms' accounting choices firms make trying to circumvent debt covenants limitations. DeFond and Jiambalvo (1994) compile a sample of 94 firms that report a debt-covenant violation and show that these firms use accounting choices to increase earnings through accruals in the year leading, to the year of, the covenant violation. Sweeney (1994) compiles a sample of 130 firms that violated covenants and finds that firms respond with income-increasing accounting changes to the approaching default. The strength of the response is an increasing function of the cost of default and the flexibility allowed to the firm in the debt contract.

In the context of using fair values to value assets, academic literature generally suggests that reducing balance sheet leverage is one factor managers consider when they revalue assets at fair value. Easton, Eddey, and Harris (1993) survey Australian firm managers on the incentive to revalue tangible long-lived assets and suggest that the need to maintain low debt-to-equity ratio is an important factor in the decision to revalue long-lived assets. Aboody et al. (1999) analyze upward fair value revaluations of fixed assets in the U.K. and find a positive association with firm performance. This positive association, however, is weaker in the firms with high debt-to-equity ratio, suggesting that while in general firms use an upward fair value revaluation of fixed assets to convey positive information to investors, the incentive to window dress balance sheet leverage also plays a role in the decision. Courtenay and Cahan (2004) provide similar evidence based on New Zealand firms and capital markets. Further corroboration of the relation between revaluation of fixed assets and firms' leverage is provided by Missonier-Piera (2007) who, focusing on Swiss firms, provides evidence on a positive association between revaluation of fixed assets and firms' leverage. Finally in the specific context of business combinations, Aboody et al. (2000) analyze U.S. firms' accounting choices to use either the purchase method (similar to the current acquisition method) or the pooling of interest method (essentially the historical cost) in business combinations. The authors use debt-to-equity ratio as a proxy for closeness to violating debt covenants and find that firms are more likely to choose the purchase method when the debt-to-equity ratio is high. Against the evidence of a positive association between firm leverage and the choice of fair value to revaluation of assets, Muller (1999) analyzes U.K. firms' choice on whether to record purchased brand names on the balance sheet or to write them off immediately and finds no association between firms' debt-to-equity ratio the choice to record brand names.

Finally, a recent study by Christensen and Nikolaev (2013) provide a different perspective on the relation between firm leverage and fair value accounting choice. The authors exploit the setting of IFRS "fair value choice," in which under IAS 16–*Property Plant and Equipment* and IAS 40–*Investment Property*, a firm can use either fair value or historical cost to account for certain long-lived assets and investments. Firm are required, however, that the choice not be ad-hoc, rather it should be consistently applied to similar transactions over time. The requirement from managers to commit to sticking with one accounting method makes it less likely that their choice is subject to managerial opportunism. The authors find that firms will generally be more inclined to commit to use fair values for more liquid assets. In the context of debt financing, the authors find that firms that rely more heavily on debt financing are more likely to take the fair value choice. The authors explain their finding with borrowers, having to provide lenders with fair value measurement of their assets to secure the debt, find it less costly to reliably estimate and report the fair value of non-financial assets on financial reports.

Though the general IFRS requirement of fair value choice to be consistent over time holds for BCUCCs, in practice the choice made on a BCUCC is largely ad hoc. As reorganizations which give rise to BCUCCs are very infrequent and the motivation for each BCUCC could be different from the previous one, distinguishing one from another is relatively easy, which make the commitment for a consistent method less binding. As most empirical evidence points to firms exploiting opportunities to use fair value to increase the value of assets on the balance sheet when the balance sheet leverage is high, we formalize our first testable hypothesis as follows:

H1a: The likelihood of a parent firm to record a BCUCC using the acquisition method rather than the historical cost method increases with firm leverage.

We also hypothesize that the costs of technical violations of debt covenants may drive firms to make accounting choices that can avert the risk of violating a covenant. The covenant that is most obviously affected by the accounting choice for a BCUCC is a net worth covenant. Whereas intangible assets are excluded from the covenant computations of tangible net worth covenants, thus neutralizing the effect of any increase in intangible assets through the purchase price allocation, they are not excluded from net worth covenants. Therefore, the follow-up to the first hypothesis is:

H1b: The likelihood of a parent firm to record a BCUCC using the acquisition method rather than the historical cost method increases in firms with net worth covenants on their loans.

The underlined conjecture in H1a and H1b is that firms would want to window dress their balance sheet when incentivized to do so by debt contracts. A natural follow up inquiry is whether firms take advantage of the window dressed balance sheet beyond avoiding current debt covenants. Specifically, we are interested in whether firms make use of the window-dressed balance sheet to issue new public debt and thus increase economic indebtedness without fundamentally increasing their ability to service the debt. Cohen and Zarowin (2010) document that managers' window-dress their firms' earnings before seasonal equity offering, suggesting that managers have an incentive to window dress financial reports before a public security offerings.

We focus on public debt issuance because in Europe, bank loans are typically relationship-based (Boot, 2000; Boot and Thakor, 2000). As such the quality of information banks possess on borrowers is relatively high, which increases the likelihood of banks undoing

the effect of the fair-value BCUCC on firms' balance sheet. Under relationship banking, balance sheet window dressing may help firms avoid technical violations of current net worth covenants, but likely to prove less effective in raising new bank debt. With public debt, by contrast where information asymmetries are greater and monitoring is relatively weaker than bank debt, window dressing of balance sheet leverage may prove more effective. Therefore, we predict that we are likely to observe more bond issuance from firms that have gone through a fair-value BCUCC relative to comparable firms that did not go through a BCUCC. Hence our second testable hypothesis is as follows:

H2: Parent firms that used the acquisition method to record a BCUCC are more likely to issue new public debt in the period following the BCUCC than comparable firms who did not perform a BCUCC.

III. SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Sample selection

To identify business combinations under common control (BCUCC), we start with SDC database and select acquisitions that satisfy the following requirements: (1) the acquirer gained control over the target in the transaction; (2) acquirer and target both have the same immediate or ultimate parent company, and (3) the parent firm is incorporated and headquartered within the European Union nations. Our sample begins in year 2005, the first year in which IFRS was mandatory for the consolidated financial statements of all listed firms in Europe.[3] We drop the sample transactions in which the acquirer, seller, or parent is a financial institution. To avoid confounding effects, both in the economics of the BCUCC and the accounting classification to

[3] Christensen, Hail, and Leuz (2013) provide a list of countries shown in Table 1 with relative dates when IFRS reporting becomes mandatory.

acquisition method or historical cost, we drop transactions in which the parent (or group) was involved in more than one acquisition during the reporting period. We require parent firms in the sample to have financial and stock price data available from Compustat Global. After employing the above restrictions there are 421 business combinations under common control.

Next, we classify the BCUCCs to acquisition method (fair value) and historical cost. We use the change in goodwill at the parent firm to initially identify whether the acquisition method was used to account for the BCUCC. Transactions in which the parent firm reports an increase in goodwill in the BCUCC quarter, 147 in total, are classified as acquisition method. We verify were information is available that these transactions were accounted using the acquisition method. Transactions in which the parent firm reports no change in goodwill, 83 in total, are classified as historical cost. The remaining transactions are such that goodwill on the parent firm balance sheet decreased in the BCUCC quarter. Goodwill impairment on the parent firm balance sheet can be related to the BCUCC, if the transaction price in the BCUCC is lower than the carrying value of the target net assets on the parent balance sheet, which may occur since the price not necessarily reflect the market price of the target. In that case, both accounting methods would lead to a similar outcome. The goodwill impairment could also be unrelated to the BCUCC. In either case, there is no effective way to identify the methods used to account for the BCUCC. Therefore, we eliminate these transactions from the sample. The final number of observations used in the analysis is 230. Table 1 reports the sample selection process in detail.

Descriptive statistics

Table 2, panel A reports a sample breakdown for fair-value BCUCCs and historical-cost BCUCCs by fiscal year. While the portion of firms within a sample year that choose the acquisition method to account for a BCUCC ranges from 41.94% in 2012 to 79.31% in 2009,

there is no clear clustering across specific years. Table 2, panel B reports industry distribution using the Fama-French 12-industry classification. The portion of BCUCCs with the fair value accounting choice ranges from 50% in Energy, Oil, Gas, and Coal Extraction to a high of 84.62% in Chemicals and Allied Products with no clear clustering across industries. Finally, panel C reports a sample distribution by country of incorporation. The number of BCUCCs ranges from 1 in Luxemburg to 25 in Germany.

