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Companies with market value below book value are more common in Europe than in the US: evidence, explanations and implications

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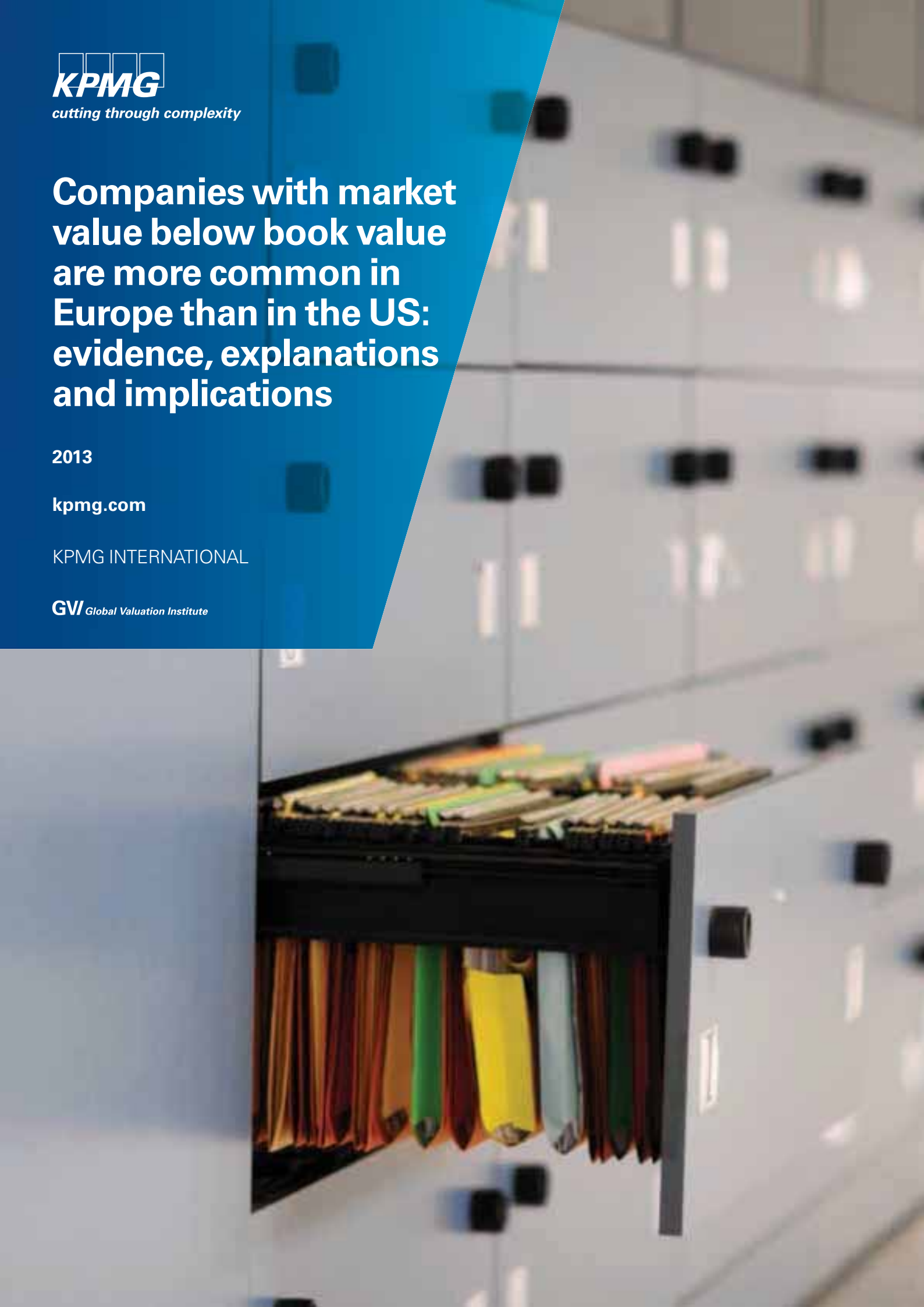

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KPMG's Global Valuation Institute

Companies with market value below book value are more common in Europe than in the US: evidence, explanations and implications

Mauro Bini
Stephen Penman

Foreword

KPMG's Global Valuation Institute (GVI) is pleased to introduce its third management paper since the launch of its research agenda.

We recognize that valuation is a constantly evolving discipline that has been shaped by practical and theoretical advances. Many high quality research papers on valuation subjects never find their way to the public domain with an opportunity to influence the evolution of standards and practice because of a lack of exposure to practitioners.

Our goal is to act as a catalyst for the public dissemination of breakthrough valuation research. To this end, KPMG's GVI benefits from the expertise of an Academic Advisory Board comprised of professors from Beijing University in China, Northwestern University in the US and Oxford University in the UK. This Board designs a research agenda and selects and reviews the sponsored research.

We work closely with researchers to present their management papers in a format that is understandable to a broad range of business professionals. This includes illustrative papers with applications and/or case studies. Through this process, we keep KPMG's global network of 1,200 valuation professionals informed of emerging valuation issues.

This paper, *Companies with market value below book value are more common in Europe than in the US: evidence, explanations and implications,* is authored by Mauro Bini and Stephen Penman.

The paper compares the book values and market capitalizations of US and European companies in the S&P 500 and the STOXX 600 respectively, and documents a greater proportion of companies with book values that exceed their market capitalization in Europe than in the US. The European companies in the study report under International Financial Reporting Standards (IFRS) while the US companies in the study report under US Generally Accepted Accounting Principles (US GAAP).

The paper focuses on the accounting models for impairment testing in assessing differences between market capitalizations and book values for the different geographies and accounting standards. The paper addresses a number of interesting areas, such as describing the decline in market prices and economic prospects during and after the recent financial crisis and potential adjustments to market capitalization to reflect possible control premiums, as well as a number of issues related to the value in use concept used under IFRS.

Under IFRS, impairment testing of goodwill is based on a comparison of the carrying amount of a cash-generating unit (CGU) or group of CGUs to its recoverable amount, which is the higher of its fair value less costs to sell and its value in use. Under US GAAP, impairment testing of goodwill involves a two-step test with fair value used in both steps. Value in use is not applied under US GAAP.

Value in use is a concept that was introduced by the IASC in IAS 36 *Impairment of Assets*, but is not a generally recognized valuation concept outside of valuations performed for IAS 36. Value in use is intended to measure the value to an entity of holding and operating an asset (as opposed to fair value, which considers the exit value of the asset to market participants in a hypothetical transaction). Value in use involves an assessment of the recoverability of book value that directly considers an entity's specific facts and circumstances and may be less volatile than market prices. However, the authors identify potential issues with the value in use concept, including its value relevance to share pricing.

The paper notes that many of the companies whose book values exceed their market capitalizations are financial services companies such as banks and insurance companies. This may be the result of significant underperformance relative to the market in this sector as well as various industry specific factors such as the use of the incurred loss model to determine loan losses. The incurred loss model could delay recognition of loan losses compared to alternative approaches being debated by accounting standard setters, such as an expected loss model. The fact that financial services companies represent a larger proportion of the STOXX 600 than the S&P 500 may be a significant contributor to the differences in market capitalization and book value for companies in the STOXX 600 and S&P 500.

The authors make a very useful contribution to understanding the differences between market capitalization and book values for US and European companies and we trust that you will find it of interest.

This paper reflects the views of the authors and not necessarily those of any KPMG member firm.

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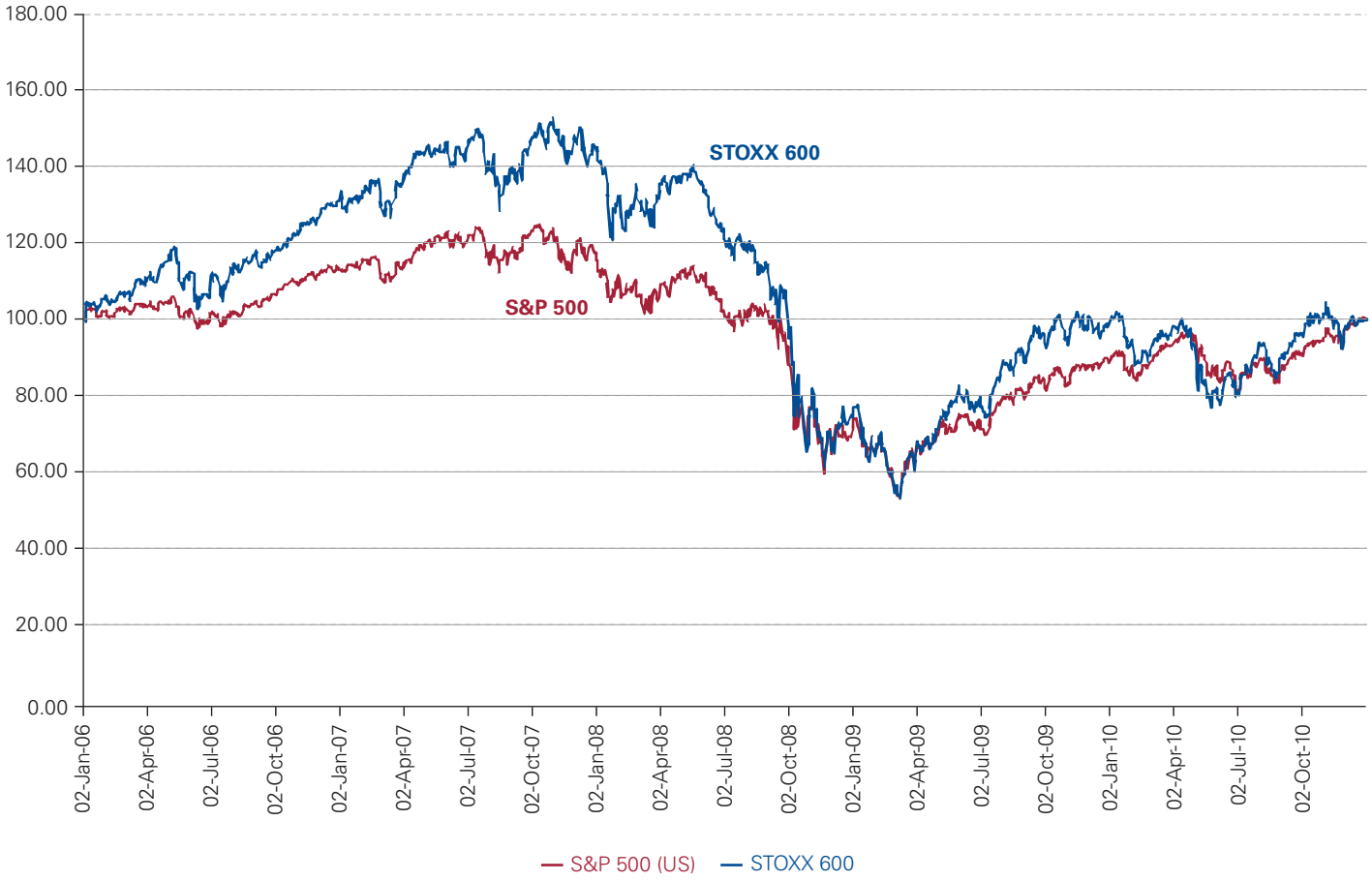
1. Introduction

This paper examines listed companies in the US and Europe with market capitalizations less than the book value of equity in the years immediately before and after the global financial crisis of 2008. The paper documents a higher percentage of companies in the (European) STOXX 600 with market capitalization less than book value than in the (US) S&P 500. Further, the negative difference between market and book value is larger for European companies and more persistent over time. The paper seeks explanations for the differences.

Market value below book value is an indicator of potential impairment, and its persistence over a prolonged period of time indicates a reluctance to make impairments. This is especially the case for assets whose recoverable amounts are measured via models, as with Level 3 fair value and value-in-use determinations. Even with no formal requirement for assets to be marked to market, a situation where market value is below book value should invoke accounting standards that require the recalibration and review of valuation models to ensure that valuations are not based on special assumptions.[1] The widespread observation of market value lower than book value thus indicates an unusual situation that warrants investigation.

The global financial crisis of 2008 provides a natural setting for this investigation. The crisis was an adverse event so vast in scope, so deep, so prolonged, and similar in its intensity in the US and in Europe. With the coincident drop in the market value of firms, the crisis provides an important opportunity to compare market value and book value differences in the US and Europe, where companies use accounting standards based on similar principles under US GAAP and IAS/IFRS but which differ in practice.

