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Project	Post-implementation Review IFRS 3 <i>Business Combinations</i>		
Paper topic	Academic literature review		
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Purpose of this paper

1. This paper provides an overview of the academic literature relevant to the Post-implementation Review (PIR) of IFRS 3 *Business Combinations*. The objective of this paper is to:
 - (a) provide information about academic studies which give evidence relevant to answering the questions raised in the PIR of IFRS 3 Request for Information¹ (RFI), in particular questions 3, 4 and 5 (ie fair value measurement, separate recognition of intangible assets from goodwill and non amortisation of goodwill); and
 - (b) ask if the IASB has any questions about the academic literature presented in this paper.

Structure of the paper

2. This paper is structured as follows:
 - (a) background to the literature review;

¹ The RFI can be found here: http://www.ifrs.org/Current-Projects/IASB-Projects/PIR/PIR-IFRS-3/Request-for-Information-January-2014/Documents/RfI_PIR_IFRS3-Business-Combinations.pdf

- (b) relevance of information derived from fair value measurement;
- (c) evidence about issues relating to the implementation of IFRS 3;
- (d) evidence about auditing and enforcement of IFRS 3; and
- (e) conclusion.

Background to the literature review

3. Agenda paper 12 July 2013 identified issues that might have been challenging when implementing IFRS 3 (See Appendix 1). They include:
- (a) all business combinations are acquisitions (the abolition of pooling of interests);
 - (b) definition of a business;
 - (c) scope exception: common control transactions;
 - (d) measurement of assets and liabilities at fair value;
 - (e) recognition of intangible assets (especially the recognition of customer relationship intangible assets);
 - (f) non-amortisation of goodwill;
 - (g) contingent consideration;
 - (h) acquisition-related costs;
 - (i) measurement of non-controlling interests;
 - (j) accounting for step acquisitions; and
 - (k) disclosures.
4. A search of the academic literature² revealed that published studies are most likely to address aspects of topics (d), (e) and (f), that is, the recognition and measurement of goodwill and identifiable intangible assets and the impairment of

² The literature search was based on key words or phrases terms extracted from IFRS 3. The search focused on studies in the period 2000-2014.

them. Therefore, the evidence from the academic studies is most relevant to Questions 3, 4 and 5 of the RFI. The questions are as follows:

Question 3

(a) To what extent is the information derived from the fair value measurements relevant and the information disclosed about fair value measurements sufficient?^(a) If there are deficiencies, what are they?

(b) What have been the most significant valuation challenges in measuring fair value within the context of business combination accounting? What have been the most significant challenges when auditing or enforcing those fair value measurements?

(c) Has fair value measurement been more challenging for particular elements: for example, specific assets, liabilities, consideration etc?

(a) According to the *Conceptual Framework* information is relevant if it has predictive value, confirmatory value or both.

Question 4

(a) Do you find the separate recognition of intangible assets useful? If so, why? How does it contribute to your understanding and analysis of the acquired business? Do you think changes are needed and, if so, what are they and why?

(b) What are the main implementation, auditing or enforcement challenges in the separate recognition of intangible assets from goodwill? What do you think are the main causes of those challenges?

(c) How useful do you find the recognition of negative goodwill in profit or loss and the disclosures about the underlying reasons why the transaction resulted in a gain?

Question 5

a) How useful have you found the information obtained from annually assessing goodwill and intangible assets with indefinite useful lives for impairment, and why?

(b) Do you think that improvements are needed regarding the information provided by the impairment test? If so, what are they?

(c) What are the main implementation, auditing or enforcement challenges in testing goodwill or intangible assets with indefinite useful lives for impairment, and why?

5. Some studies investigate the value relevance of goodwill, identifiable intangible assets and impairment expense when IFRS 3 and IAS 36 *Impairment* are applied using data from share prices, market returns and firms' financial statements. Others examine the way the standards have been applied by looking at firm-level and country-level factors that are associated with the incidence, amount and timing of recognition of goodwill, identifiable intangible assets and impairment.³ Some studies review the level of compliance with IFRS 3 and IAS 36 by comparing the requirements of the standards and the disclosures in companies' financial statements. Other studies have gathered evidence from surveys of preparers and auditors.
6. In academic studies, value relevance refers to statistical tests of the association of an amount of an item recognised or disclosed by a company (such as goodwill, other intangible asset or impairment expense) and its share price (market value) or market return,⁴ for a sample of companies during one year or over a number of years. When an item is associated with share prices or market returns, academics interpret this to mean that the information has been used in determining share price.
7. For example, a test showing a significant positive association between the amount of goodwill recognised by listed companies in the European Union (EU) and the companies' share prices during the period 2005-2010 is interpreted as evidence that reported goodwill is relevant for investors, that is, useful for decision making.
8. The evidence in this review is drawn from publicly available published papers, located via Google Scholar and other databases of academic studies. Evidence from working papers that are not yet published is generally not included because the results of these studies may change prior to publication.

³ Firm-level factors include firm size, leverage, profitability and so forth. They also include ownership, governance and management remuneration structures. Country-level factors include elements that vary systematically by country, such as legal, financing and taxation systems.

