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Quantitative Study on Goodwill and Impairment

Accounting Standards Board of Japan
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I. Background

1. In response to the findings from the Post-implementation Review (PIR) of IFRS 3 Business Combinations and other feedback, the IASB is currently working on the following three topics in its research project on goodwill and impairment:

   (a) identification and measurement of intangible assets acquired in a business combination;

   (b) subsequent accounting for goodwill (including the relative merits of an impairment-only approach and an amortisation and impairment approach); and

   (c) improving the impairment requirements for goodwill and other non-current, non-financial assets in IAS 36 Impairment of Assets.

2. Under such circumstances, European Financial Reporting Advisory Group (EFRAG) staff and Accounting Standards Board of Japan (ASBJ) staff have conducted a quantitative study on goodwill and impairment in order to provide a basis for discussing the three topics mentioned in the preceding paragraph. This Research Paper summarised the results of the quantitative study.

II. Objective and Structure of the Quantitative Study

3. The objective of the quantitative study is to provide quantitative data and illustrate the trends in the amounts of goodwill and impairment in major jurisdictions, with the aim of facilitating the technical and conceptual discussions related to the accounting for goodwill by accounting standard setters around the world.

4. For the purpose of this quantitative study, in most cases, the total for all companies constituting a major stock market index (see paragraph 8) were treated as if it were a single entity, with the assumption that such treatment would eliminate the uniqueness of each business combination and lead to providing general trends in the amounts of goodwill and impairment.

5. In some cases, the individual companies that constituted a major stock market index (see paragraph 8) were analysed to see if there were any concentration of goodwill within each stock market index and if there were any trends in particular industries, in order to provide insight on whether the issue is related to a specific jurisdiction or industry.
6. It should be noted that this quantitative study has a number of limitations and, therefore, does not and will not provide conclusive evidence for adopting a specific accounting treatment, nor will it provide evidence that the current accounting model is working as expected. Accordingly, this quantitative study does not include any recommendations on the accounting treatment of goodwill and impairment.

7. The study presents data on the following items from 2005 to 2014:

(a) The trends in the amount of goodwill for each stock market index and the goodwill amount per company.

(b) The trends in the ratio of goodwill to net assets and the ratio of goodwill to market capitalisation.

(c) The trends in the disaggregation of market capitalisation into (1) goodwill, (2) net assets other than goodwill and (3) unrecognised value.

(d) The trends in impairment compared to the stock market index, and the ratio of goodwill impairment (and amortisation, if applicable) to the goodwill amount of the previous year-end; and

(e) Goodwill per company and the ratio of goodwill to net assets by industry for 2014.
III. Methodology

Scope of companies analysed

8. The quantitative study collected data of more than 1,000 listed companies that constituted the following four major stock market indices in the United States, Europe, Japan and Australia:

(a) the S&P 500 index of the United States (‘the stock market index of the United States’);

(b) the S&P Europe 350 index of Europe (‘the stock market index of Europe’);

(c) the Nikkei 225 index of Japan (‘the stock market index of Japan’); and

(d) the S&P ASX 200 index of Australia (‘the stock market index of Australia’).

9. The data for the stock market index of Europe were collected and analysed by EFRAG secretariat using the S&P Capital IQ database and FactSet. The data for the stock market indices of the United States, Japan and Australia were collected and analysed by ASBJ staff using the Bloomberg database.

10. For the stock market index of Europe, companies have constituted the stock market index as of the starting date of the study (that is, March 2016) were included in the population, but the following companies were excluded from that population:

(a) companies which had no total assets in any of the years between 2005 and 2014; and

(b) companies which were repeated in the population (for example, the parent and the group).