Figure 1: S&P 500 vs. STOXX 600: market prices between 31 Dec. 2005 and 31 Dec. 2010



Source: (http://www.factset.com/): FactSet

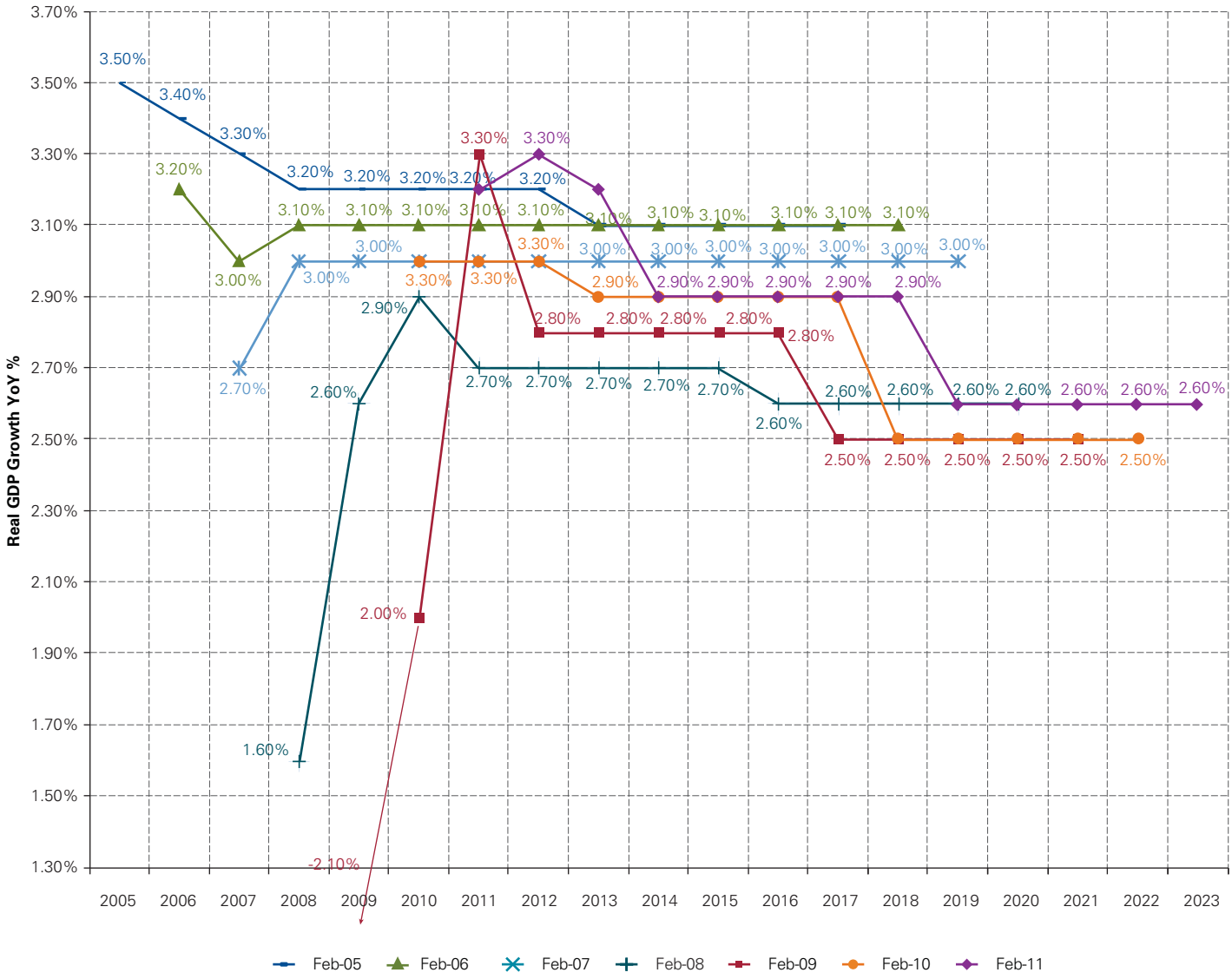
1 International Valuation Standards, 2011:
"IVS300.6. It would not be appropriate for a valuation prepared for inclusion in a financial statement to be made on the basis of a special assumption". "IVS Definitions. *Special assumption* – an assumption that either assumes facts that differ from the actual facts existing at the valuation date or that would not be made by a typical participant in a transaction on the valuation date".

Figure 1 compares movements in the S&P 500 and the STOXX 600 from December 2005 to December 2010, the period covered by the analysis. Both follow a similar pattern, with the systematic shock to market values in the 2008 crisis evident.

The large drop in market prices is consistent with changes in fundamentals: there were also significant downside revisions in long-term real growth expectations in the two geographical areas during the period. Figures 2 and 3 display consensus forecasts of long-term (10 years) real GDP growth in the US and in Europe between February 2005 and February 2011, published by Consensus Economic Forecasts in February every year. The charts show clearly that the financial crisis reduced long-term growth expectations in both areas. In the US, long-term GDP growth expectations fell from 3.2 percent in February 2005 to 2.6 percent in February 2011 (down 0.6 percent). In Europe, long-term GDP growth expectations fell from 2 percent in February 2005 to 1.6 percent in February 2011 (down 0.4 percent).

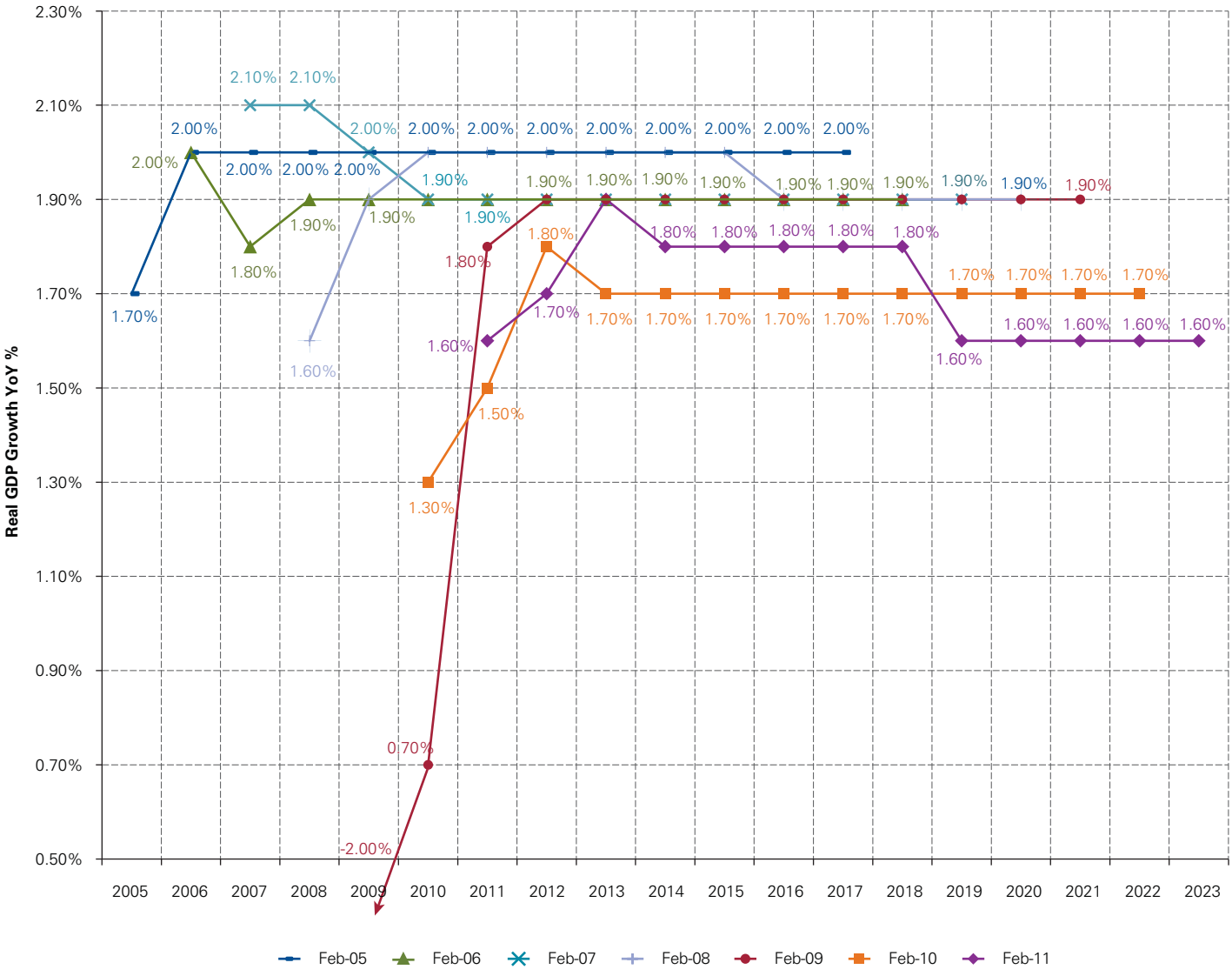
When the drop in market values is attributable to fundamentals rather than whims of the market, one would expect book values to be impaired accordingly when market values fall below book value. But why would there be differences between the US and Europe? In contrast to US GAAP, IAS/IFRS allows, for impairment testing purposes, an alternative to fair (exit) value, namely, value in use. The paper asks whether the value-in-use standard can explain the difference.

Figure 2: Real GDP growth consensus revisions between Feb. 2005 and Feb. 2011 – US



Source: Consensus Economic Forecasts

Figure 3: Real GDP growth consensus revisions between Feb. 2005 and Feb. 2011 – Euro Area



Source: Consensus Economic Forecasts

2. Accounting conservatism and accounting slack

Accounting standards are guided, to a greater or lesser degree, by a principle of prudence – accounting conservatism – which typically produces book values of net assets lower than the corresponding market values. One definition of accounting conservatism, generally agreed upon, is "a persistent downward bias in book value relative to market value" (Beaver and Ryan, 2000).[2] Bearing this in mind,

- the greater the number of companies with a market capitalization lower than the book value of their equity,
- the wider the (negative) difference between book value and market capitalization, and
- the longer and more persistent this difference,

the lower is accounting conservatism in one regime versus another.

Even when conservatism is not a stated objective of accounting, it is typically acknowledged that accounting has a role in providing standards of reference to investors, such as the norm that the book value of net assets represents a valuation floor. Thus, a widespread negative and persistent difference between market values and accounting values is indicative of an anomaly; a continuing, pervasive situation of market prices below the book value cannot be said to be good accounting.

Accounting conservatism is invoked by accounting standards, but also arises in the way they are applied. If accounting standards require difficult-to-verify estimates, discretion enters into measurement and agency theory predicts that management may make opportunistic use of this discretion. Level 3 estimates of fair value under US GAAP and IAS/IFRS and estimates of value in use under IAS/IFRS are very much estimates. The application of these standards can reduce accounting conservatism, and explain a negative and continuing difference between market capitalization and book value (Ramanna and Watts, 2012).

There are two types of accounting conservatism (Beaver and Ryan, 2005): unconditional (or ex ante or news independent) conservatism and conditional (or ex post or news dependent) conservatism.

Unconditional conservatism refers to accounting standards and policies adopted on a consistent basis, irrespective of circumstance, and usually applied at the inception of assets by recording book value considerably lower than market value. Expensing research and development expenditures and other internally generated intangibles is a typical example of unconditional conservatism. The adoption of LIFO for inventories (when costs are rising) is another. With respect to research and development, US GAAP is more conservative than IFRS, typically expensing both research and development, rather than just research.

Conditional conservatism refers instead to accounting standards that record book value asymmetrically, depending on whether information at the time is favorable or unfavorable. These standards require a write-down of book value under negative circumstances but do not permit write-up (or permit write-up only up to the original cost) under favorable circumstances. The accounting treatment of 'the lower of cost or market' for inventories is an example. Impairment of non-current assets is another. The standard that permits an impairment loss to be reversed but does not permit reversal

2 Conservatism can also be defined as the delayed incorporation of economic income into accounting income (Ball et al., 2000). In fact, 'clean surplus accounting' implies that, over time, the sum of economic incomes is equal to the sum of accounting earnings. Economic income means (à la Hicks) the change in market value of equity as adjusted for dividends and capital contributions.

of goodwill impairment losses is an example of the asymmetry of conditional conservatism applied to different assets.

There is a link between the two types of conservatism. The repeal of goodwill amortization and the introduction of a test for goodwill impairment is an example due to accounting standards. This standard reduces unconditional conservatism in favor of greater conditional conservatism, as unamortized goodwill is more exposed to impairment risk upon occurrence of negative events. However, the link is also there with the degree of subjectivity in the estimates. An example is the purchase price allocation in a business combination; the allocation of a greater share of the price paid to definite-life assets rather than indefinite-life assets or goodwill (due to a higher valuation of the definite-life assets) reduces the probability of future impairments should adverse external conditions occur, while the higher subsequent depreciation maintains more unconditional conservatism.