Table 3 reports descriptive statistics of the sample firms, broken down by BCUCC accounting choice. There is no statistically significant difference between the two groups in terms of parent firm size, book value, and market-to-book ratio. Firms that use fair value are ex-ante more profitable in terms of mean return on assets (ROA), but there is no significant difference for the median ROA. In addition, 39% of the BCUCC accounted for at fair value had minority interest involved in the transaction compared with 32.5% percent of BCUCCs accounted for at historical cost. Thus, there is no significant difference between the two groups in the proportion of BCUCCs in which the parent firm does not fully own the acquirer, the target, or the immediate parent of the target (*MINORITY*). With regards to the variables of interest, firms that choose the acquisition method to account for a BCUCC are ex-ante more levered with mean (median) pre-combination debt-to-equity ratio (D/E_pre) of 67.2% (64.8) compared with 54.1% (47.0) for firms that elected to account for a BCUCC using the historical cost of target net assets. The difference between the means and the medians is significant at the 1% level. Measuring leverage as the debt-to-assets ratio instead of debt-to-equity yields a similar relation. Further, the post-BCUCC debt-to-equity ratio exhibits a sharp decline for parent firms that accounted for the BCUCC using fair value when compared to the pre-BCUCC debt-to-equity ratio with a mean of 58.7% (compared with 67.2 pre-BCUCC) and median of

49.02% (compared with 64.8% pre-BCUCC). Firms that elected to account for the BCUCC using the target's historical cost of net assets do not exhibit a similar decline. Finally, a larger portion of the firms that use fair value to account for the BCUCC had a net worth covenant associated with their bank debt (38.1%) than the firms that use historical cost (24.1%). The statistics provide preliminary evidence in support of the leverage hypothesis and in line with our predictions in H1.

IV. RESEARCH DESIGN AND EMPIRICAL FINDINGS

Validity Tests

Two assumptions underlie the analyses conducted in this study. The first assumption is that accounting for BCUCCs using the acquisition method reduces parent firms' balance-sheet leverage and that the reduction is larger than for a BCUCC accounted at the historical cost method. The second assumption is that a BCUCC does not materially change parent firms' assets and liabilities composition and their market value and thus is not expected to affect future cash flows. In this section we validate both assumptions.

BCUCC Reduces Accounting Leverage

We validate our first maintained assumption that the choice to account for a BCUCC using the acquisition method rather than the historical cost indeed results in a reduction in the parent firm balance-sheet leverage. It is not ex-ante certain the fair value choice would lead to a lower accounting leverage. A fair-value BCUCC involves an assessment of a group of assets and liabilities at fair value. When, for example, the value of target debt on a parent's balance sheet was previously recorded at values significantly lower than the fair value or when the parent firm delayed recording write downs of its assets, the balance sheet leverage could

actually increase. If parent firms really have reducing leverage in mind when they make the accounting choice of fair value to record BCUCC, this choice should actually result in lower accounting leverage post-BCUCC.

To test this we estimate the following OLS regression:

$$LEVERAGE\_CH_i = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_{2-7} CONTROLS_{i,t-1} + \varepsilon_i \,, \quad (1)$$

where *LEVERAGE_CH* is the change in leverage measured alternatively as the change in debt-to-equity ratio between post-BCUCC and pre-BCUCC (post-BCUCC debt-to-equity ratio minus pre-BCUCC debt-to-equity ratio) and the change in debt-to-assets ratio between post-BCUCC and pre-BCUCC. *FV_BCUCC* is an indicator variable that takes the value of 1 for a BCUCC carried out using the acquisition method and zero otherwise. We include the same control variables that are included and described in detail following equation 3.[4] Results reported in Table 4 validate our maintained assumption that the change in leverage is negatively associated with the choice to account a BCUCC using the acquisition method (debt-to-equity ratio: coefficient= -0.141; z-stat= -2.63; debt-to-assets ratio: coefficient= -0.068; z-stat= -2.87). Economically, the choice of fair value to account for a BCUCC results in an average drop of 14.1% in firms' debt-to-equity ratio and in a 6.8% drop in the debt-to-assets ratio. The results suggest that the choice to account for a BCUCC using fair value results in a significant drop in the parent firm accounting leverage.

BCUCC Accounting Choice is not Value Relevant

Extant accounting literature suggests that fair value accounting is value relevant (See Barth, Beaver and Landsman, 2001, for a review of the literature). Specific to asset revaluation, Aboody et al. (1999) find that asset revaluations are informative about future firm performance.

[4] We only exclude the level of goodwill from the control variables. The inclusion of this variable does not change results.

Because BCUCC are conducted for various reasons, an argument could be made that in the choice of whether to use fair value or historical cost to record a BCUCC, managers convey their private information of whether the BCUCC is expected to create value or not. To alleviate this concern, we conduct several return analyses that compare fair-value choice parent firms and historical-cost choice parent firms. Specifically, we perform the following analyses: (1) We compare the average announcement day returns[5] of the two BCUCC groups. We find no statistically significant difference between them. The mean (median) market adjusted return is 0.1% (0.3%) for the fair-value BCUCC and 0.5% (0.3%) for the historical cost BCUCC. (2) We follow Aboody et al. (1999) and test whether there are significant differences in the long-term stock performance between the fair-value BCUCC parent firms and the historical-cost BCUCC parent firms. Specifically we estimate the following regression:

$$RETURN_i = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_2 EBITDA_i + \beta_3 EBITDA\_CH_i + \varepsilon_i \,. \qquad (2)$$

We measure the variables in this analysis following Aboody et al. (1999). $RETURN_i$ is measured as a firm's stock return in the year starting six months before the BCUCC announcement. FV_BCUCC_i is an indicator variable that takes the value of 1 for a BCUCC carried out using the acquisition method (fair value) and zero otherwise. $EBITDA_i$ is parent firm earnings before depreciation, amortization and interest deflated by the firm market value of equity in the year starting six months before the BCUCC announcement, and $EBITDA\_CH_i$ is the change in $EBITDA_i$ from a year leading to the BCUCC to the year following the BCUCC. We control for industry, country, and year fixed effects.

Table 5 reports the results. We compare fair-value BCUCC parent firms' performance to both the Compustat Global universe and to historical-cost parent firms. Column 1 reports the

[5] Results untabulated.

results for a sample that includes the entire Compustat Global universe. Column 2 reports results only for the firms that performed a BCUCC. Both analyses provide consistent evidence of no statistically significant difference in the long-term returns between firms that performed a fair-value BCUCC and both firms that performed a historical-cost BCUCC and the entire universe of Compustat Global firms. In columns 3 and 4 we repeat the analysis of columns 1 and 2 but measure returns following the Fama-French (1993) three-factor model abnormal returns. Results are qualitatively similar.

The effect on balance sheet leverage on the choice of accounting method

To test the predictions in *H1a* and *H1b* that the likelihood of a choice to account for a BCUCC using the acquisition method increases with the parent firm's pre-BCUCC leverage and with the existence of net worth covenants in the parent company bank debt, we estimate the following logistic regression:

$$FV\_BCUCC_i = \beta_0 + \beta_1 LEVERAGE\_pre_i + \beta_2 COVENANT_i + \beta_{3\_9} CONTROLS_{i,t-1} + \varepsilon_i \quad , \qquad (3)$$

where FV_BCUCC is an indicator variable that takes the value of 1 for a BCUCC carried out using the acquisition method and zero otherwise. The independent variables in the regression are measured when applicable at the quarter prior to the BCUCC. The variables of interest are the following: *LEVERAGE_pre* is a parent firm's leverage before the BCUCC. It is measured alternatively as the parent firm's total book value of debt scaled by the book value of equity or as the parent firm's total book value of debt scaled by total assets. *COVENANT* is an indicator variable that takes the value of 1 if the parent firm discloses a net worth covenant in the financial statements footnotes and zero otherwise.[6]

[6] Information on the presence of a net worth debt covenant is handcollected from the listed parent financial statements in the quarter before the BCUCC took place.

We include the following control variables in the analysis: firm size (*SIZE*), firm market-to-book ratio (*MTB*), the BCUCC method of payment (*CASH*), the level of goodwill at the parent firms (*GDW*), parent firm performance (*ROA*), the change in the level capital expenditure at the parent firm from before to after the BCUCC (*CAPEX_CH*), and whether the parent company own 100% of the shares in both merging subsidiaries (*MINORITY*). *SIZE* is measured as the natural logarithm of the parent firm total assets. *MTB* is measured as the ratio of the firm market value of equity to its book value of equity. *CASH* is measured as the cash percentage of the total consideration paid. We include this variable as the acquisition financing that may affect the choice of accounting method. *GDW* is measured as the goodwill on the parent firm's balance sheet scaled by the total assets. As one of the costs of the choice to use the acquisition method for BCUCC is an increased likelihood of future impairment of goodwill, the pre-BCUCC level of goodwill on the balance sheet of the parent firm may affect its willingness to record more goodwill and thus also the incentive to use the acquisition method. *ROA* is measured as income before extraordinary items scaled by total assets, which is a commonly used measure to control for firm performance. Parent firm performance may affect the need to issue more debt as well as the probability of avoiding covenant violations and thus affect the choice of accounting for the BCUCC. *CAPEX_CH* is measured as the difference between averages over four fiscal quarters of post-BCUCC quarterly-cash flow statement reported-capital expenditure and the pre-BCUCC capital expenditure. We control for change in the capital expenditure to account for firms' need of cash for investment. Greater need for cash is likely to be positively associated with the need to window dress the balance sheet in order to help in raising debt. *MINORITY* is an indicator variable that takes the value 1 if the parent firm is not a sole owner throughout the chain of ownership in both the acquirer and the target in the

BCUCC and zero otherwise. We control for the existence of a minority interest in one of the transaction parties because such an existence could affect the transaction terms and ultimately the accounting choice for the BCUCC. In all analyses we include year, industry, and country of incorporation fixed effects.