11. For the stock market indices of the United States, Japan and Australia, companies have constituted the stock market index as of the starting date of the study (that is, March 2016) were included in the population, but the following companies were excluded from that population:

(a) companies for which market capitalisation data were not available for any of the years between 2005 and 2014;
(b) for the stock market index of Japan, companies that applied accounting standards other than Japanese GAAP (as a result, all companies included in the stock market index would amortise goodwill) in 2014; and

(c) for the stock market index of Australia, companies that applied accounting standards other than IFRS in 2014

12. With the adjustments mentioned in paragraph 10 and 11, the numbers of companies analysed by stock market index were as follows:

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>Number of companies in stock market index</th>
<th>Number of companies analysed</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>504</td>
<td>443</td>
</tr>
<tr>
<td>Europe</td>
<td>351</td>
<td>328</td>
</tr>
<tr>
<td>Japan</td>
<td>225</td>
<td>164</td>
</tr>
<tr>
<td>Australia</td>
<td>200</td>
<td>134</td>
</tr>
<tr>
<td>Total</td>
<td>1,280</td>
<td>1,069</td>
</tr>
</tbody>
</table>

13. It should be noted that this sample is not a representative sample and should not be used for statistical inference.

**Accounting standards used by companies**

14. The accounting standards used by the companies in each stock market index and the subsequent accounting for goodwill prescribed by those accounting standards were as follows:

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>GAAP</th>
<th>Accounting for Goodwill</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>U.S. GAAP</td>
<td>Impairment only</td>
</tr>
<tr>
<td>Europe</td>
<td>IFRS</td>
<td>Impairment only</td>
</tr>
<tr>
<td>Japan</td>
<td>Japanese GAAP</td>
<td>Amortisation and impairment</td>
</tr>
<tr>
<td>Australia</td>
<td>IFRS</td>
<td>Impairment only</td>
</tr>
</tbody>
</table>

**Years covered**

15. We gathered data from 2005 to 2014.

16. Most companies had a year-end of 31 December. However, some companies had a year-end other than 31 December. For the stock market indices of the United States,
Europe, Japan and Australia, the financial data of those companies were classified in the year with the year-end that was closest to 31 December. For example, financial data of companies with the year-ends of 31 August 2014, 31 December 2014 and 31 March 2015 were all presented as data for 2014.

**Data collected**

17. The following data were collected for each company analysed:
   (a) Goodwill;
   (b) Goodwill impairment (and amortisation, if applicable);
   (c) Net assets (that is, book value of total equity); and
   (d) Market capitalisation (that is, market value of total equity).

18. Financial data that were extracted for the stock market index of Europe were translated into Euros (EUR) using the historical exchange rate provided by the S&P Capital IQ database and FactSet. Similarly, financial data that were extracted for the stock market index of Australia were translated into Australian dollars (AUD) using the historical exchange rate provided by the Bloomberg database. Financial data for the stock market index of the United States were all denominated in U.S. dollars (USD) and financial data for the stock market index of Japan were all denominated in Japanese yen (JPY).

19. In this Research Paper, all amounts were translated into U.S. dollars (USD) for the readers’ convenience. A single exchange rate as of the end of 2014 was used for this translation, as shown in the following table:

   | 1 EUR = 1.20980 USD |
   | 1 JPY = 0.00835 USD |
   | 1 AUD = 0.81720 USD |

20. For the stock market index of Europe, the EFRAG secretariat found some negative impairment losses (that is, negative expenses) in the data extracted from the S&P Capital IQ database and FactSet. In these cases, adjustments were made using the following methodology:

(a) for negative impairment losses greater than EUR 100 million, impairment figures were corrected by referring to the annual reports of these companies;
and

(b) for negative impairment losses less than EUR 100 million, the impairment figures were replaced with zero.

21. For the stock market indices of the United States, Japan and Australia, the ASBJ staff made the following adjustments to the data extracted from the Bloomberg database:

(a) The Bloomberg database gathers standardised ‘goodwill data’ from primary financial statements and their accompanying notes. Bloomberg also gathers ‘data disclosed by companies’. Comparing these two data sets, the ASBJ staff referred to annual reports of the companies when necessary.

22. In addition to the above, the ASBJ staff referred to annual reports of all the companies analysed in the stock market index of Japan to supplement the Bloomberg data for ‘goodwill amortisation’ and ‘goodwill impairment’.
IV. Key Findings

23. For all stock market indices analysed, the total amount of goodwill and the amount of goodwill per company increased from 2005 to 2014. The stock market indices of the United States and Europe recognised larger amounts, both in the total amount of goodwill and the amount of goodwill per company, compared to the stock market indices of Japan and Australia. (Pages 10-11)