Conditional conservatism required by accounting standards for the treatment of negative events fosters discretionary choices and introduces accounting slack; by introducing or removing accounting slack, these standards affect the readiness to record the effect of a negative event and the amount recorded. For instance, FAS 144 (FASB ASC 360) in US GAAP requires that undiscounted cash flows are used to evaluate whether there is an impairment indicator (i.e. undiscounted cash flows are relevant to step 1 of a two-step process in US GAAP). This standard makes it possible to avoid a write-off when an adverse event reduces the market value of an asset below its book value but the undiscounted expected future cash flows of this asset are unchanged. Similarly, IAS 36 requires the recognition of goodwill impairment when the recoverable amount of the CGUs is lower than the CGU's book value, defining recoverable amount as the greater of the CGU's fair value and value in use. In addition, this accounting standard provides that, following an adverse event that causes the fair value of the CGU to drop below book value, the value of the CGU is not written down until the effect of this event is such as to reduce also the CGU's value in use below book value. Under IAS 39 and FAS 114, loans recognized at their amortized cost are not written down in the presence of a rise in interest rates (an event that reduces considerably their market value), with no effects on their expected cash flows.

The extent of accounting slack is also a function of specific company characteristics, as with the allocation of goodwill to the CGUs (or groups of CGUs). If goodwill arising in a business combination is allocated to a group of CGUs (or to a reporting unit) that includes businesses already under the acquirer's control, accounting slack arises equal to the internally generated goodwill (not recognized) of the business units already controlled before the business combination.

Accounting slack can thus explain a negative difference between market capitalization and book value. Accounting slack permits management to avoid negative effects on the accounts (in some cases with irreversible consequences) following events that are deemed temporary or immaterial for the measurement of the entity's net assets. For instance, for purposes of the test of goodwill impairment, recoverable amount (fair value under US GAAP and the greater

of value in use and fair value less costs to sell under IAS/IFRS) reflects the value of net assets (of the reporting unit under US GAAP and the CGUs or the group of CGUs under IAS/IFRS) from the perspective of the entity that has control over the assets. In other words, recoverable amount includes the value of control while market capitalization does not incorporate that value necessarily. If control premiums are negatively correlated to stock market indices (when the stock index falls control premiums increase), the accounting slack is proportionally greater when market prices drop.

Accounting slack can also delay the impact of even intense negative external events on a company's accounts. An example is provided by value in use for the impairment test under IAS/IFRS. Value in use is a standard of value (a) less correlated to market capitalization than fair value, and (b) more stable than fair value (that is more volatile due to market price movements). Therefore, a value-in-use criterion will likely delay write-down, if at all, in response to a market value exogenous shock, such as that in the global financial crisis of 2008.[3]

In theory, accounting conservatism does not necessarily provide more value-relevant information. If accounting standards are conservative, accounting information is generally considered more reliable, but the greater reliability can entail lower economic relevance. This is why the conceptual framework of IAS/IFRS does not identify conservatism as a qualitative characteristic of decision-useful financial information (Barth, 2007). IAS/IFRS permits, for purposes of impairment testing, the utilization of value in use as an alternative to fair value. The ability to choose between entity-specific value – which is harder to verify than fair value as it expresses the superior management talent of the specific entity compared with that of other market participants – is predicated upon the IASB's belief that fair value (i.e. exit price) might not reflect a meaningful measure of value for the owners of the firm,[4] even though there might be an active market for the asset (or the CGU) to which fair value refers. When shareholder value is not one-to-one with the market price for the asset but rather a function of the service potential from its use (Penman, 2007), fair value can be a more conservative measure, though not necessarily a more relevant one.

Value in use reflects how an asset is utilized by the specific company in conjunction with other assets. In principle, management can disclose information not available to the market through value-in-use reporting.

However, value in use is based on even more subjective estimates than fair value and puts into even sharper relief the problem of information asymmetry between management and financial markets.[5] Value in use lacks the discipline of the estimation process associated with fair value measurement (even Level 3 fair value).[6] The problem with value in use is not economic relevance but reliability. To be reliable, estimates of value in use would require a neutral application of management's information. A measure of reliability for value-in-use estimates may be derived from their value relevance, i.e. the ability to be incorporated in the market value of equity. In fact, if they are not sufficiently reliable for investors' equity valuation decisions, such estimates are not incorporated in share market prices.

3 Unfortunately this hypothesis could not be tested empirically as financial statement data for only two years after 2008 did not provide a sufficient sample size.

4 IAS 36.BCZ17. "IASC rejected the proposal that an asset's recoverable amount should be determined by reference to its fair value (based on observable prices or, if no observable market prices exist, estimated considering prices for similar assets and the results of discounted future cash flow calculations). The reasons are the following:
(a) IASC believed that no preference should be given to the market expectation of the recoverable amount of an asset (basis for fair value when market values are available and for net selling price) over a reasonable estimate performed by the individual enterprise that owns the asset (basis for fair value when market values are not available and for value in use). For example, an enterprise may have information about future cash flows that is superior to the information available in the marketplace. Also, an enterprise may plan to use an asset in a manner different from the market's view of the best use.
(b) Market values are a way to estimate fair value but only if they reflect the fact that both parties, the acquirer and the seller, are willing to enter a transaction. If an enterprise can generate greater cash flows by using an asset than by selling it, it would be misleading to base recoverable amount on the market price of the asset because a rational enterprise would not be willing to sell the asset. Therefore, recoverable amount should not refer only to a transaction between two parties (which is unlikely to happen) but should also consider an asset's service potential from its use by the enterprise.
(c) IASC believed that in assessing the recoverable amount of an asset, it is the amount that an enterprise can expect to recover from the asset, including the effect of synergy with other assets, that is relevant."

5 Information asymmetry is not just an implementation issue of value in use. It undoubtedly concerns also Level 3 fair value estimates, which have, by necessity, a strong value-in-use flavor as they utilize company inputs rather than purely market inputs (Landsman, 2007). In addition, it concerns all those choices regarding the timing and amount of non-market adjustments arising from past transactions, such as allowance for bad debt and allowances for loan losses.

6 For instance IAS 36.33 provides that: "In measuring value in use an entity shall:
(a) Base cash flow projections on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that will exist over the remaining useful life of the asset. Greater weight shall be given to external evidence. (…)"
This provision does not clarify how value in use should be calculated in the presence of information asymmetry between managers and external analysts. Moreover, Appendix A of IAS 36 ("Using present value techniques to measure value in use") includes in the list of elements that "together capture the economic differences between assets" (A1): "(e) other, sometimes unidentifiable, factors (such as illiquidity) that market participants would reflect in pricing the future cash flows the entity expects to derive from the asset." Also in this case, it is not clear the extent to which this risk factor should be reflected by value in use vis-à-vis fair value in time of crisis, when illiquidity is more acute (considering that illiquidity is a risk consideration in connection with an exit price more than with the value of a continuing investment).

Opportunistic management behavior can result in either:

a) avoiding write-offs to improve the company's reported performance

b) increasing write-offs to worsen the company's reported performance in situations where results before write-offs are bad anyway, thus laying the foundation for better comparative results in the future (the so-called big bath).

Therefore, in and of itself, the possibility permitted by IAS/IFRS to refer, for impairment testing purposes, to a metric (value in use) which is even less verifiable than Level 3 fair value does not entail necessarily lower write-offs. Opportunistic policies could have led management to take one big bath precisely in the year when the crisis was at its worst (2008).

This paper evaluates the reliability of value-in-use estimates on the basis of their value relevance. Value relevance is a special approach to determine the reliability of accounting amounts by verifying the ability of such amounts to be reflected in share prices. Theoretically, accounting amounts can have economic relevance even though in practice they might not be value-relevant, simply because they are not considered sufficiently reliable by investors to be reflected in share prices (Barth et al., 2001). The market-to-book ratio is an indication of the market price of reported net assets. If investors apply significant discounts to accounting estimates, the market-to-book ratio is lower than one.

This approach has clear limitations,[7] but it becomes very important when one considers how the reliability of accounting amounts can change over time. Value in use might be a reliable estimate when markets are stable but it might be less so when markets are in times of crisis, as it is harder to estimate and is excessively dependent on management forecasts.[8] If the gap between value in use and fair value widens in times of crisis, this might be due to two main circumstances: (a) value in use is more stable and less subject to the crisis, conveying management's information advantage to investors; (b) value in use is based on accounting standards which can be more easily gamed by managers reluctant to take write-downs, even when assets are substantially impaired. Value relevance is the approach that makes it possible to understand the extent to which investors consider management estimates verifiable and subject to manipulation.[9]

Some preliminary, descriptive numbers

At 31 December 2007, the constituents of the S&P 500 reported in their accounts €1.2 trillion in goodwill and €0.6 trillion in intangibles other than goodwill overall. On the same date, the constituents of the STOXX 600 reported €1.0 trillion in goodwill and €0.5 trillion in specific intangibles overall. Figure 4 depicts the write-downs of financial assets, goodwill, intangible assets other than goodwill, and property, plant and equipment (PPE) by the constituents of the S&P 500 between 2006 and 2010. It is worthy of note that most write-downs took place in 2008 and thereafter. Figure 5 gives the same display for companies in the STOXX 600.

For the S&P 500, write-downs of goodwill and other intangibles amounted to €277 billion (of which €223 billion was after 2007). The impairment losses attributed to PPE amounted to €134 billion while the haircut to financial assets totalled €158 billion. Overall, write-downs amounted to €569 billion (of which €483 billion was after 2008). For European companies in the period, impairment of goodwill and intangibles (other than goodwill) amounted to €199 billion (of which €157 billion was after 2007). Even though IAS/IFRS rules are stricter (discounted vs. undiscounted cash flows), PPE write-downs were lower in Europe, amounting to €92 billion. Adjustments to financial assets in Europe were much lower than in the US, totaling 'just' €41 billion. Altogether, impairment charges amounted to €332 billion (of which €264 billion was after 2008).

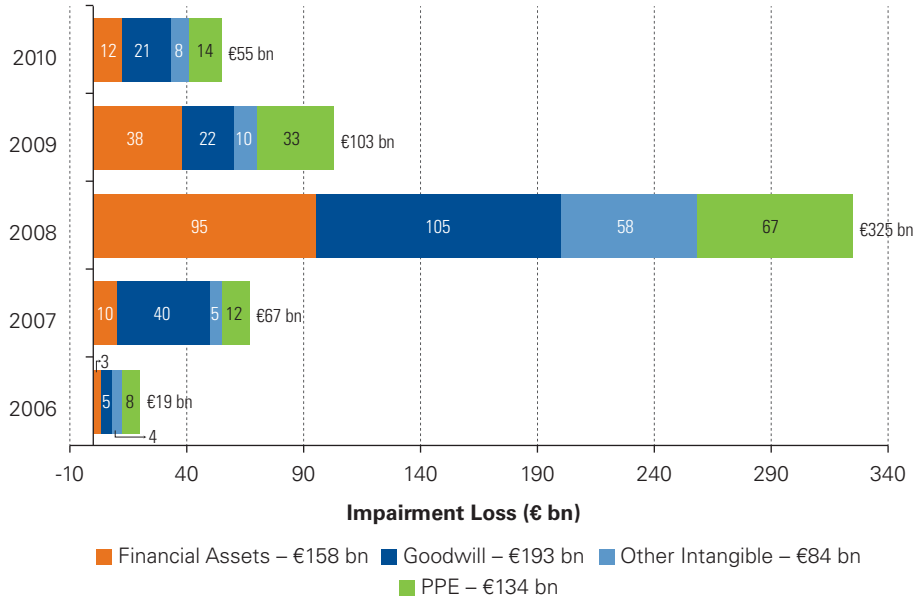
At 31 December 2010, following these impairment losses and new acquisitions completed, the constituents of the S&P 500 reported €1.4 trillion in goodwill and €0.8 trillion in intangibles other than goodwill (for a total of €2.2 trillion compared with €1.8 trillion in 2007). At the same date, the constituents of the STOXX 600 reported €1.5 trillion in goodwill and €0.9 trillion in specific intangibles (for a total of €2.4 trillion compared with €1.5 trillion in 2007).

7 This paper is not designed to determine whether and to what extent market prices of equity deviate from fundamental values. In principle, in times of crisis market prices might be particularly low precisely because fair value estimates are under the sway of current market conditions more than value in use, as such, estimates reflect an exit value and not the value for an entity that intends to use the assets that it controls.

8 In theory, value in use should not depend on management forecasts but on expected cash flows based on the use of probabilities. Appendix A of IAS 36 clarifies that management forecasts should not be confused with expectations and that the recoverable amount is a function of expectations not forecasts. However, there is considerable scope for subjectivity in value-in-use estimates.

