Historical perspectives on accounting for M&A

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Historical perspectives on accounting for M&A

Accounting for M&A has a fraught history. For example, Zeff (2005) argues that, in the US, disagreements over accounting rules for purchased goodwill are partly to blame for the demise of both the Committee on Accounting Principles and the Accounting Principles Board. The current FASB rules had only emerged after a tortuous, politicised process in which FASB’s original proposals were overturned in the face of aggressive lobbying by business, whose objections had been taken up by Congress (Zeff (2002)). Then, when the IASB resolved to bring its rules for M&A accounting into line with those of FASB, some Board members wrote vigorous memoranda of dissent (IASB (2005)). Now, the final FASB/IASB consensus is under fire from preparers and academics, and under review by the standard-setters (e.g. Comiskey and Mulford (2010), Ramanna and Watts (2012), EFRAG/ASBJ/OIC (2014), ESMA (2014), KPMG (2014); FASB (2014a), FASB (2014b), IASB (2014), IASB (2015)).

For mergers of substantial listed firms, a non-specialist can simply read in the general press how much the bidder paid for the target. And so she must often be bewildered by the vigour of the disputes among executives, academics and regulators over how the accountants should then record the transaction, and by the revolutions and counter-revolutions in the accounting regimes governing such records. For example, in the last twenty years in the US and UK, acquiring firms have been variously encouraged, allowed and forbidden to leave out of their balance sheet the excess they paid for a target over its previous book value. When they have included that excess in the balance sheet, they have variously been required, allowed, and forbidden to record in the income statement its depletion in value by means of a regular annual amortisation charge. The non-specialist must be even more bewildered then to read many academics arguing that, actually, as far as many standard-

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1 The terms merger, acquisition, and takeover are used interchangeably in the paper to refer to any business combination. To reduce confusion, “pooling” and “purchase” are reserved for the techniques of accounting for combinations which have sometimes been described as “merger” and “acquisition”.

2 Zeff (1972) provides a vivid blow by blow account of the struggles preceding the 1970 compromise Opinions.

3 Encouraged – SSAP22; allowed – AICPA (1970a,b); forbidden – SFAS141, IFRS3. See below.

4 Required – FRS10; allowed - AICPA (1970a,b)(as an option to pooling); forbidden – SFAS141, IFRS3. See below.
setters’ prime objective of decision-usefulness, or value-relevance, is concerned, it does not matter whether or not to record amortisation - the subject which caused the US Congress such angst: it does not tell investors anything they cannot already work out for themselves.

This paper attempts to tease out some of the reasons why this history has been so fraught. It compares the different M&A accounting regimes which have been tried over time. It illustrates the quantitative impact of alternative regimes on financial statements. It asks whether the resulting numbers make any difference to decisions and behaviour. And it suggests that a number of historical developments - in firms’ choice between M&A or CAPEX, in technology, in means of payment for M&A, in stock market price movements, in the synergies created by M&A, and in “creative accounting” - have intensified the challenges posed by accounting for M&A.

It turns out that M&A accounting suffers from many of the recurrent tensions in financial reporting: between the objectives of value-relevance and stewardship; between the measures of cost and market value; between the interests of owners and of managers; and between the assumptions of equity market efficiency and “irrational exuberance”.

Some terminology in accounting for M&A

Figure 1 presents key terms used below in discussing M&A accounting. Inevitably, given our length constraint and our remit to locate the accounting in the economics and the history of several jurisdictions, our discussion cannot do justice to the full complexity of accounting for M&A. For example, we do not explore the role of fair value adjustments – Amel-Zadeh et al (2012) find that in practice they have been insignificant on average in the UK. Interesting complications such as transaction costs (Meeks and Meeks (2001)), toeholds, non-controlling interests, and special devices such as UK merger relief, are not examined. Nor is the role or accounting treatment of taxation in relation to M&A.
With these simplifications, the first bar in the figure represents the value of the target’s business in its own books prior to the deal (BOOK), based on the relevant accounting standards. The second bar represents the conventional measure of the market value of the target before the deal is launched (MARKET, measured as the number of shares times the share price)\(^5\). Typically the bidder has to pay a PREMIUM over MARKET to secure control\(^6\). This is because the market value ahead of the bid represents the equilibrium price at which the marginal buyer and the marginal seller of the respective share will trade. But to secure a controlling interest in the target, the bidder has to persuade many intra-marginal holders of the shares to sell, and they value the firm at a higher figure than its pre-bid price. So the purchase consideration, PAYMENT, in the third bar comprises MARKET plus PREMIUM. The implicit economic rationale for the bid from shareholders’ perspective is represented in the fourth bar: there should be SYNERGY from the deal – financial gains which are achieved by the two businesses together but which would not be available if they remained independent - whose discounted value exceeds the PREMIUM over MARKET\(^7\).

The fifth and sixth bars reflect one of the major rifts in standard-setting for M&A – between the two main ways in which, historically, the deal has been represented in the acquirer’s balance sheet under different accounting standards. In one scheme, the target is represented as BOOK (the fifth bar): this is “pooling” (sometimes “merger”) accounting or – what can be equivalent in its effect on equity and earnings - immediate write-off of goodwill against reserves\(^8\). The target’s assets shift to the combination’s accounts at their previous valuation: no purchased goodwill (PGW) is recognised. In the competing regime (represented in the sixth bar) - “purchase” (sometimes “acquisition”)

\(^5\) It is simpler to discuss the valuation of a listed target, where market prices are published; but the same framework applies to unlisted targets. Prices of target shares tend to rise in the weeks ahead of a bid (Jarrell and Poulson (1987); Schwert (1996)), presumably because of insider trading or rumours about a pending offer: in this framework that price rise is incorporated in PREMIUM.

\(^6\) Distinct from the more common notion of “premium” in the share premium account – the excess over par value when new shares are issued.

\(^7\) For example, economies of scale; but also, in this context, private gains to the firms which are associated with social costs to society, such as tax inversion schemes to avoid tax, or horizontal mergers to eliminate competitors with associated disadvantages to customers. The managers’ synergy estimates are not routinely disclosed, though earnings forecasts are sometimes volunteered (Amel-Zadeh, Lev and Meeks (2015)).