24. The stock market indices of the United States and Europe have consistently shown higher ratios of goodwill to net assets (for the average from 2005 to 2014, 33% for the United States and 31% for Europe) and of goodwill to market capitalisation (for the average from 2005 to 2014, 15% for the United States and 19% for Europe). (Pages 14-16)

25. Looking at the individual companies that constituted each stock market index, in 2014, 35% of the companies that constituted the stock market index of the United States and 33% of the companies that constituted the stock market index of Europe had goodwill that exceeded 50% of their net assets. Furthermore, 14% of the companies that constituted the stock market index of the United States and 11% of the companies that constituted the stock market index of Europe had goodwill that exceeded 100% of their net assets. A few companies that constituted the stock market indices in the United States, Europe and Australia had goodwill that exceeded 100% of their market capitalisation. (Pages 17-18)

26. Disaggregating the market capitalisation of the stock market index into (1) goodwill, (2) net assets other than goodwill, and (3) unrecognised value (that is, the difference between market capitalisation and net assets including goodwill), for the stock market indices of the United States and Europe, the market capitalisation (that is, the market value of equity) exceeded by a large portion the carrying amount of equity in the statement of financial position. (Pages 18-20)

27. Explicit time lags were not observed by analysing the correlation between impairment and the price or points of the stock market index. (Pages 23-24)

28. When dividing the goodwill amount at the end of the previous year by any goodwill expensed (that is, either by amortisation or impairment) during the period, the resulting ratio from 2006 to 2014 was 82 years for the stock market index of the United
States, 37 years for the stock market index of Europe, 9 years for the stock market index of Japan and 34 years for the stock market index of Australia. (Page 25)

V. Goodwill

Trends in the amount of total goodwill from 2005 to 2014

29. Figure 1 shows the trends in the amount of total goodwill from 2005 to 2014.

30. From 2005 to 2014, total goodwill increased in all stock market indices. Comparing the amounts in 2005 and in 2014, total goodwill increased by 74% for the stock market index of the United States, 43% for the stock market index of Europe, 209% for the stock market index of Japan, and 121% for the stock market index of Australia.

Figure 1: Trends in the amount of total goodwill from 2005 to 2014 (in USD billion)
31. Figure 2 shows the trends in the amount of goodwill per company (that recognised goodwill) from 2005 to 2014.

32. The amount of goodwill per company for the stock market indices of the United States and Europe was larger than that for the stock market indices of Japan and Australia. From 2008 to 2014, the amount of goodwill per company for the stock market index of the United States increased constantly. For the stock market index of Europe, the amount of goodwill per company increased until 2011, then decreased in 2012 and 2013 and increased again in 2014.

Figure 2: Trends in the amount of goodwill per company (that recognised goodwill - USD millions)

Note: In Japan, most business combinations have been accounted for under the purchase method since 2006. Until then, the pooling-of-interests method was commonly used.
Trends in the amounts of impairment, amortisation and new acquisitions

33. Figures 3.1 to 3.4 show the disaggregation of the changes in the goodwill amounts into (1) acquisitions & other changes, (2) impairment and (3) amortisation (if applicable). ‘Acquisitions & other changes’ may include increases in goodwill due to new acquisitions, decreases in goodwill due to disposals, and effects of foreign currency translation.

34. The stock market index of the United States recorded smaller amounts of ‘impairment’ compared to ‘acquisitions & other changes,’ resulting in continuous increases in the goodwill amount. In 2012 and 2013, the decline in goodwill for the stock market index of Europe was due to relatively small ‘acquisitions & other changes’ and relatively large ‘impairment.’ The recovery in 2014 was due to a relatively large ‘acquisitions & other changes’ and relatively small ‘impairment.’ The stock market index of Japan recorded smaller amounts of ‘impairment’ compared to ‘acquisitions & other changes.’ It also recorded relatively stable amounts of ‘amortisation,’ resulting in modest changes in the overall goodwill amount. The stock market index of Australia recorded a relatively large ‘impairment’ in 2011 and 2012, resulting in decreases in the overall goodwill amount.