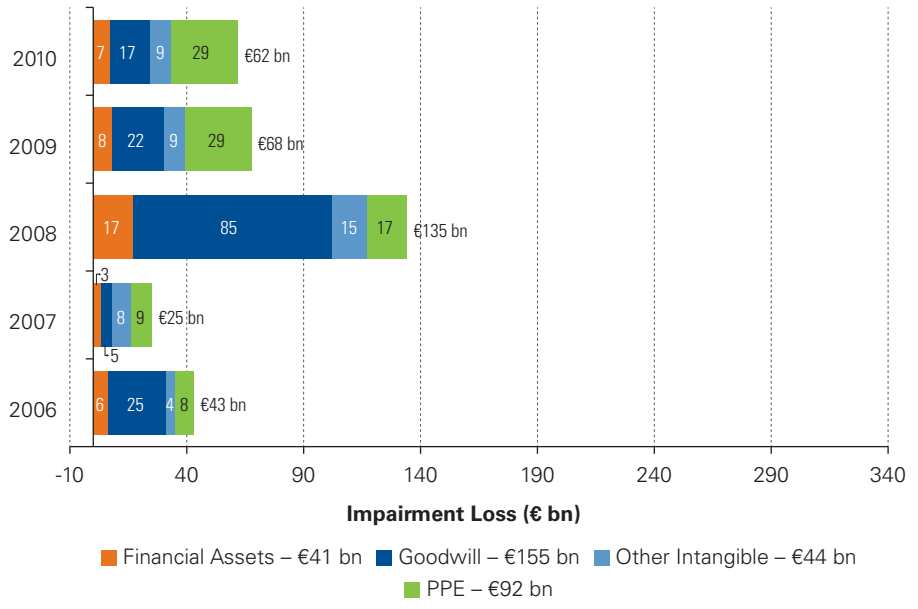
9 Management's reluctance to take impairment losses may be due also to the institutional context. For instance, there is empirical evidence that in Europe, where litigation risks and legal enforcement are weaker than in the US, companies take fewer impairment charges and engage in earnings smoothing more frequently (Ball et al., 2000; Leuz et al., 2003). The recent letter sent by the IASB to the ESMA (European Securities and Markets Authority) on the fair value estimates of Greek government bonds is evidence of the problem related to the application of fair value. The IASB's letter, which was dated 4 August 2011, noted: "There have been indications in the market that some European companies are applying the accounting requirements for fair value measurement and impairment losses in a way that seems to differ from the objective of *IAS 39 Financial Instruments: Recognition and Measurement*. This is evident particularly in their accounting for distressed sovereign debt, including Greek government bonds. Those indications have now been confirmed by recently published financial reports, which show inconsistent application of IAS 39 across Europe. This is a matter of great concern to us."

Figure 4: S&P 500: Impairment losses by asset category



Source: FactSet Fundamentals

Figure 5: STOXX 600: Impairment losses by asset category



Source: FactSet Fundamentals

Figures 4 and 5 show clearly the difference in write-downs between the US and Europe in 2008, €325 billion vs. €135 billion, respectively. This was due to assets other than goodwill, mainly financial assets. It appears that Europeans as a whole did not take a big bath on goodwill, intangibles other than goodwill and PPE, even though estimates of recoverable amounts were less verifiable.

Figure 6 shows the percentage (and the absolute number) of constituents of the S&P 500 and the STOXX 600 indices whose market value was lower than their book value. In every year between 2005 and 2010, the number of companies, in percentage and absolute terms, whose market value was lower than their book value, was always higher in Europe (under IAS/IFRS) than in the US (under US GAAP). In 2008, more than 30 percent of the constituents of the STOXX 600 had market values lower than their book values; the corresponding share of the S&P 500 was 20 percent. In 2010, the percentage of companies in Europe with market values lower than book values fell to 16 percent while that of US companies dropped to 7 percent.

Figure 7 shows the relative weight (in terms of market value) of constituents of the two indices with market value lower than book value. The weight of companies with MV<BV is greater in Europe than in the US.

At 31 December 2010 (the last year covered by our analysis), the negative difference between market capitalization and book value of equity amounted to €193 billion for the 38 companies of the S&P 500 (with market capitalization lower than equity) and €492 billion for the 98 European companies that made up the STOXX 600 (again, with market capitalization lower than equity).

It can be argued that goodwill and intangibles are those assets most liable to lose value with systematic negative events. In 2010, US companies showed a negative difference of €193 billion between market value and book value, with reported goodwill for the same amount (€193 billion) and intangibles other than goodwill amounting to €101 billion. European companies, with a negative difference of €492 billion between market and book in 2010, reported goodwill of €383 billion and intangible assets other than goodwill of an additional €136 billion.

The analysis in the paper consists of two parts.

To explore the phenomenon further, Part 1 provides a comparative analysis of the US and European companies with market capitalization lower than reported equity between 2005 and 2010.

Part 2 investigates the extent to which the adoption of value in use to estimate the recoverable amount of CGUs can help to explain the greater negative difference between market value and book value of European companies compared with US firms. The analysis is dictated by an understanding that value in use is a standard of value that combines the following features:

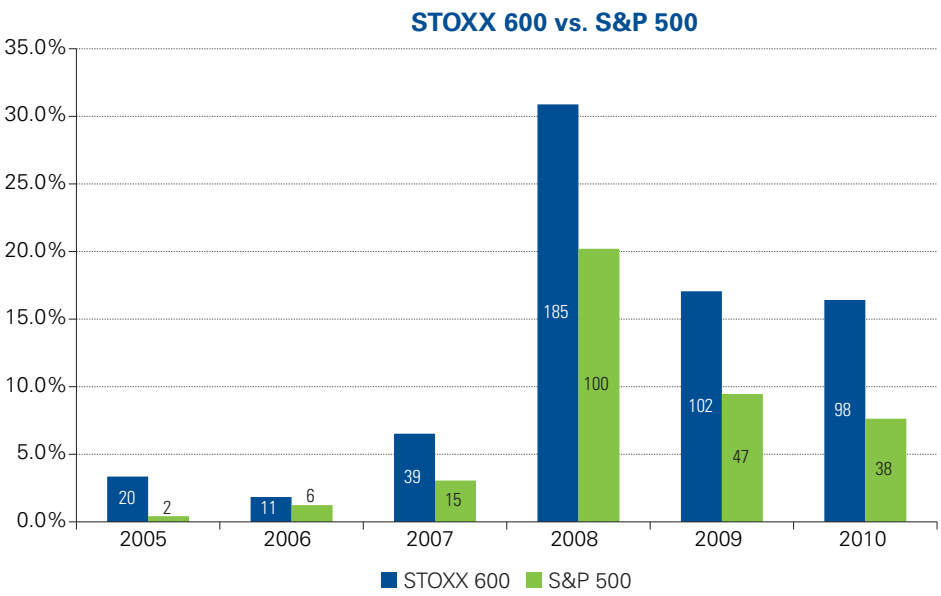
a) it is harder to verify and, as such, can be an agency-based explanation for the greater number of companies with market value lower than book value

b) it lags behind fair value in reflecting the impact of negative exogenous shocks, including large ones

c) it is less volatile than fair value

d) it is not defined as clearly as fair value,[10] leading to greater implementation issues.

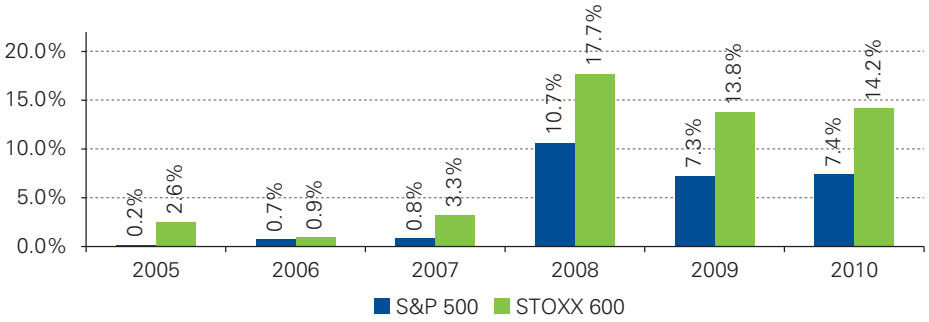
Figure 6: Percentage of companies with MV<BV



Source: FactSet; FactSet Fundamentals

Figure 7: Relative weight of companies with MV<BV within STOXX 600 and S&P 500*

	2005	2006	2007	2008	2009	2010
A) Total MV for MV<BV	195,204	83,514	292,438	969,667	906,076	1,037,649
B) Total MV STOXX 600	7,621,358	8,851,033	8,929,495	5,467,252	6,588,022	7,330,259
= A/B = % Weight	2.6%	0.9%	3.3%	17.7%	13.8%	14.2%
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
A) Total MV for MV<BV	16,224	68,042	75,386	637,685	535,412	666,525
B) Total MV S&P 500	9,246,425	9,269,427	8,908,033	5,983,720	7,379,702	8,986,742
= A/B = % Weight	0.2%	0.7%	0.8%	10.7%	7.3%	7.4%



* Calculations are performed in Euros
Source: FactSet; FactSet Fundamentals

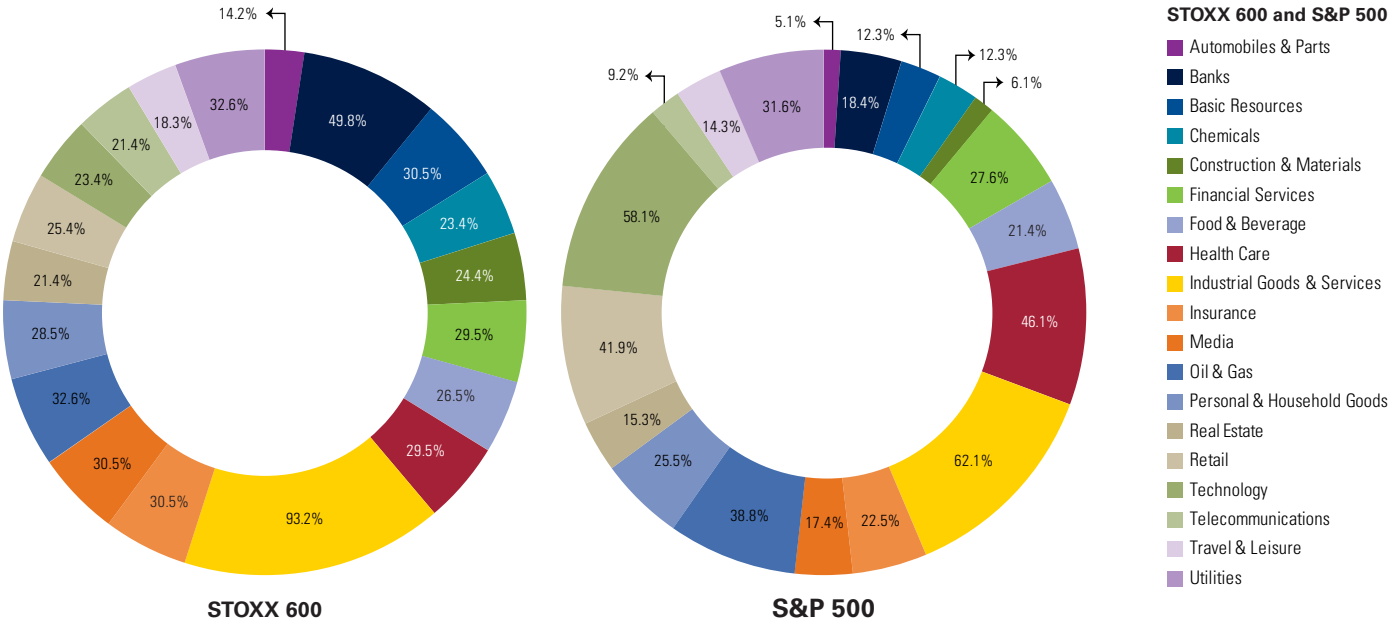
10 FAS 157 and IFRS 13 "Fair Value Measurements"

Part 1 3. MV<BV: S&P 500 vs. STOXX 600

Our analysis focuses on the constituents of the S&P 500 and the STOXX 600, excluding companies in the S&P 500 that do not use US GAAP and those in the STOXX 600 that do not use IFRS. All compilations contained in this section are based on data from FactSet.[11]

Figure 8 shows that the industry composition of both indices is similar. The only differences are the greater percentages of banks (8 percent vs. 4 percent) and industrial goods and services (16 percent vs. 13 percent) in the STOXX 600 than in the S&P 500. On the other hand, the S&P 500 features a higher share of companies engaging in health care (10 percent vs. 5 percent), technology (12 percent vs. 4 percent) and retail (9 percent vs. 4 percent).

Figure 8: Sample distribution across industries within STOXX 600 and S&P 500



Source: FactSet

Tables 1 and 2 show that, between 2005 and 2010, the percentage of constituents of the STOXX 600 index with market value below book value was always greater than that of the constituents of the S&P 500. The median gap, calculated as book value minus market value as a percentage of book value, was wider in Europe every year except 2005 and 2009 (Tables 1 and 2).