\(^8\) The two can be equivalent, for example, if the acquirer pays with her own shares, if payment equals the target’s market value, and if market/book is the same for acquirer and target.
accounting - the transaction is represented as PAYMENT: BOOK, plus the discrepancy between MARKET and BOOK, plus PREMIUM. The discrepancy is labelled purchased goodwill (PGW)\(^9\) and included in the balance sheet as a component of intangible assets.

In prescribing the accounting treatment of the acquisition, therefore, the standard-setter has an embarrassment of riches from which to choose: two measures of cost (BOOK and PAYMENT) and two measures of market value (MARKET and PAYMENT).

In practice there is huge diversity across firms in the relative size of these numbers, diversity which the paper discusses below; sometimes PAYMENT is even below BOOK – i.e. purchased goodwill (PGW) is negative (see, e.g., Comiskey, Clarke and Mulford (2010)). But the relative sizes of the bars in the diagram reflects their typical relationship in recent decades in the US or UK: MARKET to BOOK of around 1.6 (e.g. Penman and Reggiani (2014)) and PREMIUM to MARKET of around 0.3 (e.g. Amel Zadeh, Lev and Meeks (2015), Mauboussin (2014)). So in a typical case the resulting purchased goodwill (PGW = PAYMENT minus BOOK) in purchase accounting will be very significant.

The second major rift in standard-setting concerns how to handle the subsequent depletion of this purchased goodwill if the purchase regime is adopted. Should there be a regular charge in the income statement for annual amortisation (AMORT) - a prescribed formula to spread the cost of PGW over its useful life, analogous with depreciation of tangible fixed assets? Or should the acquirer’s managers have discretion to decide whether PGW has diminished in value during the year or not, and, if it has, to estimate by how much? The estimated depletion will then appear in an impairment charge in the income statement (IMPAIR). In practice the numbers calculated for AMORT and IMPAIR would rarely coincide.

The lower bars in Figure 1 illustrate the position under the different depletion regimes in the financial statements a year after the deal. The seventh bar represents the valuation of the target in the acquirer’s books, other things equal, under pooling: no change from a year earlier. The eighth

\(^9\) Johnson and Petrone (1998) provide a helpful analysis of the goodwill concept.
bar represents the valuation under purchase-plus-amortisation, on an amortisation rate, assumed for illustration, of 10%. The ninth bar represents the situation under purchase-plus impairment when the acquirer management judges that PGW has not been diminished: the valuation is the same as a year earlier. Finally, the tenth bar reports what would happen if the management of the acquirer took the same view as HP’s executives did a year after their acquisition of Autonomy: 100% of the PGW attributed to Autonomy was written off in an impairment charge. In this (extreme) case the valuation in Figure 1 reverts to BOOK.

Much of the debate over accounting for M&A for the last 70 years might then be encapsulated in these questions relating to purchased goodwill, PGW, the variable which reconciles market and book values when they collide in M&A:

i. Should it be recognised on the acquirer’s balance sheet?
ii. If so, is it an eroding asset - in which case, how should its depletion be measured – formulaic amortisation or discretionary impairment?

**Materiality of the choices: implications for performance measurement of different M&A accounting choices**

To anchor the later discussion in accounting practice this section re-works the accounts for an actual acquiring company to show what the effect on the income statement and balance sheet would have been if it had reported its results under each of the main alternative regimes in force in recent history, each one answering these two questions differently. The illustrative case is Vodafone’s acquisition of Mannesmann in 2000. Vodafone made a PAYMENT of £101bn to secure assets with a BOOK value of £18bn, resulting in purchased goodwill (PGW) of £83bn.

The prevailing accounting standards at the time of the deal (FRS6, FRS10, FRS11) required Vodafone to recognise the £83bn PGW in its balance sheet, and to amortise it over its useful life (assumed to be 10 years - £8.3 bn p.a. amortisation). By year ending March 2006 different accounting standards
had been introduced (IFRS3, IAS36); and now amortisation was prohibited; Vodafone was expected
instead to estimate the current value of its purchased goodwill (using a forecast of (discounted)
future appropriable cash flows) and to make a goodwill impairment charge in the income statement
(IMPAIR) representing the difference between carrying value and its estimate of the current value of
PGW. Vodafone made an impairment charge of £23.5bn in 2006.

Figure 2 reports the paths of equity and of earnings for Vodafone for 2001 to 2006 under four
accounting regimes, three of them counterfactual. The “as if” simulations assume that the cash
flows in the four regimes are identical – the actuals for Vodafone: the differences arise just from
differences in the assumed accounting regime. In each case the first bar shows the numbers actually
reported by Vodafone in its annual report. The second bar shows the numbers which would have
resulted had Vodafone instead been reporting the deal as a pooling transaction under the then
current US regime (AICPA(1970)), or with immediate write-off of purchased goodwill, a regime which
was the norm in the UK just three years earlier (ASB(1994)). The third bar reports equity and
earnings as if the firm was reporting the deal in all six years as a purchase-plus-amortisation
transaction available as an option under the US regime current in 2000. And the fourth bar shows
the numbers which emerge from assuming the transaction was reported instead throughout under
the purchase-plus-impairment regime which was subsequently introduced for the US in 2001 and by
IASB in 2005.

The comparison shows the materiality for the balance sheet and income statement of the
accounting differences. In some years, the level of reported equity for Vodafone in one regime is
only half that in another. In one year (2006), the change in equity is plus £9bn in one regime, but
minus £56bn in another. For the six years together, earnings are close to break-even for one regime,
negative £56 bn for another and negative £71 bn in the other two.
Figure 3 broadens the perspective on materiality to the whole company sector. It reports for a population of UK listed companies the movements in goodwill in the aggregate balance sheet. At cost, recorded goodwill rises from close to zero under the (non-recognition) standards preceding FRS10 to over 20% of total assets by the end of the FRS10 regime, with cumulative amortisation plus impairment rising to a little over 6% of total assets. The graphs also reveal the very large differences between years in the rate at which goodwill is acquired and impaired. This cyclical characteristic is discussed below.