Figure 3.1: Trends in the amounts of impairment and new acquisitions (USD billion)
United States

![Figure 3.1: Trends in the amounts of impairment and new acquisitions (USD billion) United States](image-url)
Figure 3.2: Trends in the amounts of impairment and new acquisitions (USD billion)
Europe

Figure 3.3: Trends in the amounts of impairment, amortisation and new acquisition (USD billion)
Japan

Figure 3.4: Trends in the amounts of impairment and new acquisitions (USD billion)
Australia
Trends in the ratio of goodwill to net assets

35. Figure 4.1 shows the trends in the ratio of goodwill to net assets. The objective of Figure 4.1 is to illustrate the significance of goodwill compared to net assets. Figures 4.2 and 4.3 show the trends in goodwill and net assets, respectively, with the figures in 2005 indexed as 100.

36. The average ratio of goodwill to net assets from 2005 to 2014 was higher for the stock market indices of the United States (33%) and Europe (31%). The stock market index of Australia indicated middle level figures (20%), different from the modest figures of goodwill per company (See Figure 2). The ratio of goodwill to net assets decreased gradually for the stock market indices of Europe and Australia, mainly due to the relatively high increase in net assets. The ratio of goodwill to net assets for the stock market index of Japan was modest (4%) and steady.

Figure 4.1: Trends in the ratio of goodwill to net assets
Trends in the ratio of goodwill to market capitalisation

37. Similar to the trends in the ratio of goodwill to net assets, Figure 5.1 shows the trends in the ratio of goodwill to market capitalisation. The objective of Figure 5.1 is to illustrate the significance of goodwill compared to market capitalisation. Figures 5.2 and 5.3 show the trends in goodwill and market capitalisation, with the figures in 2005 indexed as 100.

38. The ratio of goodwill to market capitalisation showed more volatility mainly due to volatility in market capitalisation. The stock market indices of the United States and Europe showed higher figures but less outstanding compared to the trend in the ratio of goodwill to net assets (See Figure 4.1).
Figure 5.1: Trends in the ratio of goodwill to market capitalisation

Figure 5.2: Goodwill (FY2005=100)

Figure 5.3: Market capitalisation (FY2005=100)
VI. Concentration of Goodwill

The number of companies that accounted for 50% of total goodwill of the stock market index in 2014

39. Figure 6 shows the number of companies that accounted for 50% of total goodwill of the stock market index in 2014. The objective of Figure 6 is to illustrate the concentration of goodwill.

40. Concentration of goodwill was a common feature of all stock market indices. In 2014, for all stock market indices, less than 11% of the companies that constituted each stock market index accounted for 50% of the total goodwill of the stock market index.

41. The market capitalisation of the companies that accounted for 50% of the total goodwill accounted for 32% for the stock market index of the United States, 29% for the stock market index of Europe, 21% for the stock market index of Japan and 47% for the stock market index of Australia in 2014.

Figure 6:
The number of companies that accounted for 50% of total goodwill of the stock market index in 2014

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>The number of companies that accounted for 50% of the total goodwill</th>
<th>The percentage of companies that accounted for 50% of the total goodwill</th>
<th>The percentage of the market capitalisation (in 2014) of companies that accounted for 50% of total goodwill over that of the total population</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>36</td>
<td>8%</td>
<td>32%</td>
</tr>
<tr>
<td>Europe</td>
<td>36</td>
<td>11%</td>
<td>29%</td>
</tr>
<tr>
<td>Japan</td>
<td>9</td>
<td>5%</td>
<td>21%</td>
</tr>
<tr>
<td>Australia</td>
<td>10</td>
<td>7%</td>
<td>47%</td>
</tr>
</tbody>
</table>

The number of companies that recognised goodwill that exceeded 50% of their net assets or their market capitalisation in 2014

42. Figure 7 shows the number of companies that recognised goodwill that exceeded 50% of their net assets or their market capitalisation in 2014.

43. A number of companies that constituted the stock market indices of the United States and Europe recognised goodwill that exceeded 100% of their net assets. Some companies recognised goodwill that exceeded 100% of their market capitalisation. As shown in Figure 4.1, in 2014, the ratio of goodwill to net assets...
for the stock market index, treated as if it were a single entity, was 32% for the stock market index of the United States and 28% for the stock market index of Europe. However, approximately 30% of the companies that constituted the stock market indices of the United States and Europe recognised goodwill that exceeded 50% of their net assets.