11 Analysis is limited to the data available from the data-provider. This might affect the sample considered. In particular the following should be acknowledged:
a) Quarterly and yearly analyses differ substantially in the number of companies considered, in particular within Europe. Not every country requires companies to prepare quarterly reports, inclusive of complete financial statements. Nevertheless, results seem to be consistent;
b) Yearly analysis is based on market values at 31 December of each year. Quarterly analysis is based on market values at the end of the quarter (31 March, 30 June, 30 September and 31 December); and
c) There might be some minor differences in the number of companies included in industry and country breakdowns because, for some companies, country or industry classification is not provided.

Table 1. STOXX 600: Percentage of companies with MV<BV and the percentage gap

STOXX 600						
Percentage of companies with market value below book value (STOXX 600)						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
A Missing observations	3	2	2	1	2	3
B Constituents of STOXX 600	600	600	600	600	600	600
C = A – B Companies in the sample	597	598	598	599	598	597
D Companies with MV below BV	20	11	39	185	102	98
E = D/C **Percentage of companies with MV below BV**	**3.4%**	**1.8%**	**6.5%**	**30.9%**	**17.1%**	**16.4%**
Percentage gap between market value and book value for companies with MV below BV (STOXX 600)						
F Sum of BV of companies in the sample with MV<BV	226,635	102,873	368,985	1,554,715	1,293,194	1,529,883
G Sum of (BV-MV) if MV<BV	31,430	19,359	76,547	585,048	387,118	492,235
H = G/F **Gap % vs. BV**	**13.9%**	**18.8%**	**20.7%**	**37.6%**	**29.9%**	**32.2%**
Median percentage gap between market value and book value for companies with MV below BV (STOXX 600)						
/ Median gap % vs. BV	**15.9%**	**14.5%**	**20.7%**	**29.1%**	**18.3%**	**27.5%**

Source: FactSet; FactSet Fundamentals

Table 2. S&P 500: Percentage of companies with MV<BV and the percentage gap

S&P 500						
Percentage of companies with market value below book value (S&P 500)						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
A Missing observations	22	15	9	5	3	2
B Constituents of S&P 500	500	500	500	500	500	500
C = A – B Companies in the sample	478	485	491	495	497	498
D Companies with MV below BV	2	6	15	100	47	38
E = D/C **Percentage of companies with MV below BV**	**0.4%**	**1.2%**	**3.1%**	**20.2%**	**9.5%**	**7.6%**
Percentage gap between market value and book value for companies with MV below BV (S&P 500)						
F Sum of BV of companies in the sample with MV<BV	29,603	83,538	92,073	1,091,133	807,586	859,341
G Sum of (BV-MV) if MV<BV	13,379	15,496	16,687	453,447	272,174	192,815
H = G/F **Gap % vs. BV**	**45.2%**	**18.5%**	**18.1%**	**41.6%**	**33.7%**	**22.4%**
Median percentage gap between market value and book value for companies with MV below BV (S&P 500)						
/ Median gap % vs. BV	**35.3%**	**13.4%**	**17.1%**	**25.7%**	**20.5%**	**12.9%**

Source: FactSet; FactSet Fundamentals

Table 3 reports the percentage of companies with market value below book value each year and asks whether the STOXX 600 percentage is higher than that for the S&P 500. The answer is 'Yes' in every year.

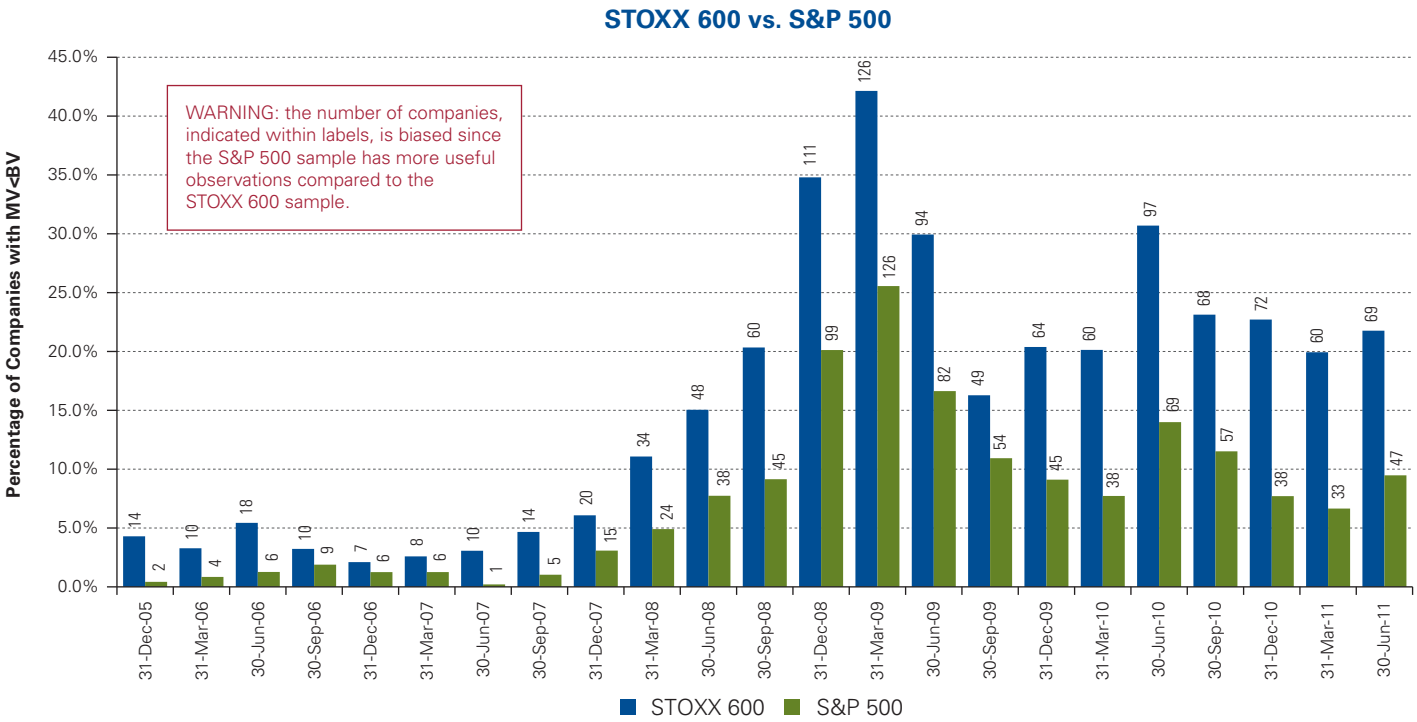
Table 3. Answers to a question

Is the percentage of companies with MV below BV higher in the STOXX 600 compared to S&P 500?

	STOXX 600	S&P 500	v
2005	3.35%	0.42%	YES
2006	1.84%	1.24%	YES
2007	6.52%	3.05%	YES
2008	30.88%	20.20%	YES
2009	17.06%	9.46%	YES
2010	16.42%	7.63%	YES

Figure 9 makes a similar comparison with quarterly data, with the same inference. Note, however, that companies in some European countries do not produce quarterly financial statements, so this analysis was limited to companies of the STOXX 600 for which these data were available.

Figure 9: Percentage of companies with MV<BV: quarterly data analysis



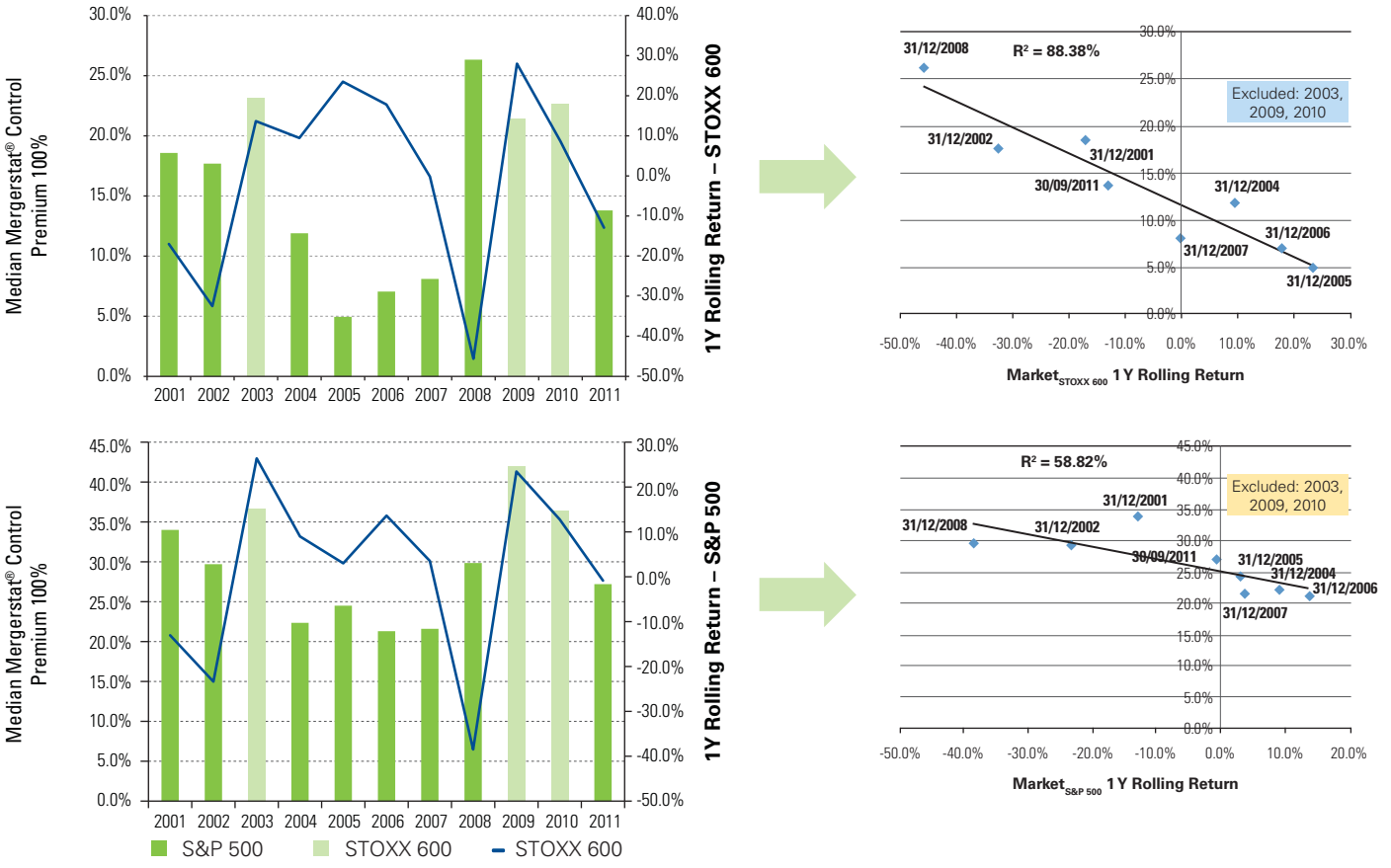
Source: FactSet; FactSet Fundamentals

4. Value for whom: market value vs. control value

The difference between market value and book value is determined not only by how book values are recorded, but also by valuations of market participants. The recoverable amount of goodwill under both US GAAP and IAS/IFRS is calculated from the point of view of the operator that controls the assets, the market participant if the estimate concerns fair value and the specific entity if the estimate concerns value in use.[12] Thus, it is worthwhile to check to what extent the phenomenon of market value below book value is attributable to the different perspectives of accounting standards vis-à-vis that of the equity markets.

Control premiums are imbedded in market prices. So we repeated the analysis that replaces market value with market value + control premium, utilizing control premiums in the Mergerstat® database.[13] We considered transactions involving companies listed between 2001 and 2011. Premiums have been recast on the basis of 100 percent equity ownership, multiplying the control premium derived from the Mergerstat® database by the number of shares purchased in the transaction to which the control premium refers.

Figure 10: Control premiums (from Mergerstat®) and market performance



Source: FactSet Mergerstat®/BVR Control Premium Database

12 "… the market capitalization of an entity may not fully capture the fair value of the reporting units as a whole. However, the amount of a control premium in excess of a registrant's market capitalization can require a great deal of judgment. Contrary to some rumors I have heard, the staff does not have 'bright line' tests that we use in determining the reasonableness of a control premium. Instead we believe that a registrant needs to carefully analyze the facts and the circumstances of their particular situation when determining an appropriate control premium and that there is normally a range of reasonable judgments a registrant might reach. While it would be prudent to reconcile the combined fair value of your reporting units to your market capitalization, I believe that this should not be viewed as the only factor to consider in assessing goodwill for impairment." Robert G. Fox III, Speech by SEC Staff: remarks before the 2008 AICPA National Conference on Current SEC and PCAOB Developments, Washington D.C., December 2008.