**Does it really matter?**

Whether these differences in the financial statements are deemed to matter depends on the standard-setters’ objectives, the level of efficiency which obtains in the equity market, and managers’ motivations. The considerations can conveniently be explored through two pair-wise comparisons: between pooling and purchase-plus-amortisation, and then between purchase-plus-amortisation and purchase-plus-impairment.

1. **Pooling versus purchase-plus-amortisation**

Suppose the regulators’ sole objective for the accounts is decision-usefulness, interpreted as value-relevance (FASB 2001; IASB 2010) – i.e. they should aim to release data which inform and influence, for example, investors’ portfolio choices, and consequently stock market prices (which in turn provide firms with information on their cost of capital). And suppose that the stock market is semi-strong efficient in Fama’s (1970) sense – it impounds all relevant information which is in the public domain, including the published accounts. Then the choice of regime between pooling and purchase-plus-amortisation will be of no consequence. This is because there will be enough

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10 Non-financial, with financial years ending in December.
11 On the introduction of IFRS some firms netted off the amortisation account against goodwill, while others continued to report gross cost and amortisation/impairment accounts. The data before and after IFRS cannot therefore be compared directly.
information in the public domain for analysts to “see through” and “reverse out” the impact of the alternative accounting rule on the financial statements.

Ayers et al (2000) demonstrate that it is indeed possible in practice to reverse out the consequences of pooling: they reconstruct the accounts of pooling acquirers as if they had instead used purchase accounting, calculating the extra amortisation and reduction in earnings which would result. And, as might be expected if analysts could readily adjust for the accounting differences, studies of the impact of this particular regime choice on share prices have concluded that the current year’s amortisation does not affect share price – it “simply adds noise” and “eliminating goodwill amortisation from the computation of net income will not reduce its usefulness to investors” (Jennings et al (2001); see also Moehrle et al (2001))

However, it is hard to reconcile this argument that preparers should be indifferent between pooling and purchase-plus-amortisation with historical evidence on firms’ response to these two alternative regimes:

a. Ayers et al (2000) found a strong and growing preference in the US for pooling: when firms had some discretion over which regime to adopt, the number and value of M&A transactions in the US accounted for with pooling were very significant and rose “dramatically” during the nineteen-nineties;

b. In the UK, when companies were surveyed in 1990 by the ASC, the ASB’s predecessor, 93% of respondents opposed a regime incorporating the systematic amortisation of purchased goodwill (ASB (1997), Appendix III, para. 6);

c. In a clinical study of the takeover of NCR by AT&T, Lys and Vincent (1995) found that the bidder was prepared to expend at least $50m, and as much as $500m of its own

12 Amel-Zadeh, Faasse, Li and Meeks (2015) find that share values [check] are actually correlated (negatively) with cumulative amortisation, but interpret this as market values following the anticipated reduction in the value of goodwill: cumulative amortisation is not revealing fresh information, but it does secure disclosures which “better reflect the economics of [those] assets” - an objective voiced by FASB (2001b, p.7).
13 Ironically, when offered the option in practice of amortisation or impairment-only, after the 1998 regime change, 97% actually elected to adopt amortisation (Amel-Zadeh, Faasse, Li and Meeks (2015)).
shareholders’ funds, just in order to have the transaction classified and accounted for with pooling rather than with purchase-plus-amortisation;

d. When FASB proposed in its 1999 Exposure Draft to eliminate the pooling method in the US, and insist on purchase-plus-amortisation, there was a furious backlash from corporations (documented by Beresford (2001) and Zeff (2002)) - including hostile Senate and House subcommittee meetings, a member’s bill to refer the issue to a Commission, and letters of dissent from Senators to the FASB chairman (see also Ramanna (2008)).

Why such hostility to an accounting procedure which, the evidence suggests, is of no consequence for market value? Part of the explanation may lie in the stewardship, or contracting, role of accounts. For example, Healy’s seminal (1985) analysis of bonus schemes for executives showed that, if such performance-related schemes were included in their compensation contracts, managers tended to modify their accounting procedures to alter reported profit and take advantage of the bonus schemes. Managers would adopt the accounting procedure which resulted in the biggest bonus. Murphy (1999) reports that: “accounting-based compensation is usually paid out as a cash bonus and the accounting-based compensation contracts are usually written on net income (and so include the effect of goodwill write-offs) “.

As Arnold et al (1992) pointed out, “merger [=pooling] accounting is the method par excellence for evading goodwill”, while immediate write-off against reserves is an “expedient way of disposing of an unwanted debit without reducing reported profit”. Purchase-plus-amortisation guarantees that executives are held to account for all the shareholders’ funds which they have expended on purchased goodwill. Impairment, on the other hand, leaves executives with discretion over whether there should be a goodwill-related charge (see below), with consequences for their compensation.

Having noted that the choice between pooling and purchase-plus-amortisation should be value-irrelevant, Lys and Vincent’s (1995) clinical analysis of the AT&T/NCR merger (see above) explored whether these contracting/stewardship considerations might explain AT&T’s willingness to spend
large sums of their shareholders’ funds on securing pooling: they concluded that the benefits under executive compensation contracts did contribute partially to the explanation of this (mis?)-use of shareholders’ funds.

ii. *Purchase-plus-amortisation versus purchase-plus-impairment*

The case for the current scheme of formal goodwill impairment reviews was made in a famous 1992 ICAEW paper by Arnold, Eggington, Kirkham, Macve and Peasnell\(^\text{14}\); and a purchase-plus impairment technique was one key option in the regime adopted by the UK’s ASB in 1998; subsequently, impairment was adopted as the only means of depleting purchased goodwill, by FASB in 2001 and IASB in 2004. In relation to the decision-usefulness/value-relevance criterion, impairment offered a major advance on amortisation. In place of value-irrelevant mechanical amortisation, impairment reviews potentially offered new inside information – fair values of PGW based on executives’ estimates of unexpired future cash flows arising from the purchase of the goodwill.

Some econometric evidence suggests that the impairment regime is indeed more value-relevant than amortisation (Aharony et al (2010), Amel-Zadeh, Faasse, Li and Meeks (2015), Chalmers et al (2008), Gjerde et al (2008), Oliveira et al (2010),); see also Singleton-Green’s wide-ranging survey (ICAEW (2015)) examining the impact of mandatory IFRS – which entailed adoption of the impairment-only regime); and although part of impairment is not timely (other things equal market values are lower for firms which are about to impair – not surprising when falls in share price are one of the triggers for impairment review), there is a relationship between impairment and contemporaneous stock market returns: some analysis finds that part of impairment is timely.