⁴ Market value is determined based on a firm's share price and issued equity at a particular date. Market return is determined based on returns to shareholders, including share price changes and dividend payments.

9. An important caveat when comparing results from different studies is that the studies may not be directly comparable. The data collected reflects the companies included in the study, the time period and the models used in the statistical analyses. These factors often differ between studies so academics usually recommend caution in generalising the findings from a particular study to other firms and periods.

The relevance of information derived from fair value measurement

10. Question 3 of the RFI asks: to what extent is the information derived from the fair value measurement relevant and the information disclosed about fair value measurement sufficient? The RFI notes that fair value is used for measuring the recoverable amount of goodwill (p.12). Many academic studies investigate the value relevance of goodwill under IFRS 3 when an annual impairment test is used (ie the amount recognised reflects the recoverable amount, based on a fair value measurement of goodwill). This section also presents material that is relevant to Question 4(a) (Do you find the separate recognition of intangible assets useful?) because it reports findings from studies that examine the value relevance of separately identified intangible assets, which are measured at fair value in the acquisition process.
11. Considering companies applying IFRS 3, several studies report a positive association between goodwill and share prices. For a sample of EU listed firms (from France, Germany, Italy, Portugal, Spain and the United Kingdom (UK), n = 835) during the years 2008-2011 Laghi et al. (2013) showed that goodwill was positively associated with share prices and goodwill impairment expense was negatively associated with share prices. This finding is interpreted as showing that users gain information from the amounts recognised for goodwill and impairment and that the information is reflected in share prices. Larger goodwill amounts are associated with higher shares prices while larger impairment expenses are

associated with lower share prices.⁵ Similarly, Sahut et al. (2011) found that goodwill and other intangible assets were positively associated with share prices for listed firms (n = 1,855) from the EU (France, Sweden, Italy and the UK).⁶

12. Comparing the IFRS period (2005-2007) to the prior national GAAP period (2002-2004) Sahut et al. (2011) concluded that capitalised goodwill had lower value relevance in the IFRS period while other intangible assets were more value relevant. Aharony et al. (2010) considered 2,298 companies from 14 EU countries on transition to IFRS in 2005. They reported an increase in the value relevance of goodwill, which was larger in countries where national GAAP differed more from IFRS.
13. Further evidence is presented in single country studies. Chalmers et al. (2008) studied 599 Australian firms on transition to IFRS. They found that goodwill and capitalised software were more value relevant under IFRS 3 than prior national GAAP. In Australia, other intangible assets (patents, licences and research and development) were not more value relevant under IFRS.⁷ In a subsequent study, Chalmers et al. (2012) concluded that IFRS 3 measures of goodwill were more useful for investors (than prior national GAAP measures of goodwill), based on an analysis using accuracy of analysts' forecasts. Considering listed companies (n = 354 firm-years, non-finance sector companies) in Portugal during the period

⁵ The authors also considered sub-samples of firms by industry, country and incidence of goodwill impairment (impairment expense/goodwill asset). Goodwill and goodwill impairment expense were more likely to be value relevant for non-financial than financial firms and when the incidence of goodwill impairment was lower. Goodwill impairment was more likely to be value relevant in France than in Germany and Italy; and in 2008 and 2009 compared to 2010 and 2011.

⁶ Finland was also included in the study. Results showed goodwill and but not other intangible assets were positively associated with share prices.

⁷ The evidence from studies which compared value relevance pre and post IFRS adoption must be interpreted in light of the national GAAP used prior to the adoption of IFRS. The variety of methods used under national GAAP (e.g. some countries allowed goodwill to be written off against reserves or permitted the pooling of interest method on consolidation) will affect the results when value relevance of goodwill pre and post IFRS is compared. In relation to identifiable intangible assets, the Australian setting was different to many other countries in that prior GAAP permitted capitalisation of internally generated intangibles such as brand names and revaluation of identifiable intangible assets.

1998 to 2008, Oliveira et al. (2010) reported an increase in the value relevance of goodwill, other intangible assets and research and development under IFRS.⁸

14. Su and Wells (2014) investigated the extent to which intangible assets recognised on acquisition were associated with firms' future performance (measured by EBITDA). They considered takeovers by Australian firms during the period 1988-2008 (n = 367, 339 and 309 takeovers; that is, the number of observations one, two and three years subsequent to acquisition). They found recognised goodwill was positively associated with future performance in many of their tests however the identifiable intangible assets recognised were not.
15. There have been many criticisms of impairment testing of goodwill (see for example Agenda paper 13A November 2013). However research shows that goodwill impairment expense under IFRS 3/IAS 36 is value relevant, which is consistent with impairment providing useful information for investors. Studying large listed firms from the UK in 2005-2006 (n = 528 firm-years) AbuGhazaleh et al. (2012) reported a significant negative association between goodwill impairment expense and share price. As explained above in paragraph 11, this finding is interpreted as showing that users gain information from the amounts recognised for impairment and that the information is reflected in share prices. Larger impairment expenses are associated with lower share prices, consistent with impairment expense having a negative effect on users' views of firm value.
16. Considering 507 UK listed non-financial firms over a longer period (1997-2011) Amel-Zadeh et al. (2013) found goodwill impairment expense (under IFRS 3) was negatively associated with market value while goodwill amortisation (under prior UK GAAP) was not. The authors also reported a significant negative association between impairment and market returns and, in particular, current year stock returns and next year's impairment expense. The authors concluded that