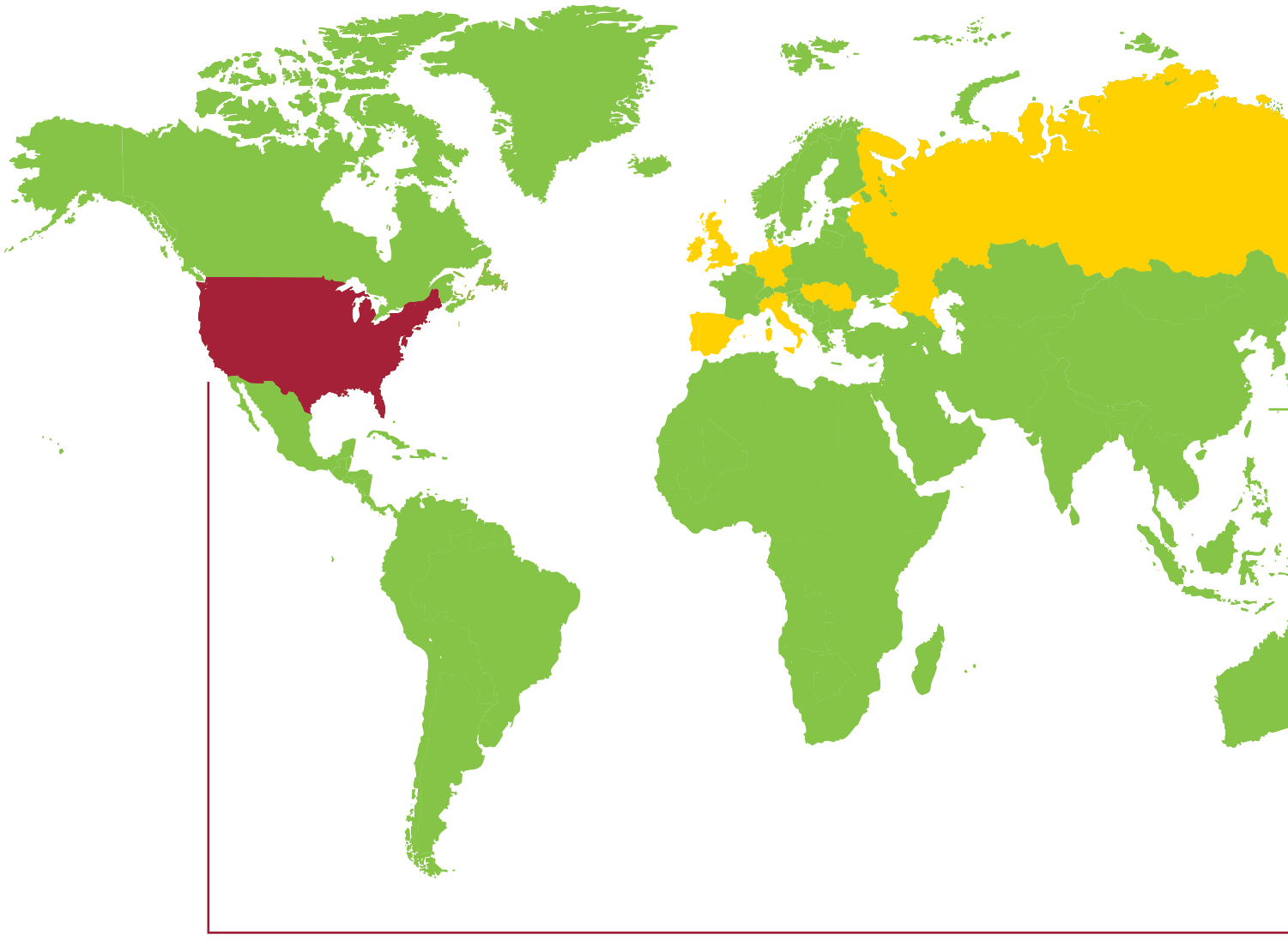
13 The Mergerstat® control premium is based on both the unaffected stock price, which is selected by Mergerstat®, and volume and price fluctuations during the period prior to the acquisition announcement.

The analysis proceeded through three steps.

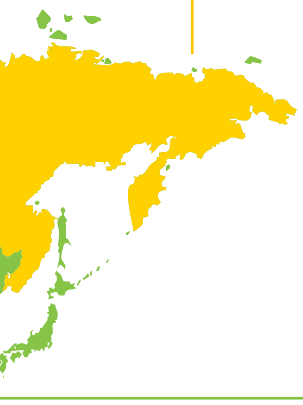
First step. We checked whether control premiums showed a countercyclical pattern in Europe[14] and the US, drawing a comparison between the median control premium surveyed by Mergerstat® for each area and for each year and the trends of the equity indices for each area (S&P 500 and STOXX 600). The analysis is shown in Figure 10 on page 18. Control premiums appear to be countercyclical in both areas, except for 2003, 2009 and 2010.

Second step. For each year, we calculated for the entire Mergerstat® database and for the two geographical areas under analysis (US and Europe) the control premiums for targets with market value both below and above book value. Table 4 provides a summary.

Table 4. Control premiums and price-to-book ratios



14 The European countries considered included: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Luxembourg, Norway, Poland, Portugal, Rep. of Estonia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, United Kingdom.



Mergerstat® Control Premium – Europe*

	Companies with P/BV bewteen 0 and 1	Companies with P/BV higher than 1	Is control premium for companies with P/BV less than one higher?	Δ
2001	20.3% | [73]	17.4% | [91]	YES	3%
2002	26.6% | [57]	13.5% | [61]	YES	13%
2003	28.7% | [33]	20.2% | [54]	YES	9%
2004	9.6% | [16]	12.1% | [55]	NO	–2%
2005	8.3% | [20]	4.4% | [74]	YES	4%
2006	5.9% | [15]	7.6% | [53]	NO	–2%
2007	12.7% | [10]	7.5% | [93]	YES	5%
2008	24.0% | [33]	26.5% | [76]	NO	–2%
2009	34.7% | [37]	14.9% | [46]	YES	20%
2010	27.9% | [42]	20.7% | [37]	YES	7%
2011	5.3% | [4]	20.2% | [23]	NO	–15%

Mergerstat® Control Premium – All Countries*

	Companies with P/BV bewteen 0 and 1	Companies with P/BV higher than 1	Is control premium for companies with P/BV less than one higher?	Δ
2001	32.7% | [254]	21.5% | [456]	YES	11%
2002	31.8% | [197]	18.4% | [305]	YES	13%
2003	43.9% | [121]	26.1% | [258]	YES	18%
2004	16.2% | [74]	17.1% | [336]	NO	–1%
2005	25.3% | [59]	16.3% | [435]	YES	9%
2006	17.1% | [55]	16.6% | [450]	YES	1%
2007	18.7% | [118]	17.0% | [527]	YES	2%
2008	22.6% | [207]	25.9% | [272]	NO	–3%
2009	39.8% | [183]	25.4% | [201]	YES	14%
2010	30.4% | [323]	26.4% | [130]	YES	4%
2011	8.2% | [42]	21.9% | [96]	NO	–14%

Mergerstat® Control Premium – US*

	Companies with P/BV bewteen 0 and 1	Companies with P/BV higher than 1	Is control premium for companies with P/BV less than one higher?	Δ
2001	52.1% | [105]	27.2% | [238]	YES	25%
2002	52.4% | [70]	22.5% | [149]	YES	30%
2003	57.5% | [59]	30.8% | [162]	YES	27%
2004	44.6% | [25]	21.5% | [191]	YES	23%
2005	50.1% | [22]	22.3% | [224]	YES	28%
2006	28.7% | [24]	21.0% | [266]	YES	8%
2007	32.8% | [21]	21.1% | [264]	YES	12%
2008	36.7% | [43]	29.0% | [115]	YES	8%
2009	47.3% | [41]	40.1% | [65]	YES	7%
2010	36.0% | [154]	36.8% | [32]	NO	–1%
2011	26.5% | [9]	27.4% | [38]	NO	–1

*The number of companies in the sample are presented in brackets.
Source: FactSet; FactSet Fundamentals; Mergerstat®/BVR Control Premium Database

Based on these data, we identified for each year and each area (Europe and US) the median control premium paid in transactions involving companies with market value below book value.

Third step. We estimated a notional control value (CV) by applying to the market value of each listed company with market value below book value the median control premium derived from step 2. We then compared the CV so obtained with the book value of equity (BV) and recalculated the percentage of the number of companies with CV<BV, the percentage gap and the median gap for both indices, the S&P 500 and the STOXX 600. The results are shown in Table 5.

Table 5. Control value vs. book value

STOXX 600						
Percentage of companies with control value below book value (STOXX 600)						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
C = A-B Companies in the sample	597	598	598	599	598	597
D Companies with CV below BV	14	10	31	123	38	56
E = D/C **Percentage of companies with CV below BV**	**2.3%**	**1.7%**	**5.2%**	**20.5%**	**6.4%**	**9.4%**
Percentage gap between control value and book value for companies with CV below BV (STOXX 600)						
F Sum of BV of companies in the sample with CV<BV	226,635	102,873	368,985	1,554,715	1,293,194	1,529,883
M Sum of (BV-CV) if CV<BV	16,128	14,998	43,191	386,788	179,055	298,729
N = M / F **Gap % vs. BV**	**7.1%**	**14.6%**	**11.7%**	**24.9%**	**13.8%**	**19.5%**
Median percentage gap between control value and book value for companies with CV below BV (STOXX 600)						
/ Median gap % vs. BV	**12.5%**	**10.8%**	**13.0%**	**26.7%**	**20.4%**	**25.5%**

S&P 500						
Percentage of companies with control value below book value (S&P 500)						
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
C = A-B Companies in the sample	478	485	491	495	497	498
D Companies with CV below BV	1	2	5	54	22	14
E = D/C **Percentage of companies with CV below BV**	**0.2%**	**0.4%**	**1.0%**	**10.9%**	**4.4%**	**2.8%**
Percentage gap between control value and book value for companies with CV below BV (S&P 500)						
F Sum of BV of companies in the sample with CV<BV	29,603	83,538	92,073	1,091,133	807,586	859,341
G Sum of (BV-CV) if CV<BV	8,635	8,826	2,149	311,946	173,759	81,581
H = G/F **Gap % vs. BV**	**29.2%**	**10.6%**	**2.3%**	**28.6%**	**21.5%**	**9.5%**
Median percentage gap between control value and book value for companies with CV below BV (S&P 500)						
/ Median gap % vs. BV	**34.4%**	**28.9%**	**13.8%**	**24.4%**	**26.1%**	**16.4%**

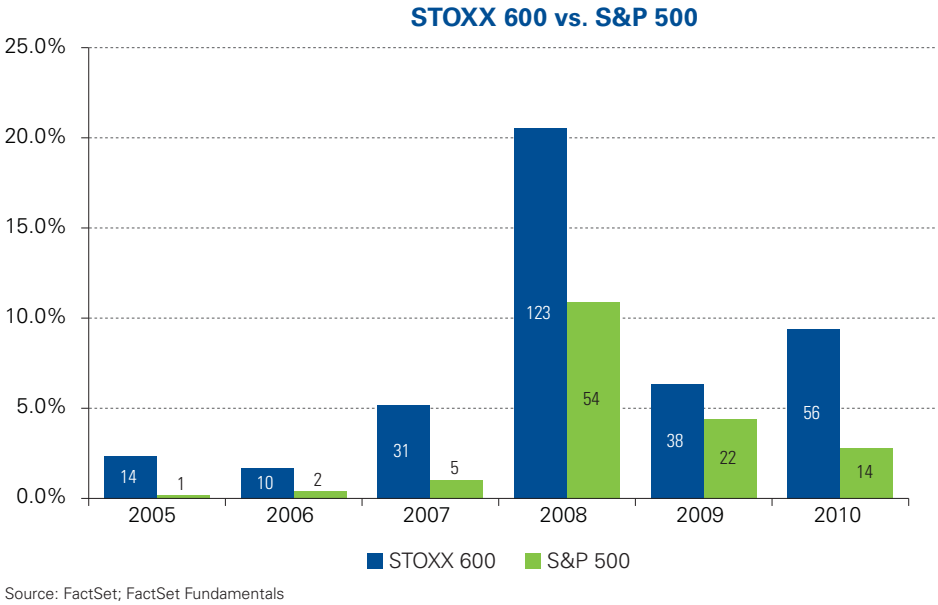
Is the percentage of companies with CV below BV higher in the STOXX 600 compared to S&P 500?

	STOXX 600	S&P 500	v
2005	2.35%	0.21%	YES
2006	1.67%	0.41%	YES
2007	5.18%	1.02%	YES
2008	20.53%	10.91%	YES
2009	6.35%	4.43%	YES
2010	9.38%	2.81%	YES

Source: FactSet; FactSet Fundamentals

The data reveal that, even considering the control premium, the percentage of companies with market value below book value in Europe was higher for all the years considered. Figure 11 provides a summary. The difference in absolute terms between control value and book value for the European companies in 2010 was €299 billion, compared with €82 billion for the US companies. In percentage terms, in 2008, 20 percent of the European companies in the index had a control value below book value relative to 11 percent in the US. In 2010, the percentages were 9 percent and 3 percent, respectively.