To the extent that impairments do accurately reflect the declining value of purchased goodwill, they will contribute to the stewardship/contracting role of M&A accounting, as well as to value-relevance. However, academics and users (e.g. Beatty and Weber (2006), Comiskey and Mulford

\(^\text{14}\) One of the most lucid explanations of the challenges of purchased goodwill in the literature. Interestingly, most of it is just as relevant now as when it was written a quarter century ago.
EFRAG/ASBJ/OIC (2014), IASB (2014), KPMG (2014), ESMA (2014)) have drawn attention to adverse implications in practice for contracting, resulting from the difficulties and costs of assessing and auditing impairment. These include verification problems arising from the need to rely on management estimates and to disentangle the cash flows attributable to purchased as opposed to internally-generated goodwill; inconsistencies in application; and opportunities and incentives for manager-agents to time and quantify impairments according to their own interests, rather than principals’. There are claims in the academic literature and in the press that executives often use their discretion to delay recognising impairment in a timely manner (Elliott and Shaw (1988), Segal (2003), The Economist (2013)). But also, large impairments sometimes accompany the departure of the CEO who initiated an acquisition (as in the case of Vodafone/Mannesmann and HP/Autonomy).

This has the advantage for the incoming CEO of “disposing of an unwanted debit” (Arnold et al (1992)) at the expense of profit on her predecessor’s watch, obviating future impairment charges, and setting a low earnings base against which her subsequent performance will be judged. The ASB regime incorporated safeguards against gross abuse by requiring that: “For the five years following each impairment review where the recoverable amount has been based on value in use, the cash flows should be compared with those forecast” (ASB (1998), para. 54). And under ASB rules any error had to be corrected. In his dissenting note to IFRS3, Whittington (2005) objected to the new standard eliminating this check on abuse. The rationale for abandoning the safeguard was that compliance and audit costs were too great, and the standard-setters had an obligation to secure a favourable balance of costs and benefits; but critics would argue that these compliance and audit costs are outweighed by the agency costs (stewardship failings) associated with weaker monitoring of impairments.

In answer to the question in the title of this section, then, while purchase-plus-amortisation may offer little value-relevance beyond that provided by pooling, it can “matter” for stewardship –

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15 See Meeks and Meeks (2002) and Meeks and Swann (2009) on cost-benefit considerations.
holding management accountable for their whole capital expenditure on M&A. In principle, purchase-plus-impairment offers value-relevance, because it releases inside information to the stock market. It should also offer superior information, compared with amortisation, on the erosion of purchased goodwill since the takeover – it matters for stewardship too. However, the academic and practitioner literatures have identified significant weaknesses, costs, and perverse outcomes with the impairment regime.

A historical perspective on M&A accounting regimes

Table 1 presents a stylised history of the accounting regimes in force over recent decades for the UK, US and the international “territory”. It does not do justice to all the details and nuances of the respective standards (a fuller account, including discussion of earlier decades, is provided in Li and Meeks (2015)), and more discussion of the arguments for the successive changes in Meeks and Whittington (2008)). But simplification to this degree helps to highlight trends, discontinuities and differences in regimes.

The Table first distinguishes regimes according to whether or not they recognise purchased goodwill. Where PGW is unrecognised, it separates pooling and the immediate write-off of PGW to reserves. With recognition, the Table distinguishes three approaches to the diminution of PGW: amortisation-only, amortisation plus occasional impairment, and impairment-only. For each regime-year, the Table distinguishes techniques which are variously mandatory (MAN); optional and most widely adopted (OPT); optional (OPT); and optional but infrequently used in practice ((OPT)).

For the UK, at the beginning of our period, firms enjoyed considerable discretion over M&A accounting (Lee (1971), Andersen (1971)). Substantial regime changes came in 1984 (SSAP 22), when immediate write off became the dominant technique (Nobes (1992)); in 1994 when tight restrictions were introduced to limit pooling (FRS6,7)\(^{16}\); in 1997, when recognition plus amortisation and/or

\(^{16}\) The changes of the 1990s were presaged by the influential paper of Stacy and Tweedie (1989) and Tweedie and Whittington (1990), which identified accounting for M&A as one of the four core problems of financial
impairment were required (FRS10) – analysed by Dargenidou et in this volume; and in 2005 when the adoption of IFRS made impairment-only the mandatory regime (IFRS3).

For the US, restrictions on acquirers’ discretion came earlier. Restrictions on pooling came as early as 1950, and were tightened in 1970 (AICPA (1970a, 1970b)), when compulsory amortisation was required in the case of purchase. The next major regime change came in 2002, when both pooling and amortisation were abandoned, and an impairment-only regime became mandatory (SFAS141 and 142).

The first international standards for M&A accounting came in the IASC’s IAS22, in 1983. This closely resembled the UK standard at that time. IAS22 was revised in 1992, adopting US-style restrictions on pooling; and then, in 1998, the standard followed in most respects the UK’s FRS10, with an amortisation-plus-impairment regime. In 2004 the IASB’s IFRS3 came into line with US standards.

The Table shows:

i. a progressive narrowing of options available to acquirers, converging in the end on a uniform and mandatory regime across all three jurisdictions;

ii. the progressive withdrawal of the options which do not recognise purchased goodwill in the acquirer’s accounts;

iii. fluctuating enthusiasm for amortisation – in use across all three jurisdictions by the millennium, but outlawed throughout by 2005;


A historical perspective on M&A expenditures

*Trends in PAYMENT*

reporting at that time. As a result of the 1994 amendments, the number of deals qualifying for pooling fell drastically (Wilson et al (2001)).
For a very long-term perspective on M&A in the US, Scherer and Ross (1990) construct a series for expenditure on manufacturing and minerals M&A from 1895 to 1985, in constant prices. There was a peak around 1900 which was not reached again until the nineteen-sixties (anti-trust legislation having been introduced in the meantime). The pace of M&A then slackened until the 1990’s, by which time the government had relaxed restrictions, and expenditures were more than double their peak value of a century earlier.