**Figure 7:**
The number of companies that recognised goodwill that exceeded 50% of their net assets or their market capitalisation in 2014

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>The number of companies analysed</th>
<th>vs. Net assets 50% +</th>
<th>100% +</th>
<th>vs. Market capitalisation 50% +</th>
<th>100% +</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>443</td>
<td>155</td>
<td>64</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>Europe</td>
<td>328</td>
<td>107</td>
<td>36</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>Japan</td>
<td>164</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>134</td>
<td>27</td>
<td>9</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

**VII. Trends in the Market Capitalisation by Component**

44. Figures 8.1 to 8.4 show the trends in the market capitalisation, disaggregated into the following three components: (1) goodwill, (2) net assets other than goodwill and (3) unrecognised value (that is, the difference between market capitalisation and net assets including goodwill).

45. For the stock market indices of the United States and Europe, the market capitalisation (that is the market value of equity) exceeded by a large portion the carrying amount of equity in the statement of financial position. Fluctuations in the market price contributed to the changes in unrecognised value. Compared to other stock market indices, the stock market index of Japan had much less unrecognised value since 2007. Fluctuations in the market price contributed to the changes in net assets other than goodwill.
**Figure 8.1: Trends in the market capitalisation by component (USD billion)**

United States

Note: **Figures in dark gray boxes** represent the market capitalisation (i.e. the sum of Unrecognised Value (pink), Goodwill (gray) and Net Assets less Goodwill (purple))

**Figure 8.2: Trends in the market capitalisation by component (USD billion)**

Europe

Note: **Figures in dark gray boxes** represent the market capitalisation (i.e. the sum of Unrecognised Value (pink), Goodwill (gray) and Net Assets less Goodwill (purple))
Figure 8.3: Trends in the market capitalisation by component (USD billion)

Japan

Note: Figures in dark gray boxes represent the market capitalisation (i.e. the sum of Unrecognised Value (pink), Goodwill (gray) and Net Assets less Goodwill (purple))

Figure 8.4: Trends in the market capitalisation by component (USD billion)

Australia

Note: Figures in dark gray boxes represent the market capitalisation (i.e. the sum of Unrecognised Value (pink), Goodwill (gray) and Net Assets less Goodwill (purple))
VIII. Impairment

Trends in the impairment (and the amortisation, if applicable) from 2005 to 2014

46. Figure 9 shows the trends in the impairment (and the amortisation, if applicable) from 2005 to 2014.

47. The impairment was large in 2008 for the stock market indices of Europe and the United States. The impairment was large again in 2011 and 2012 mainly for the stock market indices of Europe and Australia.

Figure 9: Trends in the impairment (and the amortisation, if applicable) from 2005 to 2014 (in USD billion)

Trends in the number of companies that recognised impairment (excluding amortisation)

48. Figure 10.1 shows the trends in the number of companies that recognised impairment (excluding amortisation) from 2006 to 2014. Similarly, Figure 10.2 shows the trends in the ratio of the number of companies that recognised impairment (excluding amortisation) to the number of companies that recognised goodwill in the previous year from 2006 to 2014.
49. A relatively small number of companies recognised impairment. The proportion of companies that recognised impairment was higher for the stock market index of Europe compared to other stock market indices. In 2008, all stock market indices recognised the highest proportion of companies that recognised impairment.

50. It should be noted that, with all other conditions being equal, companies that constitute the stock market index of Japan were less likely to recognise impairment because Japanese GAAP requires the amortisation of goodwill.

Figure 10.1:
Trends in the number of companies that recognised impairment (excluding amortisation)

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>The number of companies analysed</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>443</td>
<td>10</td>
<td>15</td>
<td>47</td>
<td>41</td>
<td>30</td>
<td>28</td>
<td>45</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>Europe</td>
<td>328</td>
<td>73</td>
<td>68</td>
<td>98</td>
<td>84</td>
<td>70</td>
<td>77</td>
<td>87</td>
<td>89</td>
<td>84</td>
</tr>
<tr>
<td>Japan</td>
<td>164</td>
<td>12</td>
<td>20</td>
<td>21</td>
<td>17</td>
<td>10</td>
<td>13</td>
<td>18</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>Australia</td>
<td>134</td>
<td>8</td>
<td>12</td>
<td>22</td>
<td>16</td>
<td>21</td>
<td>22</td>
<td>17</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