Figure 11: Percentage of companies with CV<BV



Source: FactSet; FactSet Fundamentals

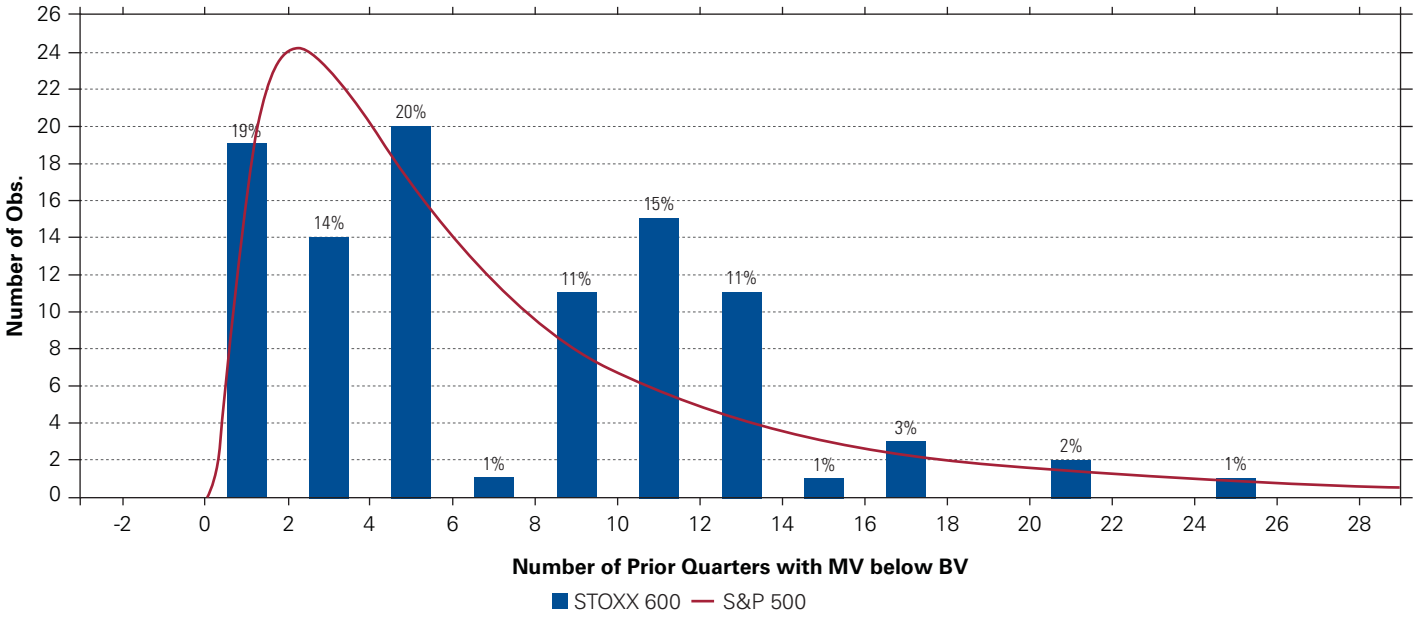
5. Persistence of negative difference between MV and BV

A negative difference between market value and book value is an indicator of potential impairment, especially if the difference continues over time. So we checked how sustained this difference was for the constituents of the STOXX 600 and the S&P 500. The analysis period is limited (IAS/IFRS were adopted by listed European companies in 2005), so we focused on 2010 and calculated the number of consecutive quarters up to that point with market value below book value out of a total of 24 quarters between 31 December 2004 and 31 December 2010.

Figure 12 displays the distribution of the number of quarters up to the end of 2010 that market value was below book value for the 98 companies in the STOXX 600 with market value below book value at 31 December 2010. The chart reveals that 53 percent of the companies reported market value below book value for no more than 18 months while 33 percent had this negative difference for a period varying from 2 years and 3 years and a half.

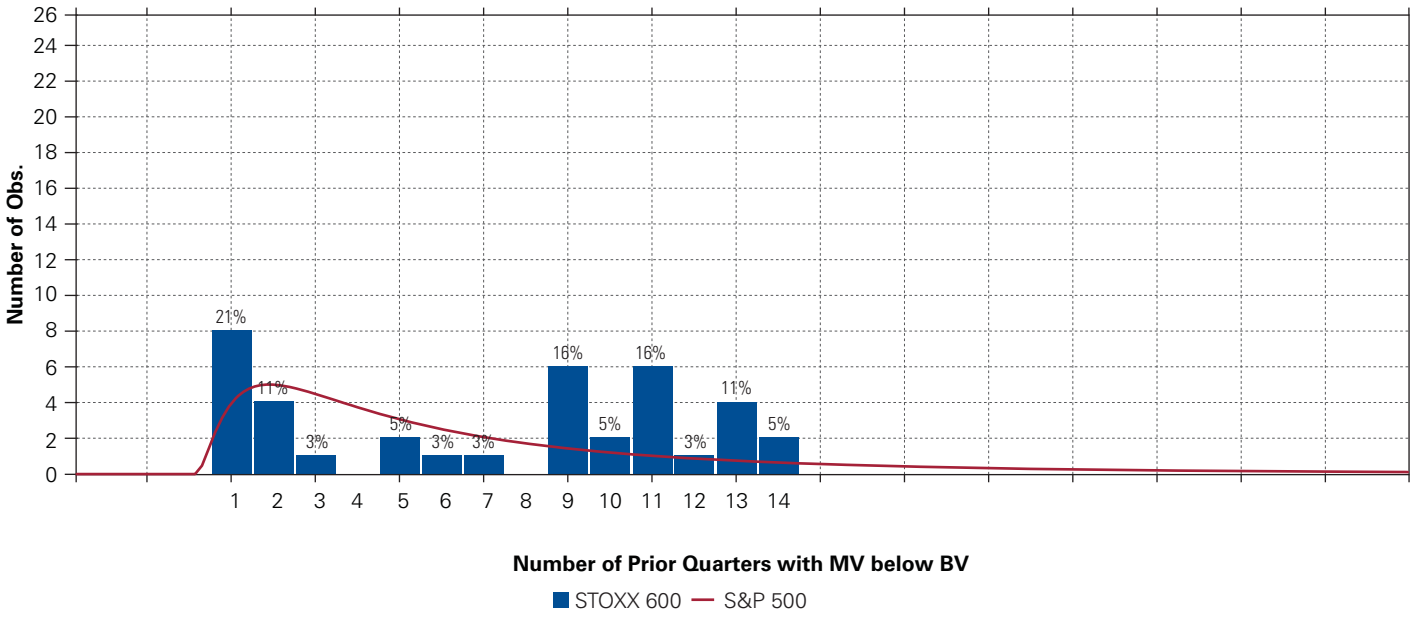
Figure 13 presents the same display for the 38 companies in the S&P 500 that had a market value below book value at 31 December 2010. Of these companies, 43 percent showed this negative difference for no more than 18 months while 56% showed it for a period varying between 2 years and 3 years and a half.

Figure 12: Persistence of MV<BV at 2010: number of prior quarters with MV below BV for firms within the STOXX 600 with MV<BV in 2010



Source: FactSet; FactSet Fundamentals

Figure 13: Persistence of MV<BV at 2010: number of prior quarters with MV below BV for firms within the S&P 500 with MV<BV in 2010



Source: FactSet; FactSet Fundamentals

US companies are characterized by a greater persistence of the negative difference between market value and book value. However, this statement should be interpreted in conjunction with the previous analysis, which showed that only 3 percent of the companies of the S&P 500 had control value lower than their market value. In fact, the persistence can be explained by the difference between control value and market value. The negative difference between market value and book value will persist if this difference accounts for a reasonable part of the control premium.

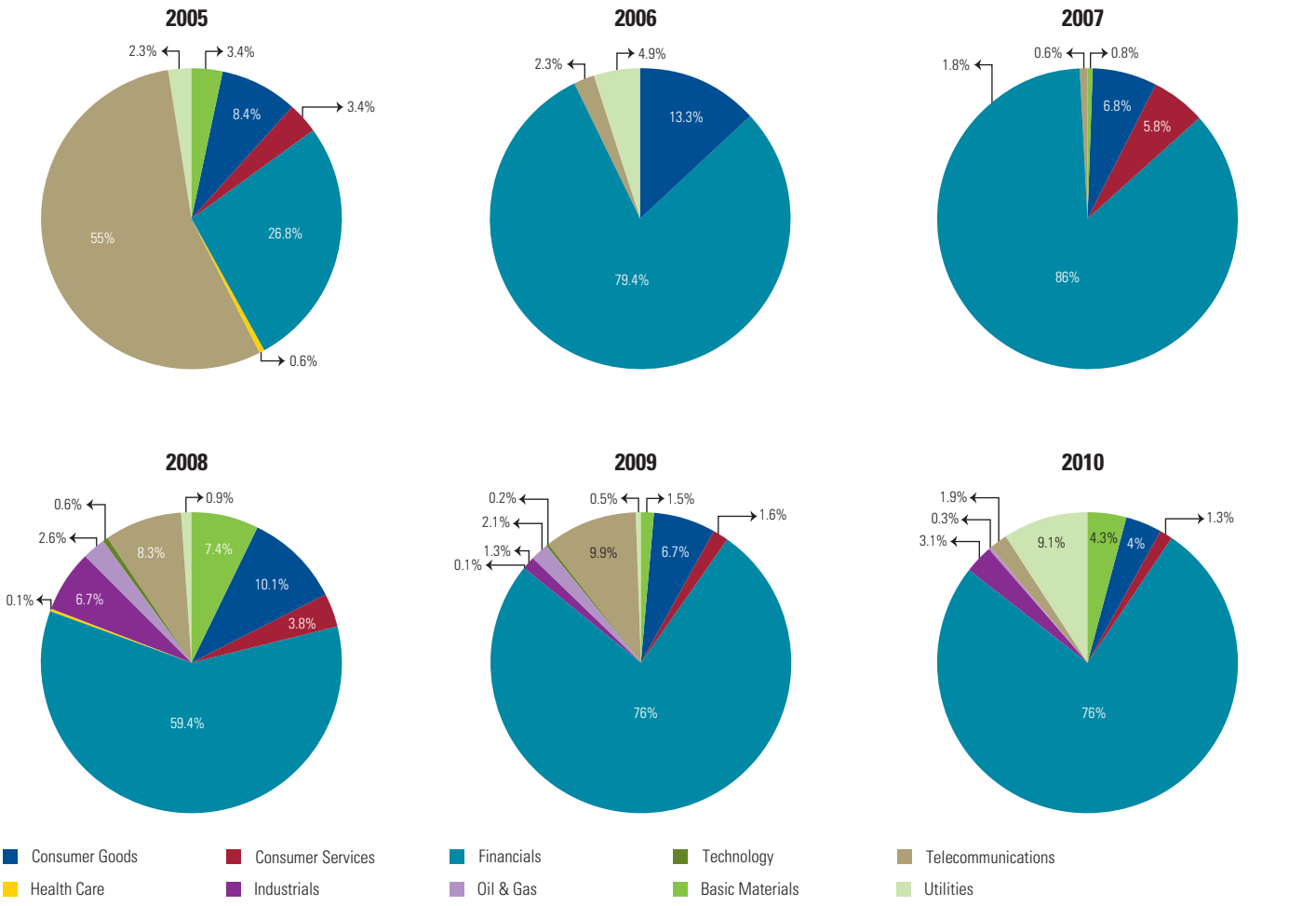
6. MV<BV: analysis by sector and country

To provide a more detailed picture, we checked the industry composition of the firms that had market values below their book values in the six years considered, 2005-2010. We determined for each year the relative weight (calculated on the basis of market capitalization) of each industry (at industry Level 1) as a share of the total market capitalization of firms with market value below book value in each index.

Figure 14 shows that, for the STOXX 600 companies starting in 2006, more than three-quarters of the companies with market value below book value are companies in the financial sector. For the S&P 500, the financial sector dominates in 2007 (64 percent by market capitalization of companies with market value below book value) and has been growing ever since (weight equal to 89 percent in 2010).