Results are reported in Table 6. Column 1 reports results for pre-BCUCC debt-to-equity ratio as the explanatory variable, column 2 reports results for pre-BCUCC debt-to-total assets ratio as the explanatory variable, column 3 reports results for the existence of a net worth covenant as the explanatory variable and columns 4 and 5 report results for regressions that include both explanatory variables (where debt-to-equity and debt-to-assets alternatively measure leverage). Regression analyses provide results consistent with the empirical predictions in *H1a* and *H1b*. Both coefficients on *LEVERAGE_ pre* (debt-to-equity ratio: coefficient=3.509, z-stat=2.87, debt-to-assets ratio: coefficient=1.368, z-stat=2.51) and *COVENANT* (column 3: coefficient=1.026, z-stat=2.29) are positive and significant. These results suggest that when making the choice of whether to use the acquisition method or the historical cost of a target's net assets, managers consider the balance sheet leverage and whether the choice would affect the likelihood of violating debt covenants.

Fair-value BCUCC and the likelihood of raising new public debt

In this section we test whether parent firms that engaged in fair value BCUCCs actually attempt to take advantage of the decrease in balance sheet leverage and issue more public debt. The purpose of this analysis is to investigate whether the accounting choice for a BCUCC can have a real measurable effect in the form of an increase in firms' economic indebtedness without a clear increase in firms' ability to serve debt. Because historical cost BCUCC firms are not necessarily similar to fair-value BCUCC in respect to the ex-ante likelihood of issuing new

public debt, we match our sample of fair-value BCUCC, with a sample of firms with similar pre-BCUCC characteristics. For each parent firm that conducted a fair-value BCUCC we identify a matched firm based on characteristics described below. We then pool the two groups of firms and perform the analysis. To identify a matching firm to each fair-value BCUCC firm (a treatment firm) we apply a propensity score-matching (PSM)[7] procedure developed by Rosenbaum and Rubin (1983), extended by Heckman, Ichimura, and Todd (1997), and introduced to the accounting literature by Armstrong, Jagolinzer, and Larcker (2010). Specifically, we estimate the following logit regression:

$$FV\_BCUCC_i = \beta_0 + \beta_1 LEVERAGE\_pre_i + \beta_2 SIZE_i + \beta_3 MTB_i + \beta_4 CAPEX\_CH_i + \beta_5 RESEARCH_i + \beta_6 EBITDA\_CH_i + \varepsilon_i \,, \quad (4)$$

where *FV_BCUCC* is an indicator variable equal to 1 if a parent firm accounted for a BCUCC using the acquisition method and zero otherwise. *LEVERAGE_pre* is a firm's leverage before the BCUCC. It is measured alternatively as the parent firm's total book value of debt scaled by the book value of equity or as the parent firm's total book value of debt deflated by total assets. *SIZE* is the natural logarithm of the parent firm's total assets. *MTB* is the ratio of the firm's market value of equity to its book value of equity. *CAPEX_CH* is the change in capital expenditure from pre-BCUCC to post-BCUCC. *RESEARCH* is the ratio of research expense to sales at the parent company. Research expense gives rise to unrecognized intangible assets off the firm's balance sheet. These assets are likely to be recorded if fair value is chosen. The ability to record previously unrecorded intangible assets may affect the BCUCC accounting choice. Ideally, research should be measured at the acquisition target-firm level. Since financial data on subsidiaries is not available, we use data at the parent-firm level. $EBITDA\_CH_i$ is the

[7] We use a PSM to better match fair-value BCUCC parent firms with comparable firms. All results hold if we compare fair value BCUCC with historical cost BCUCC firms.

change in operating income before depreciation and amortization deflated by the parent market value of equity. We include this variable as a proxy for parent firm performance, in order to account for the possibility that despite our described above validity test results, evidence on the value relevance of fair value revaluation (Aboody et al. 1999) holds for our treatment firms.[8] We also include industry, country, and year fixed effects. We use a one-to-one nearest-neighbor matching without replacement (Heckman et al. 1997), restricting the attention to a falling propensity score in the common support for both groups (Smith and Todd 2005).[9] Using the predicted probabilities —propensity scores—from the logistic regression, we then match each fair-value BCUCC observation with the observation from the control group, which minimizes the absolute value of the difference between propensity scores.[10] In order to avoid matched pairs with significant differences in the propensity score, we also impose a tolerance level on the maximum propensity score distance smaller than 0.5% (caliper). Table 7 reports the propensity-score estimation results based on a pool of 150,329 observations.[11] Panel A of Table 7 reports results of the PSM regression and panel B of Table 7 reports descriptive statistics of the treatment firms and control firms with respect to matching variables. Reported statistics suggest that the matching process results in a control group of firms that is very similar to the treatment group in all the important respects (i.e., size, leverage, fixed-asset investment plans, research expense, changes in EBITDA, industry, country, and year).

[8] Results are qualitatively similar if we do not match based on this variable.

[9] The common support condition drops observations in which the propensity score is smaller than the minimum and larger than the maximum in the opposite group. This restriction rules out the phenomenon of perfect predictability; i.e., it ensure that firms with the same X values have positive probabilities of being both treated or not.

[10] We also use additional PSM modeling, with unchanged results (see for details sensitivity and robustness check section).

[11] We report results only for the debt-to-equity measure of leverage. Results are qualitativly similar when we use debt to assets.

We then pool the matched firms produced by the PSM process with the firms that conduct fair-value BCUCC and test whether the likelihood of issuing new public debt is different between the two groups. H2 predicts that firms that conducted fair-value BCUCCs are more likely than the matched firms to issue new public debt in the period shortly following the BCUCC. We start with a univariate comparison of a proportion of firms that issued new bonds in the four fiscal quarters immediately following the BCUCC between the two groups—the fair-value BCUCC firms and the subsample of matched firms. Because issuing new debt could also serve to replace old debt that was paid, without effectively increasing indebtedness, we require that a firm's debt level increase following the new debt issuance. Table 8, panel A reports results. In the quarter immediately following the BCUCC, 13% of the fair-value BCUCC firms issued new public debt compared with 4.1% of the control firms. The difference persists for three additional quarters in which the cumulative proportion of firms issuing new public debt is 21.9% for fair-value BCUCCs and 7.5% for the matched sample. All differences are statistically significant at the 1% level. These differences suggest that firms that conduct fair-value BCUCCs are more likely than similar firms that did not conduct fair-value BCUCCs to issue new bonds in the periods following the BCUCC.

Next, we use a regression analysis to test whether controlling for additional factors can change the inference drawn from the univariate analysis. To that end, we estimate the following logistic regression:

$$ISSUE_{i,t+1\_t+4} = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_2 CONTROLS_{i,t-1} + \varepsilon_i \,, \tag{5}$$

where *ISSUE* is an indicator variable that takes the value of 1 if a sample firm satisfies the two following conditions: (1) The firm issues new debt in the four quarters post-BCUCC, and (2) the levels of debt on the firm's balance sheet increased following the debt issuance and zero

otherwise. *FV_BCUCC* is an indicator variable that takes the value of 1 for a parent firm that recorded a BCUCC using the acquisition method and zero otherwise. We include the following control variables: *SIZE* is the natural logarithm of a firm's total assets. *LEVERAGE_pre* is a firm's leverage before the BCUCC. *CAPEX_CH* is the change in capital expenditure from pre-BCUCC to post-BCUCC. *RESEARCH* is the ratio of research expense to sales at the parent company. $EBITDA\_CH_i$ is the change in operating income before depreciation and amortization deflated by parent market value of equity. Results are reported in Table 8, panel B. Column 1 reports results for a new bond issuance in the first quarter following the BCUCC and columns 2 (3 and 4) reports results for the first two (three and four) quarters following the BCUCC. Consistent with H2, as well as with evidence from the univariate analysis, firms that engage in fair-value BCUCCs are more likely to issue new public debt following the BCUCC. The coefficient on *FV_BCUCC* is positive and significant at the 1% level across all regressions. Economically, the effect of a fair value BCUCC is no trivial. The marginal effect of a fair value BCUCC on the likelihood of issuing new public debt is of 9.6% at the first quarter following the BCUCC and of 18.6% in the four quarters following the BCUCC. These results suggest that firm managers perceive lower balance sheet leverage advantageous in public debt issuance and attempt to take advantage of the "face lifted" balance sheet and issue new public debt following a fair-value BCUCC. This leads firms to increase their indebtedness without a real change in their capacity to service the debt.

