The Impact of IFRS Goodwill Reporting on Financial Analysts’ Equity Valuation Judgements

Some Empirical Evidence

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Niclas Hellman, Stockholm School of Economics
Patric Andersson, Stockholm School of Economics
Emelie Fröberg, Stockholm School of Economics
• Financial analysts rely on accounting information when they evaluate the equity valuation effects of corporate acquisitions.

• The accounting for business combinations was subject to major changes in the early 2000s, under both U.S. GAAP and IFRS.

• Goodwill is not amortised but periodically tested for impairment.

• Weak recognition criteria for identifiable intangible assets in the acquisition analysis – patents, customer relationships, brands etc. Intangibles assets with a limited useful life are amortised.
This paper investigates how financial analysts’ equity valuation judgments are affected by preparers’ allocation of acquisition premiums to identifiable intangible assets versus goodwill.

Intended contributions:

– Use of an experimental approach to empirically evaluate whether the new accounting regime enhance the decision usefulness of financial statements.
  • Inconclusive results in empirical-archival research.
  • Lack of behavioral research.
  • Prior experimental study by Hopkins et al. (2000) pertaining to the old accounting regime under U.S. GAAP as applied in the late 1990s.
  • Our study evaluates the new regime under IFRS, for a recent time period (2011).

– Use of a two-stage approach based on how analysts work in practice: Initial exploiting of earnings information followed by more sophisticated analysis (DCF valuation).

– Innovative feature of the study: supplemental experiment with the actual analysts following the case company.
distinct vs. judgemental choice – Fields et al. (2001)

- Why do analysts benefit from the recognition of identifiable intangible assets?
  - Users can to a greater extent distinguish identifiable intangible assets from goodwill
  - Managers can provide more private information about the quality of the assets acquired through the business combination.

- A study by Shalev (2009) finds that preparers who allocate the acquisition premium to a lesser extent to identifiable intangible assets are less transparent in their financial reporting. Shalev argues that they downplay ‘bad news’.
Potential drawbacks of recognising identifiable intangible assets:

- Increased information uncertainty (unverifiable amounts)
- Managers may behave opportunistically in order to increase earnings in a short-term perspective.

Shalev et al. (2013) find that CEOs whose compensation packages rely more on earnings-based components are more likely to over-allocate the purchase price to goodwill.
Barker (1998; 1999; 2000) conducted field research on how financial analysts and fund managers use financial information for equity valuation purposes. Barker’s results suggest that:

– There is a need to respond quickly to news, especially with regard to the earnings impact. Earnings adjustments were done in a superficial way. Speed of reaction was essential.

– Sell-side analysts were only interested in earnings to the extent they were a medium for income generation to the firm. When the earnings news had been exploited, the subsequent interest in earnings was low.

More recent field studies by Brown et al. (2015) and Abhayawansa et al. (2015) point at the high importance placed by analysts on earnings-related information and earnings-based multiples in connection with their short-term responses to clients in connection with companies’ announcements of financial information.
• Experimental study of 113 financial analysts where the accounting method was manipulated.

• Accounting methods evaluated (U.S. GAAP):
  1. Pooling of interests
  2. Purchase with the accounting acquisition premium expensed as in-process research and development
  3. Purchase with the accounting acquisition premium capitalised as goodwill and amortised over six years

• Cash flows were identical across all three alternatives but EPS numbers varied.

• Analysts’ stock price judgements were reported to be lower for method 3 compared to methods 1 and 2.
Stage 1: Hypothesis 1

- **H1:** Financial analysts will predict a higher value for a company’s outstanding common stock when the company allocates the acquisition premium to goodwill than when the company allocates a substantial amount of the acquisition premium to amortisable intangible assets.

**Earnings numbers**

- Allocation to goodwill
  - Increase
  - No effect
  - Decrease

_Hypothesized effects on the equity valuation judgements_

- Substantial allocation to amortisable intangibles
• Key textbooks on equity valuation advocate the use of sophisticated multi-period (i.e., based on long-term forecasts) present value models.

• In contrast, empirical studies based on content analysis of analyst reports and interviews suggest that analysts primarily rely on price-to-earnings (P/E) ratios and similar valuation multiples.

• The results of Barker (1998; 1999; 2000) suggest that valuation multiples are used as a point of departure from which fundamental analysis is conducted.

• Many empirical studies refer to the combination of valuation multiples and sophisticated models, most commonly discounted cash flow (DCF) and P/E valuation.
Financial analysts use accounting information as a basis for forecasts of valuation attributes.