⁸ A strength of these studies is that national standards pre-IFRS required the recognition and subsequent amortisation of goodwill. Thus they provide a stronger test of the investigation of the effect of non-amortisation of goodwill than other settings where companies used the pooling of interests method (and did not recognise goodwill) or goodwill was written off against reserves. (We thank Martin Glaum for this observation).

impairment expense provides relevant information because impairment expense was shown to be related to economic fundamentals.

Summary: value relevance of goodwill and impairment

17. Several studies point to the usefulness of measures of goodwill, identifiable intangible assets and goodwill impairment expense for investors when companies use IFRS 3. Table 1 (Panel A) lists relevant studies and shows goodwill and other intangible assets were positively associated with share prices while impairment expense was negatively associated. The evidence indicates these items are value relevant under IFRS 3 and also shows that the value relevance of other intangible assets has improved. Some single country studies suggest IFRS 3 goodwill information is more useful for analysts and positively associated with future performance. Thus some authors concluded that IFRS 3 has met the aims of standard setters when they issued the standard because IFRS 3 provides managers with a framework to reliably convey their private information about future cash flows (AbuGhazaleh et al., 2011).

Evidence about implementation issues

18. The studies discussed in this section are relevant to questions 3, 4 and 5 of the RFI, in particular the questions about implementation challenges and causes of these challenges when intangible assets are recognised separately from goodwill (Question 4(b)) and goodwill and indefinite useful life assets are subject to impairment (Question 5(c)).
19. Sahut et al. (2011) reported that, on average, total intangible assets increased by around 23 per cent for EU companies when the pre-IFRS period (2002-2004) was compared to the IFRS period (2005-2007). Goodwill increased from 10.67 to 13.18 per cent of total assets and other intangible assets increased from 4.44 to 5.41 per cent of total assets. Considering Swedish listed firms in the period 2001-2007 (232 to 254 firms per year) Hamberg et al. (2011) found that the amount of recognised goodwill increased following adoption of IFRS 3 and goodwill impairment expense was lower than amortisation expense under prior GAAP.

20. Glaum et al. (2014) studied 25,046 firm-years for non-financial firms and 5,427 firm-years for financial firms from 21 countries, including the US, that used IFRS during the period 2005-2011. They found that (a) the incidence and (b) the amount of impairment of goodwill were higher for firms with poorer performance (lower market return and lower profitability measured by return on assets). As expected, the amount of impairment was higher in 2008-2009 compared to other years. However, the authors reported that on average firms were less responsive to economic conditions during the financial crisis years than could have been expected (ie the association between impairment and economic performance was weaker than in the other years).
21. Some have questioned how firm attributes and managers' incentives will impact on goodwill measurement and impairment testing, given the judgements and estimates involved. Detzen and Zülch (2012) explored the relationship of managerial incentives and the amount of goodwill recognised on acquisitions, based on the ideas that potentially higher bonuses may lead managers to protect their remuneration by measuring identifiable intangible assets that require amortisation at a lower amount and goodwill (which is not amortised) at a higher amount. Considering 123 transactions by Stoxx Europe 600 companies in the years 2005-2008 the authors found that more goodwill was recognised when cash bonuses were larger (particularly within a range of 150-200 per cent of managers' base salary prior to acquisition).
22. Evidence from German listed firms (n = 805 firm-years) during the period 2004-2010 showed that the incidence of goodwill impairment expense was higher for more poorly performing companies, as expected given the relationship between economic performance, goodwill and impairment (Siggelkow and Zülch, 2013). This study also reported that firms with abnormally high earnings recorded larger amounts of impairment expense, which is evidence of income smoothing.⁹ Glaum et al. (2014) presented findings consistent with this conclusion. For their

⁹ In this study abnormally high earnings are determined assuming earnings are mean reverting (i.e. the 'random walk' model). Income smoothing and 'big bath' (i.e. taking excessive write-offs) are based on an Earnings Management Indicator (net income add tax and write offs (time t) less EBIT (time t-1) /total assets (time t)).

international sample of firms, they concluded firms with unusually high income used impairment as a means to smooth income.