Sensitivity tests and robustness checks

In principle, one cannot rule out the possibility that our results are not the outcome of a firm's accounting choice to use fair values to account for the BCUCC but of the BCUCC proper. For example, one may argue that a BCUCC makes the structure of a conglomerate more

compact and thus less opaque and easier for potential bondholders to understand, which thus reduces the cost of borrowing and prompts firms to issue more public debt. Therefore, in this section we conduct a "placebo" (falsification) test. Specifically, we examine whether parent firms that conduct a BCUCC but choose to account it at the historical cost of the target net assets recorded on their balance sheet, instead of at fair value, exhibit an increase in public debt issuance similar to the one observed in fair-value BCUCC firms when compared to a matched sample of firms. Angrist and Krueger (1999) explain that this test refers to testable predictions for groups in which the treatment effect (an increase in public debt issuance) is expected to be absent because the treatment (using fair value to account for the BCUCC) does not exist.

We follow the same steps applied in the analysis performed on the firms that account for a BCUCC using the acquisition method: we first identify matched control firms to the treatment sample firms (firms that account for BCUCC using the historical cost) and then test whether there is a difference between the two groups.

Table 9 panels A and B report the logistic propensity-score regression to identify the matched firms and statistics of the treatment and the control groups. Reported statistics suggest that the matching process results in a control group of firms that is very similar to the treatment group in the important respects. Table 10, panels A and B report results for analyses similar to Table 8 but for firms that used a target's historical cost to account for a BCUCC. Across both analyses (univariate and regression) we observe no difference between the treatment firms and the matched firms, suggesting that the increase in debt issuance is not likely an outcome of the decision to conduct a BCUCC per-se.

We also perform an additional set of robustness tests. First, following Armstrong et al. (2010), we alter the PSM algorithm to require matches from firms with the same industry year,

where industries are defined according to the Fama-French 12-industry classification (*results untabulated*). This procedure produces fewer matches but does not alter our inferences. Second, in the propensity score-matching procedure we also use capital expenditures (CAPEX) levels instead of their changes. Third, in measuring new debt issues (ISSUE_Q1 to Q4) we use different specifications for this dependent variable (such as non-cumulative measures). Finally, we exclude the countries of Switzerland and Turkey, which are not members of the European Union, one by one and together from our sample and re-run our analyses. Results remain qualitatively unchanged in all the additional specifications.

V. CONCLUSION

This study focuses on a unique form of business combinations - business combinations under common control - that has no significant effect on the composition and value of parent firms' assets and liabilities but has, under IFRS, the potential of significantly changing parent firm balance sheet. While most fair value choices made under IFRS require managers' long-term commitment to the choice, accounting for BCUCC could be done largely ad hoc. Our results suggest that managers may be opportunistic with the choice when recoding a BCUCC, actively attempt to take advantage of the choice to effectively accumulate more debt. Our results may also have implications for US regulators that allow non-US based multinationals to report using IFRS. Large multinationals typically have multiple subsidiaries and thus are more likely to conduct BCUCCs.

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APPENDIX A

Variable Definitions

Variable	***Definitions***
ASSETS	The book value of total assets.
BVE	The book value of equity at the end of the quarter before the BCUCC.
HC_BCUCC	An indicator variable that takes the value of 1 for a firm that accounted for a BCUCC using the historical cost and 0 otherwise.
CAPEX_CH	Mean change in the cash capital expenditure before and after the combination computed as: the average of four quarters cash capital expenditure on total assets post-BCUCC minus the average of four quarters cash capital expenditure on total assets before the combination. The BCUCC quarter is excluded.
CASH	The percentage of cash of the total purchase price.
COVENANT	An indicator variable that takes the value of 1 if the firm has a net worth covenant and 0 otherwise.
EBITDA	Earnings before interest, tax, depreciation, and amortization scaled by the firm market value of equity.
EBITDA_CH	The change in EBITDA from the six months leading to the BCUCC to the six months following the BCUCC.
FV_BCUCC	An indicator variable that takes the value of 1 for a firm that accounted for a BCUCC using the acquisition method and 0 otherwise
GDW	Goodwill on the balance sheet as a percentage of ASSETS.
HC_BCUCC	An indicator variable that takes the value of 1 for a firm that accounted for a BCUCC using the historical cost and 0 for a matched firm produced by the PSM procedure.
ISSUE_Qn	An indicator variable that takes the value of 1 if the firm issues new public debt after the BCUCC.
LEVERAGE	Either debt in current liabilities + long-term debt divided by book value of equity (D/E) or debt in current liabilities + long-term debt divided by total assets (D/TA).
LEVERAGE_CH	The change in *LEVERAGE*, measured as *LEVERAGE* at the quarter-end after the BCUCC minus *LEVERAGE* at the quarter-end prior to the BCUCC.
LEVERAGE_pre	Leverage before the BCUCC.
MINORITY	An indicator variable that takes the value of 1 if the parent firm does not own 100% of the share of either the target or the acquirer.
MTB	The ratio of the market value of equity to the book value of equity at the end of the quarter of the BCUCC
MVE	The ratio of the market value of equity to the book value of equity.
RETURN	The stock return measured from six months before the announcement date to six months after the announcement date.
ROA	The return on assets, measured as earnings before extraordinary items divided total assets at the beginning of the period.
SIZE	The natural logarithm of *ASSETS*.

APPENDIX B

Examples of Reasons Provided by Parent Firms for the BCUCC

1. **Fiat to buy Maserati brand from Ferrari**

ROME (AP) — Fiat announced Wednesday it will buy the Maserati sportscar brand from Ferrari — a company in which it already has a majority stake — just three days after winning independence from GM.

The Quattroporte is just one of the Maseratis Fiat added.

By Scott Olson, Getty Images

Turin-based Fiat said in a statement it was buying Maserati in a bid to find technological and commercial synergies to help develop its premium brand, Alfa Romeo. It declined to offer details about financial terms.Fiat's unprofitable carmaking division, Fiat Auto, owns the Fiat, Alfa Romeo and Lancia brands. The Fiat group also currently has a 56% stake in Ferrari.

"This operation is essential for the future development of Alfa Romeo," said Fiat CEO Sergio Marchionne.

On Sunday, Fiat and GM dissolved a partnership including an option that could have forced GM to buy the 90% of Fiat Auto that it did not already own. GM agreed to pay the Italian automaker $2 billion, mostly in exchange for canceling the clause.Maserati was founded in 1914 and acquired by Fiat in 1993. Ferrari took ownership of the Maserati brand in 1999.

Maserati sold 4,600 cars last year, according to Luca Cordero di Montezemolo, who is chairman of Ferrari. The company has targeted unit sales of at least 10,000 a year for the brand. Alfa Romeo sells around 180,000 units a year.

Maserati sells around a third of its production in North America, where Alfa Romeo is not available, suggesting that under Wednesday's deal Fiat may be able to improve distribution range for higher-margin products.

Fiat Auto had an operating loss of just under $1.3 billion dollars (1 billion euros) in 2003, and is expected to post a loss of around $1.04 billion (800 million euros) for 2004. The unit is targeting to break even in 2006.

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2. Telecom Italia buy two Firms from Telecom Italia Media

As part of the process to rationalize the Group's operations, Telecom Italia, on June 1, 2005, executed the agreements with Telecom Italia Media for the purchase of the assets of Virgilio (through the companies Finanziaria Web and Matrix) and Tin.it. As a result, Telecom Italia acquired control of the following equity investments held by Telecom Italia Media:

– a 60% interest in Finanziaria Web (which held a 66% stake in Matrix at the date the deal was finalized) and the 0.7% interest in Matrix at a total price of euro 70 million. At the conclusion of the transaction, Telecom Italia, which already held a 40% stake in Finanziaria Web and a 33.3% stake in Matrix through ISM (purchased from Telecom Italia Finance for consideration of euro 97.4 million), owns 100% stakes in Finanziaria Web and Matrix and thus has full control over Virgilio's operations. In December 2005, the companies ISM and Finanziaria Web were merged in Telecom Italia;

– 100% of the capital of Nuova Tin.it S.r.l., a newly-established company in which Telecom Italia Media conferred the Tin.it business segment. The sales price was equal to euro 880 million.

Source: Telecom Italia 2005 annual reports

3. Cambrian Mining merge Cambrian Oil & Gas into Xtract

By Leather

September 1, 2006 • Reprints

FROM THE ARCHIVES

CAMBRIAN MINING PLC

The board of Cambrian is pleased to announce that it and the Company?s wholly owned subsidiaries Deepgreen Minerals Corporation Limited and Cambrian Investment Holdings Limited have reached an agreement to sell their substantial shareholdings in Cambrian Oil & Gas plc, Wasabi Energy Limited and Aviva Corporation Limited to the Company's 55% owned subsidiary Xtract Energy plc.

This re-organisation will create a centralised energy group under Xtract, whose management team can utilise their expertise to focus on the energy and technology side of the Cambrian portfolio.

The total consideration payable by Xtract (which is based on the closing market values of the shares being acquired on 30 August 2006, all of which are quoted) for these investments is approximately lb3.8 million which is being satisfied by the issue to the respective sellers of convertible unsecured loan notes totalling approximately lb3.3 million and a payment to the Company of lb450,000 in cash.