- **Assets**
  - Shareholders’ equity
  - Liabilities

- **Earnings, Cash flows**
  - Immediate response to news announcement
  - Valuation multiples
  - Discounted flows

- **Information incorporated in spreadsheet model and further processed**

- **Stages 1 and 2**

- **Short-term**
- **Long-term**

**Time**
• **H2**: In response to additional information about discounted cash flow valuation that is inconsistent with previously received information, there will be no differences in the equity valuation judgements among the financial analysts regardless of whether the acquisition premium in the previously studied takeover announcement had been allocated to goodwill or to amortisable identifiable intangible assets.
One between-subjects factor: Acquisition premium allocation

**Allocation alternatives**

**Alt 1: GO (n=21):**
Acquisition premium allocated to goodwill only, which is not impaired during the forecast period

- P/E-ratio decreases
- DCF unchanged

**Alt 2: IIR (n=19):**
A substantial part of the acquisition premium is recognised as identifiable intangibles, which are amortised

- P/E-ratio increases
- DCF unchanged
Experimental design (2)

One within-subjects factor: Information provided

<table>
<thead>
<tr>
<th></th>
<th>Acquirer: Pre-acquisition</th>
<th>Target</th>
<th>Acquirer: Post-acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance Sheet</td>
<td>S1</td>
<td>S1</td>
<td>S1</td>
</tr>
<tr>
<td>Profit/Loss Statement</td>
<td>S1</td>
<td>S1</td>
<td>S1</td>
</tr>
<tr>
<td>Cash Flow Statement</td>
<td>S1</td>
<td>S1</td>
<td>S1</td>
</tr>
<tr>
<td>Multiples: P/E ratios</td>
<td>S1</td>
<td></td>
<td>S1</td>
</tr>
<tr>
<td>reported and adjusted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple: EV/Sales</td>
<td>S2</td>
<td></td>
<td>S2</td>
</tr>
<tr>
<td>Share Information</td>
<td>S1</td>
<td>S1</td>
<td>S1</td>
</tr>
<tr>
<td>DCF Analysis</td>
<td>S2</td>
<td></td>
<td>S2</td>
</tr>
</tbody>
</table>

Stage 1 (S1): Basic information

Stage 2 (S2): Additional information
Materials and participants

• Web-based experiment (press release, financial information, judgement)

• Materials based on Ericsson (listed firm, IFRS) who acquires fictitious firm at the end of 2010.

• Study conducted in three sessions (February – April 2011).

• Participants:
  – Financial analysts who completed the task as a part of an education in finance and accounting (module from financial analyst diploma program)
  – 40 analysts, average experience somewhat above 4 years.
  – The participants had not previously conducted fundamental analysis of the Ericsson share.
Press release

Ericsson announces cash offer to acquire XX Corp.

Ericsson (NASDAQ:ERIC) today announces a voluntary public cash offer to acquire XX Corporation ("XX") for $33.60 in cash per common stock (the "cash offer"), valuing the company at approximately $15.0bn (SEK 100.4bn). The cash offer represents a premium of 36 percent to the one month average share price of $24.70. With the acquisition Ericsson further strengthens its global position as a leading supplier and business partner in communications networks for fixed and mobile operators.

- Ericsson offers $33.60 per common stock in cash.
- Total enterprise value of SEK 111.3 billion.
- EPS accretive from 2011 onwards. [EPS accretive from 2011 onwards, excluding amortization of intangibles estimated at SEK 3.5-4.0 billion per year.]

XX Corporation is an applications and solutions developer with services capabilities. XX group reported maintained profitability in 2010 on the back of its cost advantage, technological edge and financial strength.

Positive impact on EPS from 2011 onwards, excluding synergy effects and integration & transaction costs. [Positive impact on EPS from 2011 onwards, excluding synergy effects and integration & transaction costs and amortization of intangibles estimated at SEK 3.5-4.0 billion per year.] Estimated synergies of 2.8bn per year from 2013 onwards. (1.5bn in 2011, 2.4bn in 2012). Estimated integration & transaction costs of 1.5bn in 2011, 0.8bn in 2012 and 0.4bn in 2013.

The acquisition will be conducted by means of a public voluntary cash offer to the XX shareholders, valuing the share capital at SEK 100 4 billion. Enterprise value for XX is SEK 111.3 billion after adjusting for the net debt position of SEK 10.9 billion (SEK/USD=6.7).