Figure 10.2:
Trends in the ratio of the number of companies that recognised impairment (excluding amortisation) to the number of companies that recognised goodwill in the previous year

<table>
<thead>
<tr>
<th>Stock market index</th>
<th>The number of companies analysed</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>443</td>
<td>3%</td>
<td>4%</td>
<td>12%</td>
<td>11%</td>
<td>8%</td>
<td>7%</td>
<td>12%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>Europe</td>
<td>328</td>
<td>25%</td>
<td>23%</td>
<td>34%</td>
<td>29%</td>
<td>24%</td>
<td>26%</td>
<td>29%</td>
<td>30%</td>
<td>28%</td>
</tr>
<tr>
<td>Japan</td>
<td>164</td>
<td>11%</td>
<td>20%</td>
<td>22%</td>
<td>17%</td>
<td>10%</td>
<td>11%</td>
<td>14%</td>
<td>17%</td>
<td>10%</td>
</tr>
<tr>
<td>Australia</td>
<td>134</td>
<td>8%</td>
<td>12%</td>
<td>22%</td>
<td>16%</td>
<td>20%</td>
<td>21%</td>
<td>16%</td>
<td>17%</td>
<td>17%</td>
</tr>
</tbody>
</table>
Trends in the impairment and the amortisation compared to the stock market index

51. Figures 11.1 to 11.4 show the trends in the amount of goodwill expensed (that is, either by the impairment or the amortisation, if applicable) and the price or points of the stock market indices. The objective of this analysis was to observe any relationships between the amount of goodwill expensed and the changes in price or points of the stock market indices.

52. The impairment generally increased when the stock market index showed a downward trend. However, the stock market index did not seem to explain the 2012 increase in the impairment (that is, the stock market index showed an upward trend). Whether the timing goodwill was expensed and the timing there were fluctuations in the market price were simultaneous was not necessary clear. Many stock market indices experienced in 2008 a surge of the impairment with a sharp decline in the market price. However, it should be noted that this data alone is not conclusive as to whether the impairment was recognised sufficiently.

**Figure 11.1: Trends in the impairment compared to the stock market index**

(impairment in USD billions and the stock market index in market points)

United States

![Impairment and Stock Market Index Comparison Graph](image-url)
Figure 11.2: Trends in the impairment compared to the stock market index (impairment in USD billions and the stock market index in market points)

Europe

<table>
<thead>
<tr>
<th>Year</th>
<th>Impairment</th>
<th>Stock Market Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>50</td>
<td>1286</td>
</tr>
<tr>
<td>2006</td>
<td>28</td>
<td>1,498</td>
</tr>
<tr>
<td>2007</td>
<td>10</td>
<td>1,505</td>
</tr>
<tr>
<td>2008</td>
<td>835</td>
<td>67</td>
</tr>
<tr>
<td>2009</td>
<td>24</td>
<td>1,049</td>
</tr>
<tr>
<td>2010</td>
<td>15</td>
<td>1,124</td>
</tr>
<tr>
<td>2011</td>
<td>15</td>
<td>81</td>
</tr>
<tr>
<td>2012</td>
<td>1005</td>
<td>64</td>
</tr>
<tr>
<td>2013</td>
<td>1,143</td>
<td>53</td>
</tr>
<tr>
<td>2014</td>
<td>18</td>
<td>1,339</td>
</tr>
</tbody>
</table>

Figure 11.3: Trends in the impairment and the amortisation compared to the stock market index (impairment and amortisation in USD billions and the stock market index in JPY)

Japan

<table>
<thead>
<tr>
<th>Year</th>
<th>Impairment</th>
<th>Amortisation</th>
<th>Stock Market Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>1</td>
<td>1</td>
<td>16,111</td>
</tr>
<tr>
<td>2006</td>
<td>1</td>
<td>1</td>
<td>17,226</td>
</tr>
<tr>
<td>2007</td>
<td>2</td>
<td>8</td>
<td>15,308</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
<td>3</td>
<td>8,860</td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>3</td>
<td>10,546</td>
</tr>
<tr>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>10,229</td>
</tr>
<tr>
<td>2011</td>
<td>0</td>
<td>0</td>
<td>8,455</td>
</tr>
<tr>
<td>2012</td>
<td>1</td>
<td>4</td>
<td>10,395</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>4</td>
<td>16,291</td>
</tr>
<tr>
<td>2014</td>
<td>0</td>
<td>5</td>
<td>17,451</td>
</tr>
</tbody>
</table>