Pursuant to the agreement Xtract shall acquire:

. 44,630,769 ordinary shares in COIL (representing approximately 28.2% of COIL's issued ordinary share capital) and warrants over an additional 22,844,994 ordinary shares (15,000,000 exercisable at 3p per share and 7,844,994 exercisable at 7p per share) for a total consideration of approximately lb1.3 million (approximately lb0.9 million in Loan Notes and lb450,000 in cash);

. 81,511,422 ordinary shares in Wasabi (representing approximately 19.5% of Wasabi's issued ordinary share capital) for a total consideration of approximately lb0.8 million in Loan Notes; and

. 61,500,000 ordinary shares in Aviva (representing approximately 18.6% of Aviva's issued ordinary share capital) and options over 10,000,000 Aviva shares exercisable at a price of A$0.10 per share for a total consideration of approximately lb1.6 million in Loan Notes.

The Loan Notes carry interest at a rate of 2% over LIBOR and are repayable in September 2008. In the event that Xtract issues new shares in a placing, the Loan Notes may be converted at the option of the noteholder into ordinary shares of Xtract at the placing price.

The Acquisition will significantly extend the range of Xtract's energy and resource related investments beyond its existing oil shale and gold mining interests.

John Byrne, CEO of Cambrian, comments: This marks an important step in Cambrian's evolution as we seek to further rationalise our investments into four distinct divisions: coal, iron ore, metals and energy. We have now assembled an exciting portfolio of energy investments, combining prospective oil and gas assets with emerging technologies, both in the oil shale and renewable energy sectors. We also believe the energy group has the potential to grow significantly in the short to medium term.

Source:http://www.resourceinvestor.com/2006/08/31/cambrian-mining-transaction-xtract-energy-plc

4. Saipem a Subsidiary of Eni acquire other subsidiary of Eni, Snamprogetti

San Donato Milanese, 24 February 2006 - Saipem has agreed with Eni the purchase of 100% of the equity of Snamprogetti for €680m in cash; the closing of the transaction will take place by March, 31 2006.

Snamprogetti is one of the leading engineering and construction companies, active in the international market for the design and execution of large scale onshore plants for the production and treatment of hydrocarbons and the monetization of natural gas.

Saipem is a leading company in the design and execution of large scale offshore projects for the production and transportation of hydrocarbons, and has distinctive construction capabilities for the realization of onshore projects.

As a consequence of the transaction, Saipem will have a position of primacy at the high end of the market for the provision of Engineering, Procurement, Project Management and Construction services for the Oil & Gas Industry, with a strong bias towards especially challenging activities in deepwaterand remote areas; with significant technological competence such as gas monetization and heavy oil exploitation. The new Group will operate globally but with a strong local presence in the most strategic regions of West Africa, Middle East, Central Asia, and South East Asia.

The business portfolio of the new Group allows a superior balance between capital intensive (offshore) and less capital intensive (onshore) activities, along with increased resilience thanks to the intrinsically complementary nature of Upstream and Downstream business cycles.

The range and nature of the clients' profile of the new Group is broader and deeper, serving both the largest international oil companies that are the traditional clients of Saipem, and the national oil companies with whom Snamprogetti generally contracts.

The integration of Saipem and Snamprogetti will be uniquely facilitated by the strong industrial relationships developed on many common endeavours, by a natural affinity and culture deriving from common roots within the Eni Group, and the sharing of the same information systems.

The capabilities of the two companies are both highly complementary and strongly synergistic: the amplification of the technological content and engineering & project management competence will facilitate new business, while the group-wide exploitation of the ability to operate in the toughest environments will increase efficiency.

As of December 2005, Snamprogetti's backlog was around €4,400m. Revenues for 2006 are expected to be around €2,800m, operating income before G&A around €90m, and net income around €30m. Saipem believes that, through the integration with Snamprogetti, the new Group could achieve cost synergies of €5m in 2006, €15m in 2007, and €30m in 2008. Therefore,

Saipem expects that the acquisition of Snamprogetti can have a positive effect on net income from the first year.

The acquisition will be financed through credit lines available to Saipem and supplied by Eni's financial companies. Snamprogetti estimates net cash position at the end of 2005 being around €390m, almost half of which being derived from advances from customers.

UBS provided the Board of Directors of Saipem with an opinion as the fairness from a financial point of view of the purchase price. Pietro Franco Tali will present in detail the contents of the transaction during the conference call on Saipem's 2005 Results. The conference call is scheduled for Monday the 27th of February at 17.30 (CET), and can be attended in webcasting on the website www.saipem.eni-it/ir.asp.

FIG. 1. Examples of *business combinations under common control*.

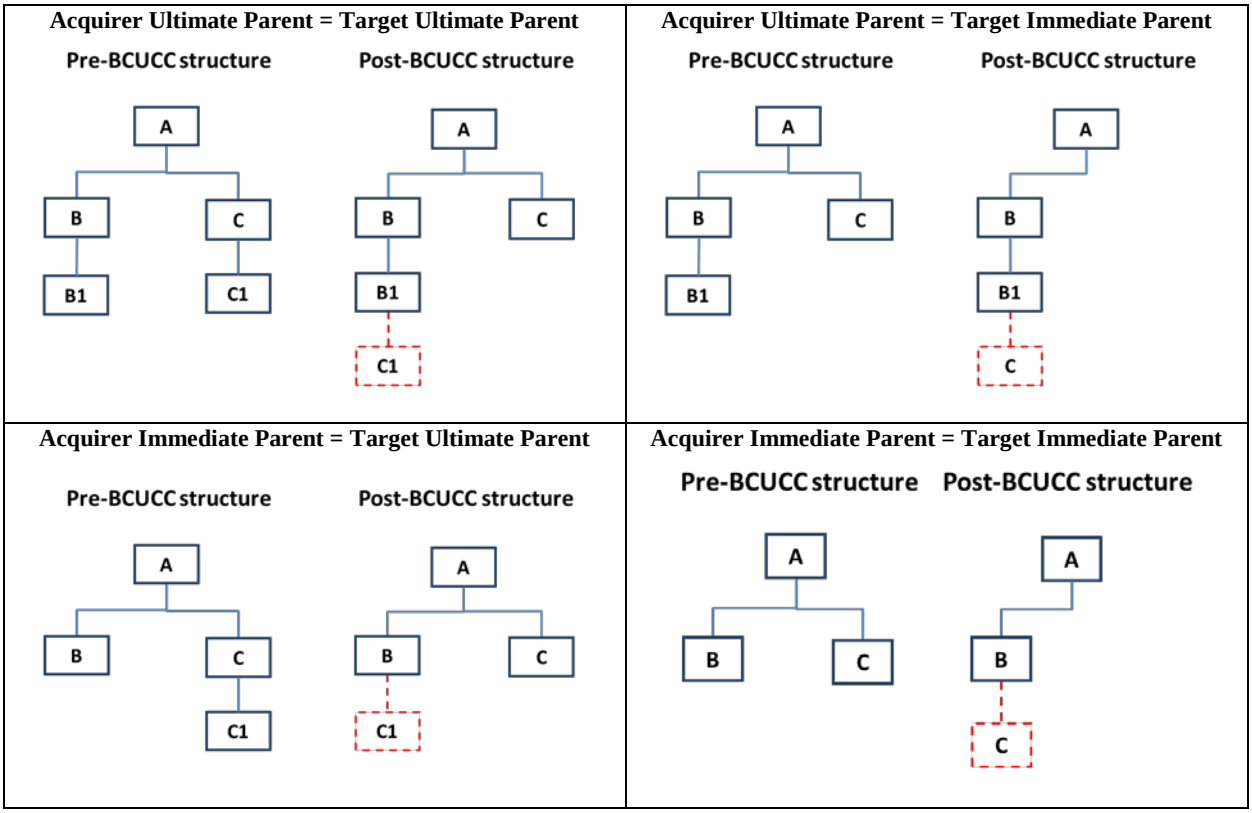

TABLE 1. Sample Selection Procedure

BCUCC deals identification	Acquisitions
BCUCC involving European-listed firms between 2005 and 2012	3,882
(Less) BCUCC in which the acquirer, seller, or parent is a financial institution.	(1,130)
(Less) Buybacks	(230)
(Less) BCUCC in which parent (or group) is involved in another business combination during the same quarter.	(1,660)
BCUCC sample	***862***
(Less) Parent missing data on Compustat	*(441)*
(Less) Parent missing goodwill data	*(191)*
Final Sample	**230**

TABLE 2. Sample Distribution

Panel A: Accounting Treatment of BCUCCs

Accounting Treatment	Acquisitions	
	#	%
Acquisition Method (Fair Value)	147	63.91
Historical Cost	83	36.09
TOTAL	230	100.0

Panel B: Fair-Value and Historical-Cost BCUCCs by Fiscal Year

	Fair Value (n = 147)		Historical Cost (n = 83)	
Fiscal Year	**#**	**%**	**#**	**%**
2005	11	55.00%	9	45.00%
2006	21	77.78%	6	22.22%
2007	24	70.59%	10	29.41%
2008	16	55.17%	13	44.83%
2009	23	79.31%	6	20.69%
2010	16	69.57%	7	30.43%
2011	23	62.16%	14	37.84%
2012	13	41.94%	18	58.06%
TOTAL	**147**		**83**	