Ericsson will finance the offer by increasing interest-bearing debt and by reducing liquid assets. Net debt gearing is expected to increase from 35% to 41%. Current interest received on the liquid assets is 1.9%. The interest rate on new debt is estimated at 4.7%

Fair value adjustments of identifiable intangible assets are estimated to be marginal. [Fair value adjustments of identifiable intangible assets are estimated at SEK 40 billion.]

The cash offer is subject to the satisfaction of all necessary approvals and clearances from competition authorities have been obtained.

Figure 2. Press releases announcing the corporate acquisition: ‘Goodwill Only’ (GO) version with the ‘Identifiable Intangibles Recognised’ (IIR) version in [] brackets and bold text
### Stage 1: Valuation multiples information

<table>
<thead>
<tr>
<th>Multiples ('Goodwill Only', GO version)</th>
<th>Multiples ('Identifiable Intangibles Recognised', IIR version)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Price</strong></td>
<td><strong>Market cap (SEKm)</strong></td>
</tr>
<tr>
<td>Acateel</td>
<td>3.34 USD</td>
</tr>
<tr>
<td>Cisco Systems Inc</td>
<td>21.71 USD</td>
</tr>
<tr>
<td>Nokia</td>
<td>11.11 USD</td>
</tr>
<tr>
<td>Qualcomm</td>
<td>54.47 USD</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td>1 673 356</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>422 976</td>
</tr>
<tr>
<td>Ericsson (Our est.)</td>
<td>82.10 SEK</td>
</tr>
<tr>
<td>Ericsson (Consensus est.)</td>
<td>82.10 SEK</td>
</tr>
<tr>
<td><strong>Median vs. Our estimates: premium (+) discount (-)</strong></td>
<td>42%</td>
</tr>
<tr>
<td><strong>Median vs. Consensus estimates: premium (+) discount (-)</strong></td>
<td>42%</td>
</tr>
</tbody>
</table>

### Pre-acquisition information about the acquirer at Stage 1

- **Ericsson (Consensus est.)**
  - Price: 3.34 USD
  - Market cap: 48,849 SEKm
  - P/E (reported): -8.0
  - P/E (adjusted): -14.5
- **Ericsson (Our est.)**
  - Price: 82.10 SEK
  - Market cap: 262,720 SEKm
  - P/E (reported): 23.6
  - P/E (adjusted): 21.4

**Aggregate**
- Median: 422,976 SEK
- P/E (reported): 16.6
- P/E (adjusted): 13.6

**Median vs. Consensus estimates: premium (+) discount (-)**
- 42%
- 42%

**Median vs. Our estimates: premium (+) discount (-)**
- 42%
- 42%

**Peer group 1**
- Dell Inc
- Hewlett Packard Co
- IBM
- Intel Corp
- Microsoft Corp
- Oracle Corporation
- Texas Instruments Inc

**Peer group 2**
- Alcatel
- Cisco Systems Inc
- Nokia
- Qualcomm

**Aggregate**
- 1,673,356
- 21.4
- 16.7
- 15.6
- 13.5
- 12.9

**Median**
- 422,976
- 16.6
- 13.6
- 13.6
- 14.6
- 13.5

**Median vs. Consensus estimates: premium (+) discount (-)**
- 42%
- 42%

**Median vs. Our estimates: premium (+) discount (-)**
- 42%
- 42%

### Valuation multiples information

**Stage 1:**
- Valuation multiples
- Median vs. Consensus estimates: premium (+) discount (-)
- Median vs. Our estimates: premium (+) discount (-)

**Stage 2:**
- Post-acquisition information about the acquirer at Stage 1
- **Ericsson (Consensus est.)**
  - Price: 3.34 USD
  - Market cap: 48,849 SEKm
  - P/E (reported): -8.0
  - P/E (adjusted): -14.5
- **Ericsson (Our est.)**
  - Price: 82.10 SEK
  - Market cap: 262,720 SEKm
  - P/E (reported): 23.6
  - P/E (adjusted): 21.4

**Aggregate**
- Median: 422,976 SEK
- P/E (reported): 16.6
- P/E (adjusted): 13.6

**Median vs. Consensus estimates: premium (+) discount (-)**
- 42%
- 42%

**Median vs. Our estimates: premium (+) discount (-)**
- 42%
- 42%
Stage 1 (basic information): Support for H1

How does the acquisition affect your valuation of the Ericsson stock (share)?