Data for the UK in the decades after World War 2 show similar patterns (Goudie and Meeks (1987)). M&A activity was slack in the decade from 1949: the ratio of spending on tangible CAPEX to that on M&A was 8:1. But in the subsequent decade, M&A spending grew rapidly, especially for the bigger firms (Meeks and Whittington (1975)), and the ratio fell to 2:1. In 1968, the ratio actually fell below 1:1.

Figure 4 brings the record up to date, again compares M&A spending with CAPEX (the choice analysed by Capron in this volume), and extends the analysis to the US, Europe and Asia.

Generalisations supported by the data include:

i. Over the very long term (a century) the constant dollar value of M&A expenditure in the US has risen very substantially;

ii. In recent decades, M&A expenditures have in most years actually exceeded those for tangible CAPEX in the case of the US and Europe, but not for Asia;

iii. The series for M&A is much more volatile than that for tangible CAPEX.

The first two descriptions point to the materiality of M&A in aggregate, and therefore of the potential impact on financial statements of changes in its accounting treatment. The third creates special measurement problems for M&A which are explored below.

*The upward trend in cross-border M&A*
At the same time as total M&A activity and the share of M&A in capital expenditure have been increasing, the share of cross-border deals has been rising too. Erel et al (2012) analyse some 187,000 mergers across 48 countries in the period 1990-2007. Almost 57,000 of them, with a PAYMENT value of $2.21 trillion were cross-border. In the first half of their period, the cross-border share was generally less than 30%, but in the second half on average greater than 30% and in some years more than 40%. With such deals, significant differences in general accounting standards across countries may compound information asymmetries between the parties to the deal; and different practices for M&A accounting in particular (Nobes and Norton (1996)) increase the risk that the impact of the deal revealed by the financial statements will be “lost in translation”.

Zeff (1992) reports that in the 1990’s, executives contended that the divergence of UK and US rules for M&A accounting at that time (no amortisation in the UK pre 1998) conferred an unfair advantage on UK bidders, distorting the M&A market. In this respect, the widening adoption of IFRS, and IFRS3 falling into line with the US regime (albeit a regime which was not of FASB’s choosing), may have contributed to a better-informed cross-border M&A market. However, that international settlement now appears to be under threat: IASB (2015) discussions of the Post Implementation Review of IFRS3 suggest a fading commitment to convergence between IASB and FASB; and for their part FASB have already altered the regime in the US for private companies, reintroducing amortisation as an option (FASB (2014a)), and have under review its reintroduction for public companies (FASB (2014b)); so a gulf between the US and the rest of the world appears to be re-emerging.

**A historical perspective on special challenges for M&A accounting**

_a. A recognition problem: the upward trend in unrecognised intangible assets_

The 2007 ICAEW Better Markets Conference tackled the complex topic of accounting for intangible assets. Standard-setters are, of course, reluctant to allow recognition of most internally generated

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17 This pattern of diversification by M&A across national boundaries echoes the earlier patterns of diversification by M&A across industry boundaries (see Goudie and Meeks (1982).
18 More recently the share has rarely fallen below 30% (Hammond and Massoudi (2014) [FT].
assets arising from expenditure on, for example, research, marketing, and training. These are
deemed not to meet criteria for recognising assets – that the entity has control of the future benefits
arising from them, and that they can be reliably measured. For the most part, therefore, standards
require that investments in internally-generated intangibles be expensed. The 2007 Conference
generated a lively debate on the merits of such standards (between Lev (2008), who had proposed
relaxation of the reliability criteria for recognising intangibles, and Skinner (2008a, 2008b), who
vigorously opposed the suggestion).

However, when such intangibles change hands in a takeover, objections to their recognition are
weakened. A market transaction has established a valuation for the asset. And the trading of an
entire entity mitigates problems surrounding the separability of intangible assets – for example, the
difficulty of establishing the independent value of an intangible such as human capital which is not
readily transferable to another organisation: if the organisation continues intact – in a merger - the
benefits to the entity as a whole arising from those intangibles not already recognised are captured
in the residual category, purchased goodwill. So, unless pooling (or its near-relation, immediate
write-off to reserves) is adopted, the intangibles of the target suddenly, automatically, appear in the
combination’s balance sheet after merger.

Across the economy, the importance of intangibles has been growing. Corrado and Hulten (2010)
provide estimates of the trend for the US business sector in intangible asset accumulation relative to
that of tangibles. Relative to output, investment in tangibles is somewhat lower in 1995-2007
(10.4%) than in 1948-1972 (11.2%); but the corresponding investment rate for intangibles doubles
over that half century – ending the period at 12.8%, actually higher than the investment rate in

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19 Because of this difficulty – of separating intangibles from the organisation in which they are embedded – it
seems likely that bidders will be especially interested in targets which are rich in intangibles: they cannot be
acquired without M&A as easily as tangibles. So not only is M&A increasing, and the share of corporate assets
represented by intangibles rising, but also companies rich in intangibles are likely to be disproportionately
represented among M&A targets. We are grateful to Geoffrey Whittington for pointing this out.
tangibles. Correspondingly, in their estimated balance sheets, the share of intangibles doubled over the same period. Bart van Ark et al (2009) find similar results for other countries.

Srivastava (2014) provides for the US a complementary approach to tracing the growth of intangible assets. He calculates the share of total costs accounted for by selling, general and administrative expenses – the costs associated with intangible investments such as marketing, IT and human capital. And he compares this percentage for cohorts of firms joining the stock market in successive decades from the 1970’s to the 2000’s: again, it almost doubles, from 21.8% to 38.3%.

The resulting problems for accounting can be illustrated in Table 2 with the case of Apple – a company which exemplifies the business model based on intangibles – rich in R&D, brand/customer relations, and human capital. Recognised intangibles account for less than 4% of the total assets reported in its balance sheet. But suppose we (“Cambridge”) buy Apple at a typical PREMIUM of 30% over its MARKET value at the time of writing (September 2015), and with the then most recently published BOOK value of Apple. The Table shows that, under current purchase accounting, Cambridge’s new Apple division would appear in the Cambridge books at $823bn, whereas the day before the deal it would appear in its own books at $126bn. And Apple’s recognised intangibles would rise from $9bn when Apple was independent to $693bn the day after, when Cambridge took control.