Panel C: Fair-Value and Historical-Cost BCUCCs by the Fama-French 12-Industry Classification

Fama-French Industry	Fair Value (n = 147)		Historical Cost (n = 83)	
	#	%	#	%
Non-Durables	15	62.50%	9	37.50%
Durables	9	60.00%	6	40.00%
Manufacturing	30	65.22%	16	34.78%
Energy, Oil, Gas, and Coal Extraction	2	50.00%	2	50.00%
Chemicals and Allied Products	11	84.62%	2	15.38%
Business Equipment	21	72.41%	8	27.59%
Telephone and Television	7	70.00%	3	30.00%
Utilities	6	75.00%	2	25.00%
Wholesale, Retail, and some Services	9	64.29%	5	35.71%
Healthcare, Medical Equip, and Drugs	7	70.00%	3	30.00%
Other	30	52.63%	27	47.37%
TOTAL	**147**		**83**	

Panel D: Fair-Value and Historical-Cost BCUCCs by Headquarter Countries

	Fair Value (n = 147)		Historical Cost (n = 83)	
COUNTRY	**#**	**%**	**#**	**%**
Austria	3	60.00%	2	40.00%
Belgium	6	66.67%	3	33.33%
Denmark	7	63.64%	4	36.36%
Finland	15	78.95%	4	21.05%
France	18	50.00%	18	50.00%
Germany	25	80.65%	6	19.35%
Greece	1	50.00%	1	50.00%
Italy	11	73.33%	4	26.67%
Luxembourg	1	100.00%	0	0.00%
Netherlands	7	70.00%	3	30.00%
Norway	2	66.67%	1	33.33%
Poland	9	75.00%	3	25.00%
Portugal	6	75.00%	2	25.00%
Spain	7	77.78%	2	22.22%
Sweden	8	72.73%	3	27.27%
Switzerland	8	50.00%	8	50.00%
Turkey	3	33.33%	6	66.67%
United Kingdom	10	43.48%	13	56.52%
TOTAL	**147**		**83**	

TABLE 3. Descriptive Statistics by Accounting Method

	Fair Value (n = 147)			Historical Cost (n = 83)			p-value	
Variables	**Obs.**	**Mean**	**Median**	**Obs.**	**Mean**	**Median**	**t-test**	**Wilcoxon**
MVE (€ mil.)	147	5,923.6	846.2	83	6,191.4	842.1	-267.8	4.120
BVE (€ mil.)	147	2,845.4	552.2	83	2,208.4	303.0	637.0	249.2
MTB	147	2.801	1.568	83	2.900	1.771	-0.098	-0.203
ASSETS (€ mil.)	147	8,828.7	2,167.9	83	6,926.2	1,064.8	1,902.5	1,103.1*
ROA	147	0.045	0.022	83	0.015	0.018	0.030*	0.004
D/E_pre	147	0.672	0.648	83	0.541	0.470	0.131***	0.178***
D/E_post	147	0.587	0.492	83	0.535	0.436	0.052	0.056
D/TA_pre	147	0.295	0.279	83	0.220	0.216	0.075***	0.063***
D/TA_post	147	0.249	0.250	83	0.233	0.206	0.016	0.044
GDW	147	0.143	0.097	83	0.117	0.063	0.026*	0.034***
COVENANT	147	0.381		83	0.241		0.140**	
CASH (%)	147	19.686	0.000	83	22.626	0.000	-2.940	0.000
CAPEX_CH	147	0.185	0.000	83	0.203	-0.000	0.017	0.000
MINORITY	147	0.388		83	0.325		-0.062	

MVE is the market value of equity measured as the closing price at fiscal quarter-end times the number of shares outstanding at fiscal quarter-end. *BVE* is the book value of equity. *MTB* is the ratio of the market value of equity to the book value of equity. *ASSETS* is the book value of total assets. *ROA* is return on assets measured as earnings before extraordinary items divided total assets at the beginning of the period. *D/E_pre*(*post*) is debt in current liabilities + long-term debt divided by book value of equity, measured as of the quarter prior (after) to the BCUCC. *D/TA_pre*(*post*) is the debt in current liabilities + long-term debt divided by total assets, measured as of the quarter prior (after) to the BCUCC. *GDW* is goodwill scaled by total assets on the parent firm balance sheet. *COVENANT* is an indicator variable that takes the value of 1 if the firm has a net worth covenant and 0 otherwise. *CASH* is the percentage of cash of the total consideration paid. *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets. *MINORITY* is an indicator variable that takes the value of 1 if the parent firm does not own 100% of the share of either the target or the acquirer. Control variables are measured where applicable, at the period before the BCUCC.

TABLE 4. Change in Leverage Following a BCUCC

$$LEVERAGE\_CH_i = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_2 SIZE_i + \beta_3 MTB_i + \beta_4 CASH_i + \beta_5 CAPEX\_CH_i + \beta_6 ROA_i + \beta_7 MINORITY_i + \varepsilon_i$$

Variables	***Prediction***	Column 1 ***D/E***	Column 2 ***D/TA***
Intercept		-0.065	0.022
		(-0.48)	(0.50)
FV_BCUCC	-/+/-/+	**-0.141*** **	**-0.068*** **
		(-2.63)	(-2.87)
SIZE	?	-0.004**	-0.005***
		(-2.19)	(-5.43)
MTB	?	0.004	0.001
		(0.65)	(0.72)
CASH	?	-0.000	0.001*
		(-0.31)	(1.71)
CAPEX_CH	?	0.016	-0.001
		(0.88)	(0.13)
ROA	?	0.243*	0.031*
		(1.85)	(1.84)
MINORITY	?	0.027	0.022
		(0.60)	(0.51)
Industry, Country, and Year Fixed Effects		Yes	Yes
# of Observations		230	230
R-squared		0.182	0.167

This table reports results of an analysis of the change in leverage following a BCUCC. Column 1 (2) reports results for an analysis in which leverage is measured using pre-BCUCC debt-to-equity (debt to assets) ratio. *Z*-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

The dependent variable is *LEVERAGE_CH*, change in *LEVERAGE* measured as *LEVERAGE* at the quarter end after the BCUCC minus *LEVERAGE* at the quarter end prior to the BCUCC; *LEVERAGE* is either debt in current liabilities + long-term debt divided by book value of equity (D/E) or debt in current liabilities + long-term debt divided by total assets (D/TA). The variable of interest is *FV_BCUCC*, an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at fair value and 0 otherwise. We include the following controls: *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC; *MTB* is the ratio of the market value of equity to the book value of equity; *CASH* is the percentage of cash of the total consideration paid; *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets; *ROA* is return on assets measured as earnings before extraordinary items divided by total assets at the beginning of the period; *MINORITY* is an indicator variable that takes the value of 1 if the parent firm does not own 100% of the share of either the target or the acquirer. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.

TABLE 5. Are Fair-Value BCUCCs Value Relevant? A Validity Test

$$RETURN_i = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_2 EBITDA_i + \beta_3 EBITDA\_CH_i + \varepsilon_i$$

	Aboody et al. (1999)		***Fama-French (1993)***	
Variables	Column 1 **Full Sample**	Column 2 **BCUCC Sample**	Column 3 **Full Sample**	Column 4 **BCUCC Sample**
Intercept	0.084*	0.052	-0.287***	0.077
	(1.95)	(0.18)	(-5.21)	(0.43)
FV_BCUCC	***-0.045***	***-0.003***	***0.050***	***0.054***
	(-0.69)	***(-0.03)***	***(1.20)***	***(0.85)***
EBITDA	0.000***	0.020**	0.000**	0.005**
	(7.68)	(2.35)	(2.11)	(2.12)
EBITDA_CH	0.000***	0.602***	0.000***	0.277***
	(2.89)	(3.41)	(6.26)	(3.46)
Industry, Country, and Year Fixed Effects	Yes	Yes	Yes	Yes
# of Observations	44,332	230	45,607	230
R-squared	0.218	0.375	0.112	0.225

This table reports results of an analysis of parent firms' stock performance around the BCUCC. *T*-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

Columns 1 and 3 report results for the full Compustat global sample. Columns 2 and 4 report results for the sample of firms that engaged in a BCUCC. Column 1 and 2 compute returns from six months before the announcement date to six months after the announcement, following Aboody et al (1999). Columns 3 and 4 compute returns from six months before the announcement date to six months after the announcement, using the Fama-French (1993) three factor model returns.

The variable of interest is *FV*_BCUCC, an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at fair value and 0 otherwise. We include the following controls: *EBITDA* is the earnings before interest, tax, depreciation, and amortization scaled by total assets reported in the six months following the BCUCC; *EBITDA_CH* is the change in EBITDA from the six months leading to the BCUCC to the six months following the BCUCC. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%, and the standard errors are allowed to cluster by firm.