Figure 11.4: Trends in the impairment compared to the stock market index (impairment in USD billions and the stock market index in market points)

Australia

<table>
<thead>
<tr>
<th>Year</th>
<th>Impairment</th>
<th>Stock Market Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>0</td>
<td>4,763</td>
</tr>
<tr>
<td>2006</td>
<td>2</td>
<td>5,670</td>
</tr>
<tr>
<td>2007</td>
<td>1</td>
<td>6,340</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
<td>3,722</td>
</tr>
<tr>
<td>2009</td>
<td>1</td>
<td>4,871</td>
</tr>
<tr>
<td>2010</td>
<td>1</td>
<td>4,745</td>
</tr>
<tr>
<td>2011</td>
<td>1</td>
<td>4,057</td>
</tr>
<tr>
<td>2012</td>
<td>10</td>
<td>4,649</td>
</tr>
<tr>
<td>2013</td>
<td>3</td>
<td>5,352</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
<td>5,411</td>
</tr>
</tbody>
</table>
**Trends in the intensity of goodwill expensed**

53. Figure 12 shows the trends in the ratio of the amount of goodwill expensed (that is, either by the impairment or the amortisation, if applicable) to the goodwill amount as of the previous year-end. For this analysis, the reductions to the goodwill amount during the period by disposal were not taken into account.

54. For the stock market indices of the United States and Europe, the ratio of the amount of goodwill expensed to the goodwill amount as of the previous year-end ranged from around 1%-5%. This ratio was higher for the stock market index of Japan (around 10%-14%) mainly because Japanese GAAP requires the amortisation of goodwill.

55. The inverse of this ratio implies the time to fully expense the goodwill recognised. The inverse of the average of this ratio from 2006 to 2014 resulted in 82 years for the stock market index of the United States, 37 years for the stock market index of Europe, 9 years for the stock market index of Japan and 34 years for the stock market index of Australia.

*Figure 12: Trends in the intensity of goodwill expensed*
IX. Industry Analysis

Analysis of goodwill per company (that recognised goodwill) by industry in 2014

56. Figure 13.1 shows goodwill per company (that recognised goodwill) by industry in 2014. The industry classification was based on the Global Industry Classification Standard (GICS), developed by S&P and MSCI

57. Figure 13.1 shows that the telecommunications services industry within the stock market indices of the United States and Europe had significantly larger amounts of goodwill per company than the stock market indices of Japan and Australia. Consumer staples and health care within the stock market indices of the United States and Europe showed larger amounts of goodwill than the stock market indices of Japan and Australia. Unlike other stock market indices, the utilities industry within the stock market index of Europe had a larger amount of goodwill per company.

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1 The ten industries under the GICS are as follows:

(i) Energy;
(ii) Materials (for example, chemicals, metals & mining);
(iii) Industrials (for example, aerospace & defence, construction & engineering, commercial services & supplies, transportation);
(iv) Consumer Discretionary (for example, automobiles, household durables, retail);
(v) Consumer Staples (for example, food products, beverages, tobacco, household products);
(vi) Health Care;
(vii) Financials;
(viii) Information Technology;
(ix) Telecommunication Services; and
(x) Utilities.

All of the companies that were analysed in this quantitative study were assigned an industry classification by S&P and MSCI, who developed GICS.
Analysis of the ratio of goodwill to net assets by industry in 2014

58. Similar to the analysis of goodwill per company, Figure 13.2 shows the ratio of goodwill to net assets by industry.

59. Similar to goodwill per company, the telecommunication services, consumer staples and health care industries within the stock market indices of the United States and Europe showed higher figures. Industrials within the stock market indices of the United States and Europe also showed higher figures. Some industries within the stock market index of Australia showed higher figures, particularly the information technology industry. Consumer staples and health care industries within the stock market index of Japan showed relatively higher figures compared to other industries. However, the figures of companies varied, even within the same industry.
Figure 13.2: The ratio of goodwill to net assets by industry
X. Acknowledgements

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