This illustrates how the growth over recent decades in the intangible component of M&A purchases intensifies accounting problems:

i. the same bundle of assets is unrecognised one day, but recognised the next;

ii. very similar assets may be treated very differently in the same balance sheet, if some have been internally generated and others acquired through M&A. Consider the case where Cambridge already had $684bn of unrecognised intangibles in its balance sheet before it
bought Apple. Under present arrangements these would still go unrecognised after the merger;

iii. if – say for contracting reasons – executives have incentives to report high earnings and/or high equity, then this accounting characteristic could distort a strategic choice discussed in this volume by Capron. For example, suppose Cambridge could have created its “Apple” business either through the takeover, or, for an equal expenditure, by internal generation of the same bundle of assets. If it chose the takeover route, and reported with purchase plus impairment (no amortisation) it would secure higher earnings (absent any impairment charges the investment would never be charged to the income statement), and higher equity (the Apple intangibles would be recognised on the balance sheet).

Writing in 1991, the AAA argued: “The inclusion of purchased goodwill and the omission of internally-generated goodwill is one of accounting’s greatest anomalies”. And so it continues, though on a bigger scale than then, both because of the rise in M&A and because of the growing importance of intangibles.

This conundrum posed by (increasingly important) intangibles acquired in M&A has been resolved in two ways by standard-setters, neither of them very satisfying: either the M&A transaction crystallises the intangible (purchase accounting) – but at the cost of (often gross) inconsistency within and between firms; or consistency has been maintained through pooling or write-off – but at the expense of accountability for the expenditure of shareholders’ funds. In academic papers (Tweedie and Whittington (2000), Meeks and Whittington (2008) as well as in his contributions as member of the IASB board (Whittington (2005)), Whittington has explored a way of mitigating these difficulties: “fresh start” accounting. Under this system the combination would be seen as the acquisition of both companies (acquirer and target) by a new entity, which would fair value all the assets and liabilities acquired from both, including the intangibles.

b. A measurement problem: unreliable currency
Special problems attend M&A accounting because of the means of payment used in many deals. Four historical developments are at work. First, a large and increasing proportion of the purchase consideration in M&A consists not of cash but of acquirers’ shares. Second, M&A activity is greater in periods of “irrational exuberance” when share prices are higher than is warranted by future returns. Third, inflated share prices create an incentive for bidders to make acquisitions using their own shares. Fourth, accounting offers opportunities for the bidder to inflate the price of its own shares when they are the currency of the deal. One consequence of these non-cash transactions is that purchased goodwill, as conventionally measured, often exceeds the value warranted by realistic expectations of the future cash flows it will generate.

Different literatures support each of these four propositions.

i. Already in the mid twentieth century, Nelson (1959) found for the US that the bidder’s stock was often used as means of payment. Andrade et al (2001) report that the share of acquisitions financed entirely by stock rose from 33% in the 1980s to 58% in the 1990s.

ii. Nelson (1959) also provided evidence that mergers were clustered when stock market valuations were particularly high. More recently, Shleifer and Vishny (2003) recount continuing evidence of higher levels of merger activity when market prices are unusually high. Shiller (2015), in the latest version of his famous proposition, building on Keynes (1936), argues that the fluctuations in stock market prices are much greater than is warranted by the variation in subsequent real dividends which they are expected to reflect. Figure 5 from Shiller (2015) charts the movement of actual stock prices oscillating violently around the path of subsequent real dividends.

iii. At first sight it seems perverse that firms tend to buy targets when the price (reflected in MARKET) is unusually high, and – following Shiller’s analysis – unwarranted by future cash flows. But there is a branch of the literature which suggests that buying overvalued targets in an exuberant market may be entirely rational – in the acquirer’s shareholders’ interests –
provided that the bidder uses its own overvalued stock as means of payment. Shleifer and Vishny (2003) develop a model in which bidders who find their own shares overvalued may rationally use those shares as currency with which to buy targets even if the target’s own shares are also over-valued: “acquisitions are made by overvalued acquirers of relatively less overvalued targets”(p.305). This affects the accounts: although cash does not change hands, under purchase accounting the deal will be recorded at the inflated market value of the shares at the time of the transaction. One argument for the traditional, cost-based, financial reporting model is to act as an anchor during bubbles “to check speculative beliefs” (Penman (2003)). Stock-financed M&A recorded with the purchase method undermine this: inflated valuations – not vindicated by a cash transaction - are embedded in the balance sheet, leaving accountants with a problem when the irrational exuberance fades.

iv. In the basic version of the model the acquirer is just taking advantage of exogenously-determined market mispricing; but Shleifer and Vishny point to “a powerful incentive for firms to get their equity overvalued, so that they can make acquisitions with stock” (p.309). And there is evidence that, in stock for stock M&A, acquirers have tended actively to promote over-valuation of their own shares, by manipulating accounting data, to secure a more favourable exchange rate between their own shares and those of the target. Devices have included earnings management ahead of a bid – the manipulation of accruals, in ways that a semi-strong efficient market cannot discern, to boost reported earnings (e.g. Erikson and Wang (1999), Botsari and Meeks (2007))21; and issuing earnings forecasts at the time of the bid which are upwardly biased (Amel-Zadeh, Evans and Meeks (2009)).

In these cases the bid calculation and strategy involve taking advantage of, or even of engineering, an unwarranted increase in price for the bidder’s own shares – creating a temporarily-inflated currency with which to buy targets. And the aim is for the bidder’s shareholders to gain higher future

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20 For empirical analysis of the theory see, for example, Dong et al (2006), Gregory and Bi (2011).
21 For notorious specific examples, see Smith’s (1992) discussion of the UK company Coloroll, and Feder and Schiesel’s (2002) discussion of WorldCom.
cash flows for each pound of their original investment. However, the strategy is built on a temporary over-valuation of shares which is expected to disappear once irrational exuberance in the market subsides or inside information becomes public.