23. Some may have expected that managers' decisions about amount of impairment expense would be associated with earnings based compensation, firm leverage, change of management or 'big bath' accounting behaviour.¹⁰ That is, managers may determine the amount of expense after taking into consideration its effect on earnings, assets and equity when these items are used in determining managers' remuneration or firms' debt covenants in contracts with lenders. However, Siggelkow and Zülch's (2013) study of German firms (2004-2010) did not find evidence that incidence of goodwill impairment was significantly associated with earnings based compensation, firm leverage, change of management or 'big bath' accounting behaviour.
24. Glaum et al. (2014) also investigated how managerial incentives impact on recognising impairment. Considering both incidence and amount of impairment for an international sample of firms, they found that new managers were more likely to record impairment and to recognise larger amounts, consistent with 'big bath' behaviour. They also reported that managers' compensation (when more strongly linked to current firm performance) was negatively associated with likelihood of impairment for the US IFRS firms but not for the non-US IFRS firms.
25. Based on UK listed firms, AbuGazaleh et al. (2011) (2005-2006) found that incidence of impairment was associated with management change, earnings smoothing and 'big bath' accounting behaviour. However, they also reported an association with effective firm governance mechanisms and concluded that managers were conveying private information to outsiders. The implication of this evidence is that firm governance mechanisms are important in the application of a standard such as IFRS 3, which involves managerial judgements and estimates.

¹⁰ See Glaum et al. (2014). 'Big bath' behaviour refers to the practice of recording a relatively higher level of expenses early in the tenure of a new CEO with the goal of showing relatively more earnings in future years.

When governance is stronger, it is assumed that the information contained in impairment recognition is more likely to be reliable.

26. Verriest and Gaeremynck (2009) considered the impact of firm governance on impairment decisions. They studied a sample (n = 62) of FTSE 300 firms that were expected to record goodwill impairment (because their book value of equity less market value of equity was less than reported goodwill). The authors stated that impairment was more likely for firms with better performance (based on earnings and share price) and stronger corporate governance (more independent directors on the board). Considering disclosure about impairment, they found that firm ownership structure and governance had only a weak association with disclosure.
27. Hamberg et al. (2011) reported that managers with longer tenure (more than five years) were less likely to record impairment (possibly because they were party to the original asset acquisition decision and thus more resistant to booking the write down). Glaum et al. (2014) explored a similar idea. They found that CEOs were less likely to record impairment in relation to the acquisitions for which they were responsible.
28. Some have questioned how investors and others interpret impairment information. For example, Hamberg et al. (2011) found that firms with abnormally high amounts of goodwill yielded abnormally high share market returns, despite abnormally low reported firm earnings.¹¹ The authors rationally expected higher returns to be associated with higher earnings, not the reverse. They then questioned whether the results suggested that market participants had interpreted the increase in earnings after adoption of IFRS 3 as an indication of higher future cash flows. The authors pointed to a possible misunderstanding by users of the impact on earnings of the change from amortisation of goodwill to impairment of goodwill.

¹¹ In this study, abnormal returns are calculated based on a mathematical model of expected share market returns (returns to shareholders over time, from owning shares in the company). A company has abnormally high returns when the realised returns are greater than the expected returns predicted by the model. Similarly, expected firm earnings are calculated based on models predicting company earnings based on their past earnings. A company has abnormally high earnings when the realised earnings are greater than the expected earnings predicted by the model.

29. Chalmers et al. (2011) concluded that IFRS 3 information better captures economic investment opportunities. They examined the association between goodwill impairment expense and firms' economic opportunity sets (a composite measure based on market to book value of assets; market to book value of equity; earnings to price ratio; market value of assets to book value of property, plant and equipment; and capital expenditure to market value of assets) for 4,991 Australian firm-years in the period 1998-2008. They concluded that although managers have discretion in impairment testing, goodwill impairment is recognised in a manner that reflects firms' underlying investment opportunities. This result can be interpreted to mean that although IFRS 3 involves managerial judgement and estimates, managers are not taking advantage of this discretion to produce self-serving measures of impairment.
30. Amirsalani et al. (2013) explored whether impairment expense is recognised in a timely way. They studied 4,474 listed companies from the EU, Norway and Switzerland in the period 2006-2011. They explored the extent to which recognised impairments were associated with economic losses reflected in share prices (based on models exploring the association of accounting earnings and share market returns). Companies in countries identified as having stronger enforcement had lower asymmetric timeliness. That is, companies in these countries were more likely to recognise earnings bad news (impairment expense) earlier than companies in countries with weaker enforcement.¹² The evidence points to the impact of country-level institutional features on financial reporting outcomes. Glaum et al. (2014) reached a similar conclusion. They found firms in low-enforcement countries were less timely in recognising impairment than firms in high-enforcement countries.¹³
31. A further aspect of the usefulness of IFRS information was explored by Schultze and Weiler (2010). Based on a series of models using the concepts of residual

¹² The level of enforcement is related to country features concerning: securities regulation, investor protection, enforcement of law, and disclosure and transparency of reporting practices. See Leuz (2010).

¹³ Glaum et al. (2014) used a measure of enforcement, the BPT Index, from Brown et al. (2014) that captures country differences in the framework for auditing and accounting enforcement.

income and goodwill,¹⁴ the authors concluded that IAS 36 provides information about value creation and value realisation that can be used in firms' performance measurement systems.