TABLE 6. The Effect of Ex-Ante Leverage and the Existence of Net Worth Covenant on the Fair Value Accounting Choice

$$FV\_BCUCC_i = \beta_0 + \beta_1 LEVERAGE\_pre_i + \beta_2 COVENANT_i + \beta_3 SIZE_i + \beta_4 MTB_i + \beta_5 CASH_i + + \beta_6 GDW_i + \beta_7 CAPEX\_CH_i + \beta_8 ROA_i + \beta_9 MINORITY_i + \varepsilon_i$$

Variables	***LEVERAGE =*** ***Prediction***	***D/E_pre*** Column 1 ***(HP1a)***	***D/TA_pre*** Column 2 ***(HP1a)***	- Column 3 ***(HP1b)***	***D/E_pre*** Column 4 ***(HP1a-1b)***	***D/TA_pre*** Column 5 ***(HP1a-1b)***
Intercept		-3.992***	-4.467***	-2.892***	-3.824***	-4.142***
		(-3.71)	(-3.86)	(-2.82)	(-3.55)	(-3.594)
LEVERAGE_pre	+	**3.509*** **	**1.368** **		**3.771** **	**1.380** **
		(2.87)	**(2.51)**		**(2.95)**	**(2.51)**
COVENANT	+			**1.026** **	**1.126** **	**1.044** **
				(2.29)	**(2.38)**	**(2.25)**
SIZE	?	0.368***	0.395***	0.368***	0.341***	0.372***
		(3.62)	(3.84)	(3.53)	(3.30)	(3.57)
MTB	?	-0.008	-0.015	-0.024	-0.020	-0.025
		(-0.23)	(-0.50)	(-0.66)	(-0.55)	(-0.88)
CASH	?	-0.003	-0.004	-0.004	-0.003	-0.004
		(-0.76)	(-0.91)	(-0.98)	(-0.75)	(-0.89)
GDW	?	2.593*	3.079**	2.441*	2.150*	2.754**
		(1.90)	(2.19)	(1.84)	(1.87)	(1.98)
CAPEX_CH	?	0.174	0.156	0.197	0.178	0.161
		(0.80)	(0.69)	(0.87)	(0.80)	(0.70)
ROA	?	2.410**	2.195**	2.205**	2.706**	2.357**
		(2.06)	(2.00)	(2.19)	(2.28)	(2.21)
MINORITY	?	0.100	0.103	0.162	0.168	0.168
		(0.27)	(0.27)	(0.43)	(0.44)	(0.42)
Industry, Country, and Year Fixed Effects		Yes	Yes	Yes	Yes	Yes
# of Observations		230	230	230	230	230
Pseudo R-squared		0.259	0.256	0.249	0.280	0.275

This table reports results of an analysis of the effect of ex-ante leverage and the existence of a net worth covenant on a parent firm debt on the choice of accounting method for a BCUCCs. Column 1 reports results for leverage measured as debt to equity as the explanatory variable. Column 2 reports results for leverage measured as debt to assets as the explanatory variable. Column 3 reports results for the existence of a net worth covenant as the explanatory variable. Column 4 reports results for both leverage (debt to equity) and the existence of a net worth covenant as the explanatory variables. Column 5 reports results for both leverage (debt to assets) and the existence of a net worth covenant as the explanatory variables. Z-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

The dependent variable is *FV_BCUCC* is an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at fair value and 0 otherwise. The variables of interest are as follows: *LEVERAGE_pre* is a firm's leverage before the BCUCC; *LEVERAGE* is either debt in current liabilities + long-term debt divided by book value of equity (D/E) or debt in current liabilities + long-term debt divided by total assets (D/TA); *COVENANT* is an indicator variable that takes the value of 1 if the firm has a net worth covenant and 0 otherwise. We include the following controls: *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC; *MTB* is the ratio of the market value of equity to the book value of equity, *CASH* is the percentage of cash of the total consideration paid. *GDW* is goodwill scaled by total assets on the parent firm balance sheet; *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets; *ROA* is return on assets measured as earnings before extraordinary items divided total assets at the beginning of the period; *MINORITY* is an indicator variable that takes the value of 1 if the parent firm does not own 100% of the share of either the target or the acquirer. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.

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TABLE 7. A Propensity Score-Matching Procedure for Fair Value Parent Firms

Panel A: Logit Regression to Identify Matched Firms

$$FV\_BCUCC_i = \beta_0 + \beta_1 LEVERAGE\_pre_i + \beta_2 SIZE_i + \beta_3 MTB_i + \beta_4 CAPEX\_CH_i + \beta_5 RESEARCH_i + \beta_6 EBITDA\_CH_i + \varepsilon_i$$

Variables	***Prediction***	**FV_BCUCC**
Intercept		-10.987***
		(-22.39)
LEVERAGE_pre	?	1.289**
		(2.43)
SIZE	?	0.412***
		(9.13)
MTB	?	-0.000
		(-0.51)
CAPEX_CH	?	-0.010
		(-0.77)
RESEARCH	?	-0.002
		(-0.21)
EBITDA_CH	?	-0.002
		(-0.01)
Industry, Country, and Year Fixed Effects		Yes
# of Observations		150,329
Pseudo R-squared		0.114

Panel B: Descriptive Statistics of Treatment and Matched Firms

	Treatment (n = 146)			Matched (n = 146)			P-Value of Diff.	
	Obs.	Mean	Median	Obs	Mean	Median	t-test	Wilcoxon
LEVERAGE_pre	146	0.669	0.643	146	0.701	0.600	-0.032	0.043
SIZE	146	7.589	7.700	146	7.623	7.853	0.034	0.153
MTB	146	2.801	1.568	146	2.486	1.506	0.315	0.062
CAPEX_CH	146	0.186	0.000	146	0.191	0.000	-0.005	0.000
RESEARCH	146	0.104	0.030	146	0.102	0.055	0.002	0.025
EBITDA_CH	146	0.012	-0.009	146	0.014	0.006	-0.002	0.003

Panel A reports results of a logit regression to identify a matching firm to each firm that used the acquisition method to account for a BCUCC. Z-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

Panel B reports descriptive statistics of the treatment group (fair-value BCUCC firms) and the control group produced by the PSM procedure.

FV_BCUCC is an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at FV and 0 otherwise. *LEVERAGE_pre* is debt in current liabilities + long-term debt divided by book value of equity (D/E). *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC. *MTB* is the ratio of the market value of equity to the book value of equity. *CASH* is the percentage of cash of the total consideration paid. *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets. *RESEARCH* is research expense scaled by the sales. *EBITDA_CH* is the change in earnings before interest, tax, depreciation, and amortization scaled by the market value of equity. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.

TABLE 8. Post-BCUCC New Public Debt Issuance

Panel A: Univariate Analysis

Variables	Obs.	Mean Treatment	Obs.	Mean Control	DIFF	T-test
ISSUE_Q1	146	0.130	146	0.041	-0.089***	-2.74
ISSUE_Q2	146	0.171	146	0.048	-0.123***	-3.43
ISSUE_Q3	146	0.192	146	0.062	-0.130***	-3.40
ISSUE_Q4	146	0.219	146	0.075	-0.144***	-3.53

Panel B: Regression Analysis—The Likelihood of Post-BCUCC Public Debt Issuance (n=146 matched pairs)

$$ISSUE_{i,t+1_{t+4}} = \beta_0 + \beta_1 FV\_BCUCC_i + \beta_2 SIZE_i + \beta_3 LEVERAGE_{pre_i} + \beta_4 CAPEX_{CH_i} + \beta_5 RESEARCH_i + \beta_6 \text{EBITDA\_CH}_i + \varepsilon_i$$

Variables	***Prediction***	Column 1 **ISSUE_Q1**	Column 2 **ISSUE_Q2**	Column 3 **ISSUE_Q3**	Column 4 **ISSUE_Q4**
Intercept		-6.940***	-5.869***	-6.497***	-5.958***
		(-5.46)	(-5.58)	(-6.14)	(-6.23)
FV_BCUCC	+	**1.281*** **	**1.428*** **	**1.347*** **	**1.297*** **
		(2.63)	**(3.12)**	**(3.22)**	**(3.37)**
SIZE	?	0.395**	0.308***	0.424***	0.398***
		(3.02)	(2.79)	(3.83)	(3.91)
LEVERAGE_pre	?	0.355	0.301	0.262	0.189
		(1.59)	(1.39)	(1.25)	(0.91)
CAPEX_CH	?	0.147	0.067	-0.010	-0.005
		(1.24)	(0.52)	(-0.07)	(-0.04)
RESEARCH	?	0.632	0.411	0.484	0.380
		(0.98)	(0.67)	(0.81)	(0.66)
EBITDA_CH	?	7.104	-0.317	-1.831	0.541
		(0.84)	(-0.04)	(-0.24)	(0.08)
# of Observations		292	292	292	292
Pseudo R-squared		0.149	0.126	0.155	0.141

Panel A reports differences in the frequency of new debt issues between the group of parent firms that used the acquisition method to account for BCUCC and the group of matched firms produced by the propensity-score matching.