Under purchase accounting PGW is valued at the inflated, unwarranted market price at the time of the deal – as if the deal had been financed with the equivalent cash. The inflated PGW will then have swollen amortisation and depressed earnings in a purchase-plus-amortisation regime; and/or it will expose the acquirer to impairment charges in the income statement as the temporary disturbance in the share price subsides. The purchase accounting treatment breaks the link between cash flows and earnings – a problem avoided by pooling, where the balance sheet is not affected by the terms of the transaction.

c. A stewardship problem: the history of elusive synergy

The value of PGW is called into question not just by the decay of appropriable revenues which have been generated by intangibles or by temporary, inflated stock market valuations which mean the PGW valuation is no longer warranted given the acquirer’s share price. Revisions are also called for when the expected (or claimed) SYNERGY fails to be realised.

Undeniably, many acquisitions bring efficiency gains and/or increases in shareholder wealth. But there is evidence that many – some would suggest perhaps even a majority – do not. There is a range of metrics in the literature, some based on accounting data, some on share price movements. There are problems with using both types of data, with finding appropriate ratios and benchmarks, and with the choice of model with which to strip out performance movements which would be expected anyway, in the absence of merger. Gregory’s paper in this volume pursues some of these issues in depth. But studies in our historical period which find the performance of many M&A transactions disappointing include, in historical order, Meeks (1977), Ravenscraft and Scherer (1987)

22 For discussion of such difficulties with accounts see, for example, Meeks and Meeks (1981), Caves (1989), Amel-Zadeh (2009).
At first sight such evidence might seem counter-intuitive: why would executives pursue M&A which did not yield performance improvement? But the literature gave rationales decades ago: the benefits for the executives themselves (psychic and pecuniary – power, prestige and pay) of the rapid growth afforded by M&A even where it does not enhance earnings (Marris (1963), Meeks (1977)); the “quiet life” benefits of eliminating troublesome competitors (Hicks (1935)); and the failure of the acquirers to foresee the difficulties of assimilation and control of targets - frankly admitted by acquirers’ executives in interviews with Ravenscraft and Scherer (1987). Also, the incentives and motivations of other participants in the M&A process may not always be well-aligned with those of their shareholder principals. For example, Harford and Li (2007) find that “even in mergers where bidding shareholders are worse off, bidding CEOs are better off three quarters of the time. Then Hartzell et al (2003) find that executives in targets often gain significant financial benefit from M&A, and those gaining particularly generously tend to agree lower acquisition premia. In addition, the fees gained from the advisers in M&A (investment banks, lawyers and accountants) are

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23 Representative conclusions include (linked to sources in text via initials): “the estimated annual efficiency losses [attributed to US mergers] are in the range of 0.59 to 0.81 percent of current-dollar gross national product” (RS); “Much of the evidence reviewed above [19 studies] indicates that many mergers generate neither efficiency gains nor market power” (M); “the average abnormal return for up to two years post-acquisition is unambiguously and significantly negative” (G); UK “acquisitions have [on average] a detrimental impact on company performance” (DTG); US acquiring firm shareholders lost 12 cents at the announcement of acquisitions for every dollar spent ... from 1998 through 2001, whereas they lost ,, in all of the 1980s 1.6 cents per dollar spent ... the losses of bidders exceed the gains of targets from 1998 through 2001...” (MSS); US “acquisitions worsen, on average, the post acquisition returns of the firms” (GL). For neutral or more optimistic conclusions, see Franks and Harris (1989), Healy, Palepu and Ruback (1992), Chatterjee and Meeks (1996), Higson and Elliott (1998) and Jensen (2010). Beginning in the late 1990’s a valuable branch of the literature developed which aims to identify the types of acquisition which are more likely to fail – e.g. Healy, Palepu and Ruback (1997), Rau and Vermaelen (1998), Capron (1999), Capron and Pistre (2002), Gregory (2005).

24 Individual cases often referred to in the press of disappointed pre-merger expectations include Daimler/Chrysler, AOL/Time Warner, Invensys/Baan, HSBC/ Household, RBS/ABN-AMRO, Morrison/Safeway, HP/Autonomy.

25 Following the takeover of Mannesmann by Vodafone, Mannesmann’s CEO and five directors were taken to court by shareholders, accused of having received excessive payouts by Vodafone to give up resistance to the deal (The Guardian, “Gent defends multi-million euro bonuses”, Friday 26 March 2004, available on http://www.theguardian.com/business/2004/mar/26/executivesalaries.executivepay1)
much higher when a deal is completed than when the bidder exercises caution and withdraws. The UK House of Commons Treasury Committee (2012) reviewed the acquisition of ABN-AMRO by RBS (and partners), an acquisition which was followed for RBS by the biggest corporate loss in UK history and a government bailout of £45billion\(^\text{26}\). Having noted that the lead investment bank adviser on the deal had been paid a fee over 100million Euros, the Committee’s expert adviser advocated “independent advice...not remunerated on the basis of success with [completing] the deal”.

If M&A in many cases fails to deliver performance improvements, questions naturally arise over executives’ stewardship of the assets entrusted to them by owners. Some would argue that this disappointing historical experience warrants some priority in M&A accounting being given to stewardship objectives – to holding management accountable for the increasing sums of shareholder funds they disburse for M&A.

**Conclusion**

The paper has identified historical developments which have increased the scale of purchased goodwill in both absolute and relative terms. The paper has also argued that historical developments have raised the probability that the value of goodwill will dwindle after merger; and these developments reinforce the intrinsic challenges posed by accounting for M&A.

M&A has become a principal component of the corporate sector’s capital expenditure - now, for the company sectors of the US and Europe, of similar scale to CAPEX. Under current accounting standards, M&A prompts the sudden recognition in the acquirer’s balance sheet of intangible assets which were excluded from the target’s; and investment in intangibles has grown faster than investment in tangibles; so the share of the rising M&A expenditure which represents purchased

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\(^{26}\) The difficulty of generalising about the impact of M&A on performance is illustrated by comparing this result for an RBS acquisition headed by Sir Fred Goodwin with the earlier takeover by RBS under Goodwin of NatWest, which was followed by a sharp rise in earnings per share and a two-year share price gain of over 100%.
goodwill – representing many of the newly acquired intangibles - has also been growing. The increasing use of acquirer’s shares as means of payment for a target rather than cash, the timing of deals when the acquirer’s shares are inflated above their fundamental value, and opportunities for acquirers actually to manage their share price upwards mean that the value assigned to purchased goodwill at the time of the deal will often be “artificially” high, and not be sustained in post-merger years. This downward pressure on the value of purchased goodwill will be reinforced if the synergy expected from the deal is not realised, as historical evidence suggests has often been the case.