Implementation - choices

32. Impairment testing under IAS 36 involves managers' judgements and estimates. A number of studies provide commentary on this issue. Hamberg et al. (2011) reported that most firms did not reclassify goodwill or make additional impairment write offs on transition to IFRS in Sweden suggesting that discretion was not used by managers in a self-serving way.
33. Some studies have explored the data used in impairment calculations. Husmann and Schmidt (2008) provided an analysis that concluded weighted average cost of capital (WACC) is the only suitable starting point for the discounted cash flow calculation because the other starting points are not sufficiently clear, leading to substantial measurement errors and allowing earnings management. They recommended a change to IAS 36 to require WACC as the starting point. Kvaal (2007) noted complexity relating to the use of pre-tax discount rates in measuring an asset's recoverable amount under IAS 36. He recommended the use of company-specific after tax cash flows for value in use calculations, with deferred taxes considered in the impairment review.
34. Carlin and Finch (2009) suggested that opportunism is observed in the choice of discount rates for impairment calculations. The authors based their conclusion on a comparison of the discount rates disclosed by large listed Australian firms with independently generated risk-adjusted rates. However, Bradbury (2010) questioned the data and approach used in this study and concluded that it cannot show opportunism as claimed.
35. Considering managerial choices, Lopes et al. (2013) investigated managers' decision to classify non-controlling interest as non-equity. They studied German firms using IAS/IFRS in 2002-2004 and 2006-2008 and tested whether the value

¹⁴ See Ohlson (1995) and O'Hanlon and Peasnell (2002).

relevance of non-controlling interest was different in the two periods because it was classified as non-equity in the first period and equity in the second period. The authors reported no difference in value relevance between the two periods and concluded that non-controlling interests were priced by the market in the same manner irrespective of whether they were reported as equity or non-equity.

Implementation – disclosure

36. Camodeca et al. (2013) investigated the level of disclosure about goodwill impairment testing in the annual reports of 85 large listed non-financial UK firms in the period 2007-2011. The authors reported a lack of disclosure about key assumptions of the components in the discounted cash flow model as required by IAS 36 (such as elements of the recoverable amount calculation – discount rate, g-rate and terminal value). Following the financial crisis in 2008, disclosure increased but key pieces of information were still omitted.
37. In contrast, Amirsalani et al. (2013) were more positive about disclosure quality. They studied 324 listed EU firms (2010-2011) and reported that companies provided adequate disclosure about assumptions and factors associated with estimation uncertainty. However, they pointed to excessive use of boilerplate language and restatements of the words used in IAS 1 and IAS 36. The authors concluded that the majority of companies appear to be ‘box-ticking their way through the compliance process’ (2013: 5). The authors noted a lack of meaningful disclosures about revisions to past impairment-related assumptions, which could have been expected because of changes in economic conditions from 2008. They also observed a trend towards more compliance with disclosure requirements that required less managerial effort to prepare and lower compliance with items with high compliance effort.
38. Johansen and Plenborg (2013) provided a cost-benefit analysis of IFRS disclosures, based on a survey of users (n = 288) and preparers (n = 89) of financial reports. They found that IFRS 3 and IAS 36 disclosures were the most highly demanded (along with IFRS 7 disclosures), the most costly to prepare and users were less satisfied with notes relating to IFRS 3 and IAS 36.

Summary – evidence about implementation issues

39. The evidence from academic studies (listed in Table 1, Panel B) suggests managers are exercising their discretion in the recognition of goodwill and impairment expense, as expected. Studies indicate some evidence of income smoothing and ‘big bath’ behaviour. In relation to tenure, managers with longer tenure were less likely to impair. However, the evidence is not found in all studies and some researchers show effects in one country and not others (eg the association between managers’ short-term remuneration and impairment recognition among US IFRS firms but not non-US IFRS firms). Importantly, some researchers point to links between impairment recognition and underlying economic fundamentals and conclude that impairment is capturing useful information for investors. This conclusion is supported in several studies investigating the value relevance of goodwill, impairment and other intangible assets referred to earlier in this paper (see Table 1, Panel A).
40. Some studies raised questions about the timeliness of recognition of impairment, particularly around 2008-2009. A strong conclusion from two large international studies is that the timeliness of impairment recognition varies between countries. Firms in countries characterised as having less accounting enforcement or general legal enforcement were more likely to be less timely in recognising impairment.
41. Researchers found that impairment-related disclosures were important to users. Studies point to differences in levels of disclosure between firms in different industries and countries. Others suggest disclosure has improved however questions were raised about the boilerplate nature of disclosure and the missed opportunity to increase in meaningful disclosures during the 2008-2009 period.

Evidence about auditing and enforcement of IFRS 3

42. The studies discussed in this section are relevant to questions 3, 4 and 5 of the RFI, in particular the questions about auditing and enforcement challenges and causes of these challenges when intangible assets are recognised separately from goodwill (Question 4(b)) and goodwill and indefinite useful life assets are subject to impairment (Question 5(c)).