Panel B reports results of logistic regression analyses testing the likelihood of post-BCUCC new public debt issuance. Column 1 reports results for issuance at the first three months post-BCUCC quarter end. Column 2 reports results for issuance at the first six months post-BCUCC quarter end. Column 3 reports results for issuance at the first nine months post-BCUCC quarter end. Column 4 reports results for issuance at the first 12 months post-BCUCC quarter end.

Z-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

ISSUE_Q1 is an indicator variable if the firm issues new debt in t+1 (being t the quarter of the BCUCC) and total amount of long-term financial debt in t+1 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q2 is an indicator variable if the firm issues new debt either in t+1 or in t+2 and the total

amount of long-term financial debt in t+2 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q3 is an indicator variable if the firm issues new debt either in t+1, t+2, or t+3 and total amount of long-term financial debt in t+3 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q4 is an indicator variable if the firm issues new debt either in t+1, t+2, t+3, or t+4 and total amount of long-term financial debt in t+2 increases relative to the quarter pre-BCUCC, 0 otherwise. DIFF is the average effect of treatment on the treated estimated after matching using the nearest neighbor matching method.
FV_BCUCC is an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at FV, 0 otherwise. LEVERAGE_pre is firm's leverage before the BCUCC. *LEVERAGE* is debt in current liabilities + long-term debt divided by book value of equity (D/E). *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC. *MTB* is the ratio of the market value of equity to the book value of equity. *CASH* is the percentage of cash of the total consideration paid. *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets. *RESEARCH* is the research expense scaled by the sales. *EBITDA_CH* is the change in earnings before interest, tax, depreciation, and amortization scaled by market value of equity. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.

TABLE 9. A Propensity-Score Matching Procedure for Historical Cost Parent Firms

Panel A: Logit Regression to Identify Matched Firms

$$HC\_BCUCC_i = \beta_0 + \beta_1 LEVERAGE\_pre_i + \beta_2 SIZE_i + \beta_3 MTB_i + \beta_4 CAPEX\_CH_i + \beta_5 RESEARCH_i + \beta_6 EBITDA\_CH_i + \varepsilon_i$$

Variables	***Prediction***	**HC_BCUCC**
Intercept		-8.896***
		(-15.66)
LEVERAGE_pre	?	-1.711**
		(-2.24)
SIZE	?	0.234***
		(4.01)
MTB	?	-0.000
		(-0.34)
CAPEX_CH	?	-0.018
		(-0.88)
RESEARCH	?	-0.001
		(-0.09)
EBITDA_CH	?	-0.001
		(-0.21)
Industry, Country, and Year Fixed Effects		Yes
# of Observations		145,086
Pseudo R-squared		0.082

Panel B: Descriptive Statistics of Treatment and Matched Firms

	Treatment (n = 146)			Matched (n = 146)			P-Value of Diff.	
	Obs.	Mean	Median	Obs	Mean	Median	t-test	Wilcoxon
LEVERAGE_pre	83	0.540	0.475	83	0.521	0.455	0.019	0.020
SIZE	83	6.851	6.937	83	6.685	6.571	-0.166	-0.366
MTB	83	0.183	0.020	83	0.169	0.031	0.014	0.011
CAPEX_CH	83	2,942	2.712	83	2.443	2.880	0.499	-0.188
RESEARCH	83	0.243	0.141	83	0.199	0.089	-0.043	-0.052
EBITDA_CH	83	0.035	0.010	83	0.037	0.019	-0.002	-0.009

Panel A reports results of a logit regression to identify a matching firm to each firm that used the historical cost to account for a BCUCC. Z-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

Panel B reports descriptive statistics of the treatment group (historical cost BCUCC firms) and the control group produced by the PSM procedure.

HC_BCUCC is an indicator variable equal to 1 if the firm is engaged in a BCUCC carried out at historical cost and 0 otherwise. LEVERAGE_pre is a firm's leverage before the BCUCC. *LEVERAGE* is debt in current liabilities + long-term debt divided by book value of equity (D/E). *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC. *MTB* is the ratio of the market value of equity to the book value of equity. *CASH* is the percentage of cash of the total consideration paid. *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets. *RESEARCH* is research expense scaled by the sales. *EBITDA_CH* is the change in earnings before interest, tax, depreciation, and amortization scaled by market value of equity. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.

TABLE 10. Post-BCUCC New Public Debt Issuance—A Placebo test

Panel A: Univariate Analysis

Variables	Obs.	Mean Treatment	Obs.	Mean Control	DIFF	t-test
ISSUE_Q1	83	0.012	83	0.012	0.000	0.000
ISSUE_Q2	83	0.036	83	0.060	0.024	0. 721
ISSUE_Q3	83	0.072	83	0.060	-0.012	-0.310
ISSUE_Q4	83	0.084	83	0.072	-0.012	-0.287

Panel B: Regression Analysis—The Likelihood of Post-BCUCC Public Debt Issuance (n=146 matched pairs)

$$ISSUE_{i,t+1_t+4} = \beta_0 + \beta_1 HC\_BCUCC_i + \beta_2 SIZE_i + \beta_3 LEVERAGE_{pre_i} + \beta_4 CAPEX_{CH_i} + \beta_5 RESEARCH_i + \beta_6 \text{EBITDA\_CH}_i + \varepsilon_i$$

Variables	***Prediction***	Column 1 **ISSUE_Q1**	Column 2 **ISSUE_Q2**	Column 3 **ISSUE_Q3**	Column 4 **ISSUE_Q4**
Intercept		-9.575**	-10.467***	-6.876***	-6.835***
		(-2.40)	(-3.46)	(-3.68)	(-3.97)
HC_BCUCC	+	**-1.121**	**-0.393**	**0.397**	**0.356**
		(-0.70)	**(-0.47)**	**(0.59)**	**(0.57)**
SIZE	?	0.693*	0.997***	0.610***	0.610***
		(1.67)	(3.10)	(2.94)	(3.19)
LEVERAGE_pre	?	0.258	-0.339	-0.191	-0.079
		(0.37)	(-0.57)	(-0.37)	(-0.17)
CAPEX_CH	?	0.234	0.060	0.093	0.086
		(0.49)	(0.18)	(0.33)	(0.33)
RESEARCH	?	-1.747	-4.789	-5.937*	-4.302*
		(-0.43)	(-1.46)	(-1.74)	(-1.90)
EBITDA_CH	?	32.257*	-27.096*	18.126	16.750
		(1.92)	(1.74)	(1.55)	(1.59)
# of Observations		164	164	164	164
Pseudo R-squared		0.242	0.334	0.233	0.222

Panel A reports differences in the frequency of new debt issues between the group of parent firms that used the acquisition method to account for BCUCCs and the group of matched firms produced by the propensity-score matching.

Panel B reports results of logistic regression analyses testing the likelihood of post-BCUCC new public debt issuance. Column 1 reports results for issuance at the first three months post-BCUCC quarter end. Column 2 reports results for issuance at the first six months post-BCUCC quarter end. Column 3 reports results for issuance at the first nine months post-BCUCC quarter-end. Column 4 reports results for issuance at the first 12 months post-BCUCC quarter end.

Z-statistics are reported in parentheses ***, **, and * denote significance at the 1%, 5%, or 10% level, respectively. Reported p-values are based on two-tailed significance levels.

ISSUE_Q1 is an indicator variable if the firm issues new debt in t+1 (t being the quarter of the BCUCC) and total amount of long-term financial debt in t+1 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q2 is an indicator variable if the firm issues new debt either in t+1 or in t+2 and total amount of long-term financial debt in t+2 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q3 is an indicator variable if the firm issues new debt either in t+1, t+2, or t+3 and total amount of long-term financial debt in t+3 increases relative to the quarter pre-BCUCC and 0 otherwise; ISSUE_Q4 is an

indicator variable if the firm issues new debt either in t+1, t+2, t+3, or t+4 and total amount of long-term financial debt in t+2 increases relative to the quarter pre-BCUCC and 0 otherwise. DIFF is the average effect of treatment on the treated estimated after matching using the nearest neighbor matching method.
HC_BCUCC is an indicator variable equal to 1 if the firm engaged in a BCUCC carried out at historical cost and 0 otherwise. LEVERAGE_pre is a firm's leverage before the BCUCC. *LEVERAGE* is debt in current liabilities + long-term debt divided by book value of equity (D/E). *SIZE* is the natural logarithm of total assets in the quarter end prior to the BCUCC. *MTB* is the ratio of the market value of equity to the book value of equity. *CASH* is the percentage of cash of the total consideration paid. *CAPEX_CH* is the average four quarters post-BCUCC cash capital expenditure deflated by total assets minus the average four quarters pre-BCUCC cash capital expenditure on total assets. *RESEARCH* is research expense scaled by the sales. *EBITDA_CH* is the change in earnings before interest, tax, depreciation, and amortization scaled by market value of equity. Control variables are measured where applicable, at the period before the BCUCC. All continuous variables are winsorized at 1%. Standard errors are clustered by firm and fiscal year.