So the attention devoted by standard-setters to M&A accounting – in the UK, three fundamentally different regimes within a decade - does not seem as surprising as at first sight. But has the 2005 consensus settled the issue? Does the harmonised regime of IASB and FASB mark the end of (this particular segment of accounting) history?

One answer would instead see the history of M&A accounting as a struggle to meet multiple objectives with a single instrument, a common pitfall in economics (Tinbergen (1952)). Some of these objectives are in conflict, with first one of the conflicting considerations and then another gaining the upper hand – there being sharp disagreement on, for example, the respective weights to be given to value-relevance and stewardship. If consistency, comparability and lowest cost of compliance and audit are the objectives, then the dominant schemes of the 1990’s – pooling and immediate write-off of purchased goodwill would seem to have merit. But the resulting numbers do not contribute to value-relevance, or help hold managers to account to owners for their M&A spending. If value-relevance is the primary objective, then, in principle, purchase-plus-impairment – the 2005 consensus - should dominate. But, in practice, the disclosures are often not timely, they are subject to opportunistic abuse by managers, they are difficult and costly to verify; so stewardship is not necessarily well-served - contracting can be subverted in the “big bath”. Purchase with amortisation, on the other hand – last seen early this millennium, but making a comeback in US private businesses - does help secure a stable basis for contracting and a minimal level of
accountability: at least every pound spent on purchased goodwill is eventually charged to the income statement (although the mechanical timing of the charges is only by coincidence likely to reflect the underlying economics); managers have limited opportunity to manipulate the numbers; compliance and audit costs are low. But the disclosures reveal little or no fresh information to the capital market.\footnote{It is outside the remit of this paper to offer a prescription for future M&A accounting – the topic of the companion paper in this volume by Healy. Amel-Zadeh, Faasse, Li and Meeks (2015) outline the authors’ suggestions, based on the UK’s experience in 1998-2004.}
References

AAA (1991) xxxx *Accounting Horizons*


Anderson (1971) xxx


FASB (2014b). Update for ASAF on FASB Activities Related to the Post-Implementation Review of Statement 141(R) and Accounting for Goodwill after a Business Combination, September 2.


Hammond xx and Massoudi xxx (2014) Financial Times


Lee, T. (1971) xxxx


### Figure 1: Key terms in M&A deals

**At time of transaction**

<table>
<thead>
<tr>
<th>BOOK</th>
<th>MARKET</th>
<th>PAYMENT</th>
<th>EXPECTATION</th>
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<td>SYNERGY</td>
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**In acquirer's books**

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<tr>
<th>POOLING</th>
<th>PURCHASE</th>
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<tr>
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<td>PGW: purchased goodwill</td>
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**One year later**

<table>
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<tr>
<th>POOLING</th>
<th>PURCHASE + AMORT</th>
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See text for basis of calculation

PGW - purchased goodwill
AMORT - amortization
IMPAIR - impairment
Figure 2: Simulating Vodafone’s Equity and Earnings, 2000-2006, for different accounting regimes, following the Mannesmann deal

*Equivalent to immediate write-off subject to assumption discussed in the text.

Derived from: Vodafone, Annual Report and Accounts, years ending 2000-2006

Goodwill arising from Mannesmann acquisition: Vodafone 2001 Annual Report (AR), note 22

Amortisation rate: Vodafone AR, 2001, specifies range of 5 to 10%; AR for 2006 has an overall rate for intangibles of approx 10% (10.9/116).

For pooling, equity = actual minus unamortised goodwill attributable to Mannesmann. Earnings = actual plus either current amortisation or (2006) current impairment.

For amortisation only, equity = actual, except for 2006, when = actual plus current impairment minus assumed amortisation. Earnings = actual, except for 2006, when = actual plus current impairment minus assumed amortisation.

For impairment only, equity = actual plus cumulative amortisation, except for 2006 when = actual (having deducted impairment) minus cumulative amortisation – assuming the actual closing valuation for goodwill arising from the 2006 impairment review – i.e. its amortised value minus that year’s impairment charge. Earnings = actual plus current amortisation, except for 2006 when = actual (having deducted impairment) minus cumulative amortisation.
Figure 3: Goodwill accounts for UK listed companies in aggregate (as percentage of total assets)
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**Table 1: A stylised history of M&A accounting regimes: UK, US and International 1975-2015**

- **Purchased goodwill not recognised**
  - Pooling
  - Immediate write-off
- **Purchased goodwill recognised**
  - Amortise only
  - Amortise and impair
  - Impair only

**Legend:**
- **MAN** mandated technique
- **OPT** option – most common
- **OPT** available option
- **(OPT)** uncommon option
- *plus option to capitalise permanently or write off in future years (see Anderson 1971)*

36
Figure 4: M&A and CAPEX, 1980-2013

US data from Mauboussin & Callahan (2014) at constant 2013 US$, includes top 1500 deals, CAPEX data ex financials and utilities
Data for Europe, Asia-Pacific and Japan from Mauboussin & Callahan (2015) at current US$, includes top 1000 deals, CAPEX data ex financials and utilities
<table>
<thead>
<tr>
<th></th>
<th>Apple Independent</th>
<th>Apple as part of Cambridge</th>
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<tr>
<td><strong>Intangible assets</strong></td>
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<td>Separable</td>
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<td>Goodwill</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>9</td>
<td>693</td>
</tr>
<tr>
<td><strong>Apple MARKET at Sept. 2015</strong></td>
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<tr>
<td><strong>PREMIUM (30%)</strong></td>
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<td><strong>PAYMENT</strong></td>
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<tr>
<td><strong>PGW (PAYMENT - BOOK)</strong></td>
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</table>
Figure 5: Irrational exuberance in the equity market

Data from Robert Shiller’s website

P* and P*r after 2009 extrapolated based on past 10-year dividend growth