Evidence about auditing issues

43. One study provided insights about the cost of implementation of IFRS 3. De George et al. (2013) examined audit costs on transition to IFRS in Australia. They reported a mean increase of 23 per cent in the year of transition. They surveyed auditors on the topic of audit complexity and found that IAS 36 was ranked fourth (after IAS 39, IFRS 2 and IAS 32) using a ranking based on audit effort/complexity.
44. Pajunen and Saastamoinen (2013) sought the views of Finnish auditors about IFRS 3 and IAS 36. They surveyed 523 auditors and received 123 responses (a response rate of 23.5 per cent). Auditors' views were in two streams: one view was that managers behaved opportunistically in goodwill write-off decisions. This view suggests that some managers attempt to avoid goodwill impairment, write-offs are not always taken when it would have been appropriate to do so, and management compensation affects impairment decisions. The other gave a more favourable view of IFRS goodwill accounting procedures showing acceptance of valuation based on future cash flows involving management estimates. The authors also reported that Big 4 auditors were more favourably disposed to IFRS 3 goodwill accounting than non-Big 4 auditors.
45. Glaum et al. (2014) reported that the likelihood of recording impairment was higher for US IFRS firms with Big 4 auditors. This relationship was not observed for non-US IFRS firms.

Evidence about enforcement issues

46. Glaum et al. (2014) used three variables to capture the financial reporting and auditing environment in various countries - the Brown et al. (2014) accounting enforcement scores; the 'rule of law' scores (Kaufmann et al., 2010); and the level of capital market development.¹⁵ In empirical models investigating the incidence of impairment, the first two variables had a negative relationship and the third had

¹⁵ Rule of law is a country level measure produced by the World Bank based on surveys of a range of stakeholders about the operation and observance of laws in various countries.

a positive relationship with the likelihood of impairment. The authors concluded that higher levels of accounting and legal enforcement led to better decision making (and lower likelihood of impairment) but managers in more developed capital markets were likely to have less discretion in relation to impairment testing. Considering the amount of goodwill impairment expense, the authors found it was positively associated with the level of accounting enforcement.

47. Research has identified some non-compliance with the disclosure requirements of IFRS 3 and IAS 36. Glaum et al. (2012) investigated compliance by 357 listed firms from 17 countries in 2005. They found substantial non-compliance, based on an analysis of the data provided by firms in audited financial statements against checklists of the requirements of IFRS 3 and IAS 36. The authors reported that levels of compliance vary between countries. Higher compliance was associated with firm level factors (equity issuance, more dispersed ownership structure), industry membership (non-financial firms) and the strength of national enforcement systems. Compliance was higher for firms with Big 4 auditors and audit committees.
48. Amiraslani et al. (2013) examined impairment disclosures for 324 listed companies from the EU, Norway and Switzerland in 2010-2011. The authors constructed compliance indices based on Ernst & Young's impairment disclosure checklists and reviewed the disclosures that should be observed in annual reports of companies with asset write-downs. They found that compliance with disclosure requirements varied considerably between companies by country and by industry.
49. Amiraslani et al. (2013) found that disclosure quality was reasonably high (they reported compliance rates around 82 per cent) and disclosure about other intangible assets was of lower quality than that relating to goodwill and property, plant and equipment. They measured disclosure quality based on compliance with IFRS requirements in 11 specific areas. They classified disclosures as 'high effort' and 'low effort' disclosures.¹⁶ They reported relatively high levels of compliance with goodwill disclosure requirements: 87 per cent for low effort and 74 per cent

¹⁶ High effort disclosures required more effort and judgement in their preparation while low effort disclosures were more likely to use boilerplate language.

for high effort disclosures. Disclosure compliance varied between countries, being higher in countries with stronger enforcement. Firm factors associated with higher compliance included audit quality (proxied by being audited by a Big 4 audit firm), type of industry, leverage, intensity of goodwill impairments and firm size.

50. Amirjalani et al. (2013) concluded that disclosure compliance varied between asset classes and across industries. They reported lower compliance for disclosures related to intangible assets (73%) compared to property, plant and equipment (86%) and goodwill (78%). Some industry sectors with high levels of goodwill impairment (consumer services and technology) have high levels of compliance. Impairment intensive sectors such as oil and gas and industrials also showed high levels of compliance (90% and 84% respectively).
51. Studies of Australian companies reported non-compliance with IAS 36 (Carlin and Finch, 2010; Carlin and Finch, 2011). Carlin and Finch (2010) studied 50 listed Australian companies in the financial years 2005 or 2006. They stated that more than ten per cent of companies failed to disclose the discount rates used when estimating the recoverable amount of cash generating units.
52. Guthrie and Pang (2013) studied 287 Australian listed firms from 2005 to 2010 and concluded there was some non-compliance with IAS 36 and that compliance improved over time. For example, 61 per cent of firms allocated all goodwill to cash generating units in 2005 and 80 per cent did so in 2010. They found that the number of cash generating units defined by companies increased over the study period but there were still possible concerns about the way managerial discretion was used: around 60 per cent of companies in each year identified a number of cash generating units that was the same as or less than the number of reported segments.
53. Petersen and Plenborg (2010) investigated compliance with IAS 36 using a survey of companies listed on Copenhagen Stock Exchange (n = 58, 73% of companies) in 2006. The results pointed to some inconsistencies in application relating to defining cash generating units and estimating recoverable amounts. However, the authors were unable to determine if the inconsistencies related to companies taking an approach suited to their organisation and economic structures or uncertainty as to how to apply the standard. The authors also found that

inconsistencies were lower among firms that systematised their procedures for impairment testing and used persons with considerable valuation experience.