<table>
<thead>
<tr>
<th></th>
<th>Decrease</th>
<th>Increase</th>
<th>No effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>GO alternative</td>
<td>4 (19%)</td>
<td>14 (67%)</td>
<td>3 (14%)</td>
</tr>
<tr>
<td>IIR alternative</td>
<td>13 (68%)</td>
<td>5 (26%)</td>
<td>1 (5%)</td>
</tr>
</tbody>
</table>

Cross-tabulation and chi-square test: $\chi^2=9.95$, $p < 0.01$
Mann-Whitney test: $Z = -2.94$, $p < 0.01$

• Across the settings, the average participant opened 11.80 of the available 14 screens

• No difference in information search behavior or confidence across the two settings.
Stage 2: DCF analysis information

Pre-acquisition information about the acquirer at Stage 2

Post-acquisition information about the acquirer at Stage 2
Stage 2 (additional information): Support for H2

How does the acquisition affect your valuation of the Ericsson stock (share)?

<table>
<thead>
<tr>
<th></th>
<th>Decrease</th>
<th>Increase</th>
<th>No effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>GO alternative</td>
<td>4 (19%)</td>
<td>11 (52%)</td>
<td>6 (29%)</td>
</tr>
<tr>
<td>IIR alternative</td>
<td>8 (42%)</td>
<td>7 (26%)</td>
<td>4 (21%)</td>
</tr>
</tbody>
</table>

Cross-tabulation and chi-square test: ns
Mann-Whitney test: ns

- 25 participants kept their initial equity valuation judgement at stage 2 and 15 altered their assessments. The former group considered fewer information screens and used less time than the latter group, suggesting that the additional information had different influence on the participants.
• Supplemental study of real Ericsson analysts was conducted in March 2011.
• Web experiment sent to 78 analysts. Six usable responses.
• The supplemental study provides a check of the validity of the experimental design and the results.

<table>
<thead>
<tr>
<th>Analyst</th>
<th>Analyst</th>
<th>Analyst</th>
<th>Analyst</th>
<th>Analyst</th>
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<th>Analyst</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>44</td>
<td>40</td>
<td>46</td>
<td>45</td>
<td>35</td>
<td>39</td>
</tr>
<tr>
<td>Years of experience</td>
<td>17</td>
<td>10</td>
<td>21</td>
<td>17</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Years following Ericsson</td>
<td>1</td>
<td>8</td>
<td>19</td>
<td>17</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Current recommendation</td>
<td>Buy</td>
<td>Buy</td>
<td>Neutral</td>
<td>Neutral</td>
<td>Sell</td>
<td>Buy</td>
</tr>
<tr>
<td>Allocation alternative</td>
<td>GO</td>
<td>GO</td>
<td>GO</td>
<td>GO</td>
<td>IIR</td>
<td>IIR</td>
</tr>
<tr>
<td>Assessment Stage 1</td>
<td>No effect</td>
<td>Decrease</td>
<td>Increase</td>
<td>No effect</td>
<td>Decrease</td>
<td>Decrease</td>
</tr>
<tr>
<td>Assessment Stage 2</td>
<td>No effect</td>
<td>Decrease</td>
<td>Increase</td>
<td>No effect</td>
<td>Decrease</td>
<td>No effect</td>
</tr>
<tr>
<td>DCF</td>
<td>70</td>
<td>20</td>
<td>25</td>
<td>No effect</td>
<td>Decrease</td>
<td>Increase</td>
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<tr>
<td>EV/EBITDA</td>
<td>20</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>EV/EBIT</td>
<td>30</td>
<td>5</td>
<td>80</td>
<td></td>
<td></td>
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<tr>
<td>EV/SALES</td>
<td>5</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Price/BV</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P/E ratio</td>
<td>5</td>
<td>10</td>
<td>50</td>
<td>10</td>
<td>100</td>
<td>5</td>
</tr>
</tbody>
</table>
Some limitations

- Limited number of analysts.
- Participants may have been differently affected by their familiarity of Ericsson.
- No goodwill impairment losses were assumed to occur during the three-year forecast period.
• Allocation of the acquisition premium to goodwill instead of identified intangibles led to higher equity valuation judgements among the studied analysts.

• Results in comparison with Hopkins et al. (2000)
  – Short-term earnings effects still appear to be of key importance for analysts' valuation judgements. Analyst judgement in response to new methods with similar impact on P/L as old abandoned methods, appears to follow the same pattern as before.

• Additional DCF analysis information made a number of analysts change their judgement so that the accounting treatment effect was no longer significant.

• The participants who kept their initial evaluations after receiving the DCF analysis information considered fewer information screens and used less time.