Summary – evidence about auditing and enforcement

54. The evidence from academic studies (listed in Table 1, Panel C) showed the incidence and amount of impairment was associated with country differences in the level of activity to enforce accounting standards and laws. On average, incidence of impairment was not found to be associated with having a Big 4 auditor however the relationship was observed for US firms using IFRS.
55. Studies also reported that levels of compliance with IFRS 3 and IAS 36 disclosure requirements varied between companies, industries and countries. Compliance appeared to be higher for firms with Big 4 auditors. Some studies concluded that key items used in impairment testing were not being disclosed (eg key assumptions and data). Other research pointed to improvement in compliance levels since the standards were first adopted.

Conclusion

56. A number of academic studies have addressed matters of interest to the IASB that were stated in the RFI for the PIR of IFRS 3. This paper summarises evidence from relevant studies considering the value relevance of goodwill, other intangible assets and impairment. It also reports findings of studies investigating application issues and compliance with IFRS 3 and IAS 36. This review, based on 28 published studies and two working papers, provides evidence generally in support of the current standards particularly in relation to the usefulness of reported goodwill, other intangible assets and goodwill impairment for firms using IFRS 3 and IAS 36. As expected, some studies showed the impact of managerial incentives on impairment recognition. Nevertheless some authors pointed to an association between impairment and economic factors, market indicators and firm earnings and concluded that impairment recognition was conveying relevant information. Other studies identified areas for improvement, particularly in

relation to disclosure practices. The studies and their findings are summarised in the following table.

Table 1 Summary of research evidence

Panel A Value relevance studies	Country	Years	Goodwill	Impairment expense	Other intangible assets
AbuGhazaleh et al. (2012)	UK (n = 528)	2005-2006		Negative association with share price	
Amel-Zadeh et al. (2013)	UK (n = 507)	1997-2011		Negative association with share price; negative association with market returns	
Aharony et al. (2010)	14 EU countries (n = 2,298)	2004-2005	More value relevant under IFRS		
Chalmers et al. (2008)	Australia (n = 599)	2005-2006	More value relevant under IFRS		More value relevant under IFRS (capitalised software)
Chalmers et al. (2012)	Australia (n = 3,328 firms years)	1993-2007	More useful for analysts under IFRS		
Laghi et al. (2013)	France, Germany, Italy, Portugal, Spain, UK (n = 835)	2008-2011	Positive association with share price	Negative association with share price	
Oliviera et al. (2010)	Portugal (n = 354 firm-years)	1998-2008	More value relevant under IFRS		More value relevant under IFRS (incl. capitalised R&D)
Sahut et al. (2011)	France, Sweden, Italy, UK (n = 1,855)	2002-2007	Positive association with share price. Value relevance decreased (relative to other intangible assets) in the IFRS period.		Positive association with share price. Value relevance increased (relative to goodwill) in the IFRS period.

Su and Wells (2014)	Australia (n = 367-309)	1998-2008	Positively associated with future performance		Not associated with future performance
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Panel B Implementation and incentives studies	Country	Years	Income smoothing, big bath using impairment recognition	Compensation, tenure	Timeliness of impairment recognition
AbuGhazaleh et al. (2012)	UK (n = 507)	2005-2006	Evidence of income smoothing and big bath		
Amiraslani et al. (2013)	EU, Norway, Switzerland (n = 4,474)	2006-2011			More timely in countries with strong enforcement
Detzen and Zülch (2012)	Germany (n = 805 firm-years)	2004-2010	Evidence of income smoothing		
Glaum et al. (2014)	21 countries including US IFRS firms (n = 25,046 and n = 5,427 firm-years for non-financial and financial firms)	2005-2011	Evidence of income smoothing	Longer tenure, impairment less likely	More timely in countries with strong enforcement
Hamberg et al. (2011)	Sweden (n = 232-254 firms)	2001-2007		Longer tenure, impairment less likely	
Chalmers et al. (2011)	Australia (n = 4,991 firm-years)	1998-2008			Reflects underlying investment opportunities

Panel C Compliance studies	Country	Years	Incidence	Disclosure	Enforcement
Amiraslani et al. (2012)	EU, Norway, Switzerland (n = 324)	2010-2011	Boilerplate language used. Lack of change post-2008. More compliance with low-effort disclosure items	Rate of compliance around 82% for goodwill disclosure. Adequate disclosure of assumptions and relevant factors	Compliance higher for firms with Big 4 auditors
Camodeca et al. (2013)	UK (n = 85)	2007-2011	Disclosure improved post-2008	Lack of disclosure of some key assumptions used in impairment	
Carlin and Finch (2010)	Australia (n = 50)	2005-2006		Ten per cent of companies failed to disclose discount rates for impairment	
Glaum et al. (2012)	17 countries (n = 357)	2005			Compliance higher for firms with Big 4 auditors
Glaum et al. (2014)	21 countries including US IFRS firms (n = 25,046 + n = 5427 firm-years)	2005-2011	Companies with higher market returns and ROA less likely to impair		Delays in recognition of impairment in low enforcement countries
Guthrie and Pang (2013)	Australia (n = 287)	2005-2010	More companies allocated goodwill to CGUs over sample period (61% improved to 80%)		
Johansen and Plenborg (2013)	Denmark - Financial report preparers (n=89) and users (n=288)	Pre 2013		IFRS 3 and IAS 36 disclosures were highly demanded, most costly to prepare and least satisfying (along with IFRS 7)	

Question for the IASB

Question

Does the IASB have any questions about the academic literature presented in this review?

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Appendix 1 — Agenda Paper 12 July 2013 Issues that might have been challenging when implementing IFRS 3

A1. Based on the Basis for Conclusions, Project Summary, Feedback Statement and Effect Analysis of IFRS 3 and matters addressed to the IFRS Interpretations Committee, the following list includes some of the areas in which the implementation of IFRS 3 might have been challenging. The list is not intended to be comprehensive and exhaustive and will be revised during Phase I of the PIR.

- (a) All business combinations are acquisitions (the abolition of pooling of interests)

This was one of the core changes brought in by IFRS 3 (2004) to the former Standard for the accounting of business combinations, IAS 22.

- (b) Definition of a business

Identifying when a transaction involves a business compared with when it involves just a collection of assets is critical to determining whether a transaction is a business combination or just the purchase of assets. The difference in the accounting requirements for a business combination compared with the accounting for the purchase of a group of assets that is not a business elevates the importance of the definition of a business.

- (c) Scope exception: common control transactions

Common control transactions were not within the scope of IAS 22 and neither were they within the scope of IFRS 3 (2004) or IFRS 3(2008). Any feedback we receive in relation to this topic during the PIR of IFRS 3 it will be passed on to the Business Combinations Under Common Control research project.

- (d) Measurement of assets and liabilities at fair value

According to the FAF's report, this matter was identified as one of the main challenging areas for preparers when applying Statement 141R. We might receive similar feedback on this area, because IFRS 3 was being applied before the issuance of IFRS 13 *Fair Value Measurement* and, as result, entity-specific instead of market-based assumptions might have been used more extensively in a number of cases.

- (e) Recognition of intangible assets (especially the recognition of customer relationship intangible assets)

We expect that identifying and measuring the intangible assets acquired in a business combination would have been a challenging area for entities implementing IFRS 3. The FAF's report on Statement 141R states that preparers and practitioners had difficulties in this area.

In addition, it has been argued there is a lower hurdle in IFRS 3 for the recognition of intangible assets when compared to IAS 38 *Intangible Assets*.

(f) Non-amortisation of goodwill

IFRS 3 (2004) prohibited the amortisation of goodwill acquired in a business combination and instead required goodwill to be tested for impairment annually, or more frequently if events or changes in circumstances indicate that the asset might be impaired, in accordance with IAS 36 *Impairment of Assets*.

Some constituents have expressed concerns about whether the impairment test is able to present negative economic cycles in entities' financial statements in a timely manner. We have also learnt of concerns relating to the high number of assumptions used for the calculation of the impairment and the risk of this information being too subjective.

(g) Contingent consideration

We expect that measuring contingent consideration at fair value would have been a challenging area for entities implementing IFRS 3. The FAF's report on Statement 141R states that preparers and practitioners had difficulties in this area.

(h) Acquisition-related costs

IFRS 3 (2008) modified the requirements for the accounting for fees paid in relation to a business combination from IFRS 3 (2004), in which those costs were included in the cost of the acquisition. The requirements of IFRS 3 (2008) required that acquisition-related costs should be recognised as an expense at the time of the acquisition. This was generally not well received when IFRS 3 (2008) was issued. Some constituents argued that acquisition costs should be included in goodwill to ensure that the total outlay was reflected in the statement of financial position.

The PIR will offer us an opportunity to understand whether this and other concerns at the time when IFRS 3 (2008) was issued have remained and whether any other related issues have arisen (eg acquisition-related costs associated with non-controlling interests).

(i) Measurement of non-controlling interests

The general concern in this area is a general lack of accounting framework for transactions with non-controlling interests.

We also expect to receive feedback relating to, among other things, the following matters:

- (i) the measurement option allowed in IFRS 3 (2008) for non-controlling interests; and
- (ii) the accounting for impairment testing of goodwill when non-controlling interest are recognised.

(j) Accounting for step acquisitions

IFRS 3(2008) requires the remeasurement of any previously held interests in the acquiree at fair value. When IFRS 3 (2008) was issued, some constituents expressed their disagreement with this accounting model because they viewed each step in a step acquisition as a transaction in which the acquirer only obtains more shares in the acquiree. Because the shares that the acquirer previously held have not been exchanged or sold, they believed that the recognition of profit or loss was not appropriate.

The PIR will offer us an opportunity to understand whether this and other concerns at the time when IFRS 3 (2008) was issued have remained and whether any other related issues have arisen.

(k) Disclosures

The PIR should enable us to receive feedback relating to the usefulness of the information provided by the disclosure requirements in IFRS 3 in order to assess opportunities for improvements in the Standard and also to identify any general enhancements that could be considered by the IASB.