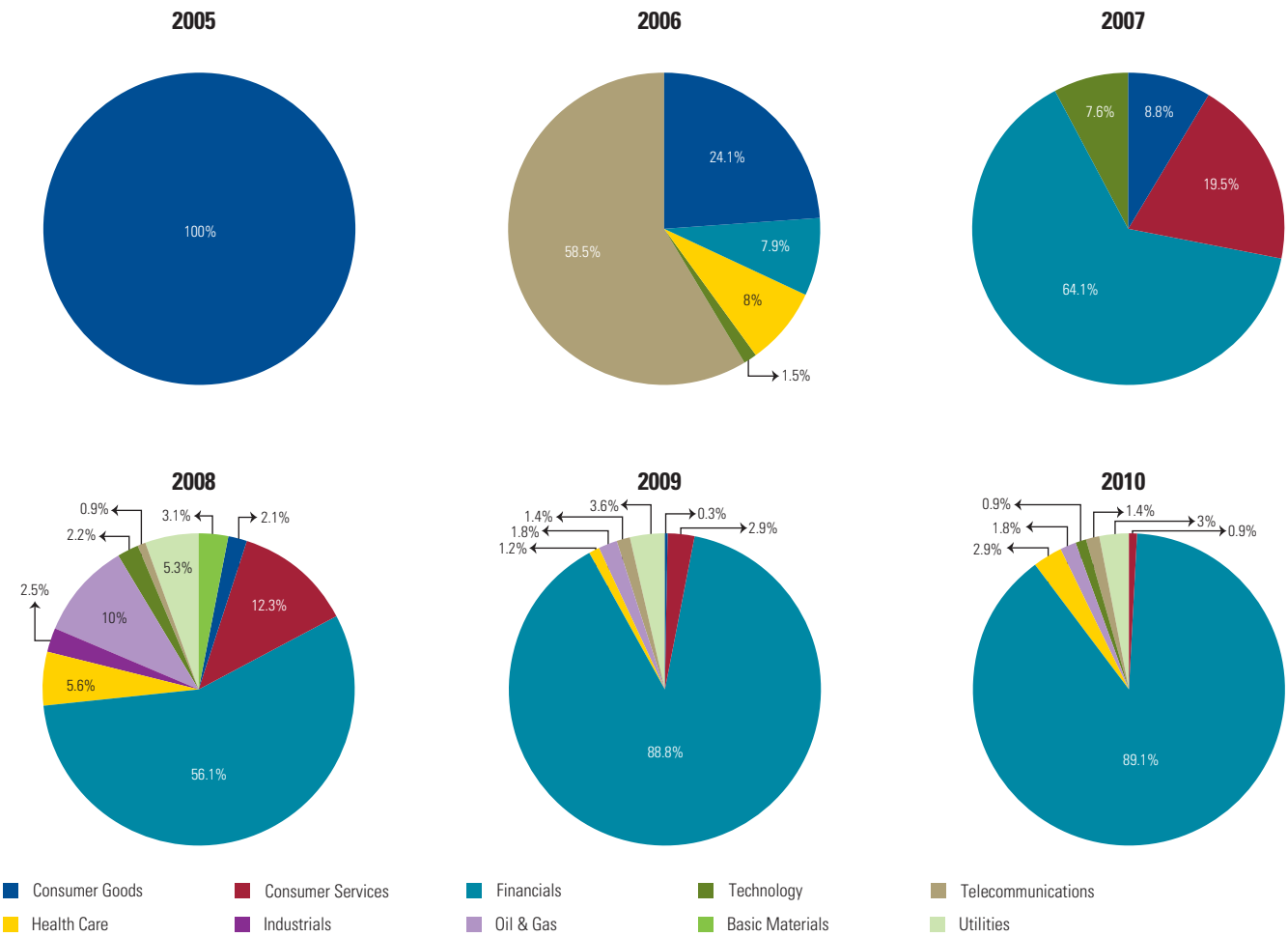
This analysis makes it clear that the negative difference between market value and book value is mainly in the financial sector, both in the US and in Europe. In 2010, about nine out of 10 US companies with a market value below book value were financial companies (banks, financial services and insurance companies). In Europe the percentage is slightly lower (approximately eight out of 10).

Figure 14: STOXX 600: industry breakdowns by market cap for companies with MV<BV*



*Market Cap of companies with MV<BV within the industry/Market Cap of companies with MV<BV
Source: FactSet; FactSet Fundamentals

Figure 15: S&P 500: industry breakdowns by market cap for companies with MV<BV*



*Market Cap of companies with MV<BV withing the industry/Market Cap of companies with MV<BV
Source: FactSet; FactSet Fundamentals

Tables 6 and 7 indicate the percentage of companies in each of the industries in the two indices that had market values below their book values in each of the years considered. They show, for each industry in the index (at industry Level 2), the relative weight (in terms of market capitalization) of the companies with market value below book value as a share of total market capitalization of the companies operating in the same industry. In 2010, in Europe, 58 percent of the banks, 44 percent of the financial services companies and 38 percent of the insurance companies in the index had market values below book values. In the US, the negative difference involved 62 percent of the banks, 15 percent of the financial services companies and 39 percent of the insurance companies.

Table 6. STOXX 600: relative weight of companies with MV<BV within industry Level 2*

Market cap of companies within the industry with MV<BV/Σ Market cap of companies within the industry (STOXX 600 only)						
	2005	2006	2007	2008	2009	2010
Automobiles & Parts	9.0%	5.2%	4.0%	10.4%	35.3%	12.8%
Banks	0.3%	1.0%	8.3%	60.6%	48.3%	58.4%
Basic Resources	2.2%	0.0%	0.4%	31.4%	3.0%	11.1%
Chemicals	0.0%	0.0%	0.0%	4.5%	0.7%	0.0%
Construction & Materials	0.0%	0.0%	0.0%	24.9%	7.1%	16.5%
Financial Services	21.7%	27.1%	34.2%	60.0%	51.1%	44.6%
Food & Beverage	0.0%	0.0%	0.0%	2.1%	0.0%	0.0%
Health Care	0.2%	0.0%	0.0%	0.2%	0.2%	0.0%
Industrial Goods & Services	0.0%	0.0%	0.0%	14.2%	0.3%	0.9%
Insurance	1.1%	0.5%	1.4%	37.0%	36.4%	38.2%
Media	0.0%	0.0%	0.0%	9.5%	2.8%	0.0%
Oil & Gas	0.0%	0.0%	0.0%	5.6%	3.9%	0.5%
Personal & Household Goods	0.0%	0.0%	1.6%	8.2%	1.7%	0.9%
Real Estate	17.6%	0.0%	79.9%	83.9%	42.0%	37.6%
Retail	0.0%	0.0%	3.0%	11.3%	1.5%	0.7%
Technology	0.0%	0.0%	0.0%	4.9%	1.2%	0.0%
Telecommmunications	20.7%	0.3%	0.3%	28.3%	25.3%	4.2%
Travel & Leisure	3.4%	0.0%	5.6%	18.3%	12.0%	14.2%
Utilities	0.9%	0.7%	0.0%	2.0%	0.6%	26.0%

*Market cap of companies with MV<BV within the industry/Market cap of companies within the industry.
Source: FactSet; FactSet Fundamentals

The concentration of the phenomenon among financial companies relates to the distribution of these companies among the countries of the European Union. The countries with the greatest weights of financial companies as a share of total national companies included in the STOXX 600 are also the countries featuring the highest presence of companies with market values below their book values.

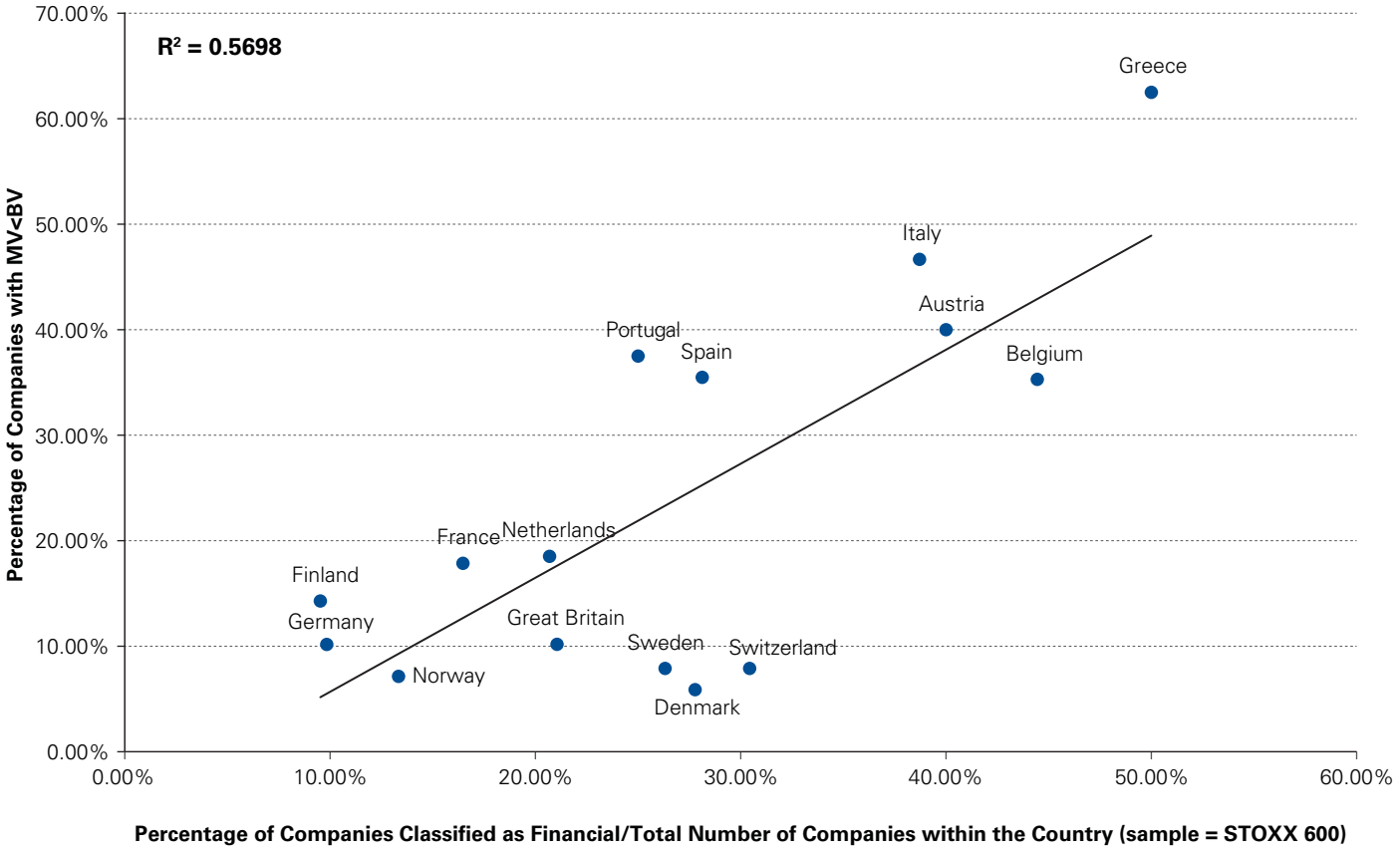
This is depicted with the regression line (for 2010) in Figure 16. The vertical axis indicates the percentage of companies with market value below book value for each country while the horizontal axis indicates the percentage of financial companies as a share of total companies for the same countries that are constituents of the STOXX 600. There is a correlation between the percentage of financial constituents of the STOXX 600 and the representation of each country that have companies with market value below book value.

Table 7. S&P 500: relative weight of companies with MV< BV within industry Level 2*

Market cap of companies within the industry with MV<BV/Σ Market cap of companies within the industry (S&P 500 only)						
	2005	2006	2007	2008	2009	2010
Automobiles & Parts	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Banks	0.0%	0.0%	3.8%	64.0%	67.7%	62.2%
Basic Resources	0.0%	0.0%	0.0%	16.9%	0.0%	0.0%
Chemicals	0.0%	0.0%	0.0%	13.8%	0.0%	0.0%
Construction & Materials	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Financial Services	0.0%	0.0%	3.5%	29.3%	16.8%	15.8%
Food & Beverage	4.8%	4.9%	0.0%	2.1%	0.0%	0.0%
Health Care	0.0%	0.5%	0.0%	4.8%	0.7%	2.2%
Industrial Goods & Services	0.0%	0.0%	0.0%	2.4%	0.0%	0.0%
Insurance	0.0%	0.9%	2.6%	22.4%	36.6%	39.1%
Media	0.0%	0.0%	4.5%	28.7%	0.0%	0.0%
Oil & Gas	0.0%	0.0%	0.0%	8.6%	1.3%	1.2%
Personal & Household Goods	0.0%	0.0%	1.8%	2.1%	0.4%	0.0%
Real Estate	0.0%	0.0%	0.0%	7.6%	0.0%	0.0%
Retail	0.0%	0.0%	0.3%	2.8%	0.3%	0.9%
Technology	0.0%	0.1%	0.4%	1.6%	0.0%	0.4%
Telecommmunications	0.0%	15.6%	0.0%	2.6%	3.4%	3.6%
Travel & Leisure	0.0%	0.0%	0.0%	13.1%	10.7%	0.0%
Utilities	0.0%	0.0%	0.0%	14.2%	7.6%	7.0%

*Market cap of companies with MV<BV within the industry/Market cap of companies within the industry.
Source: FactSet; FactSet Fundamentals

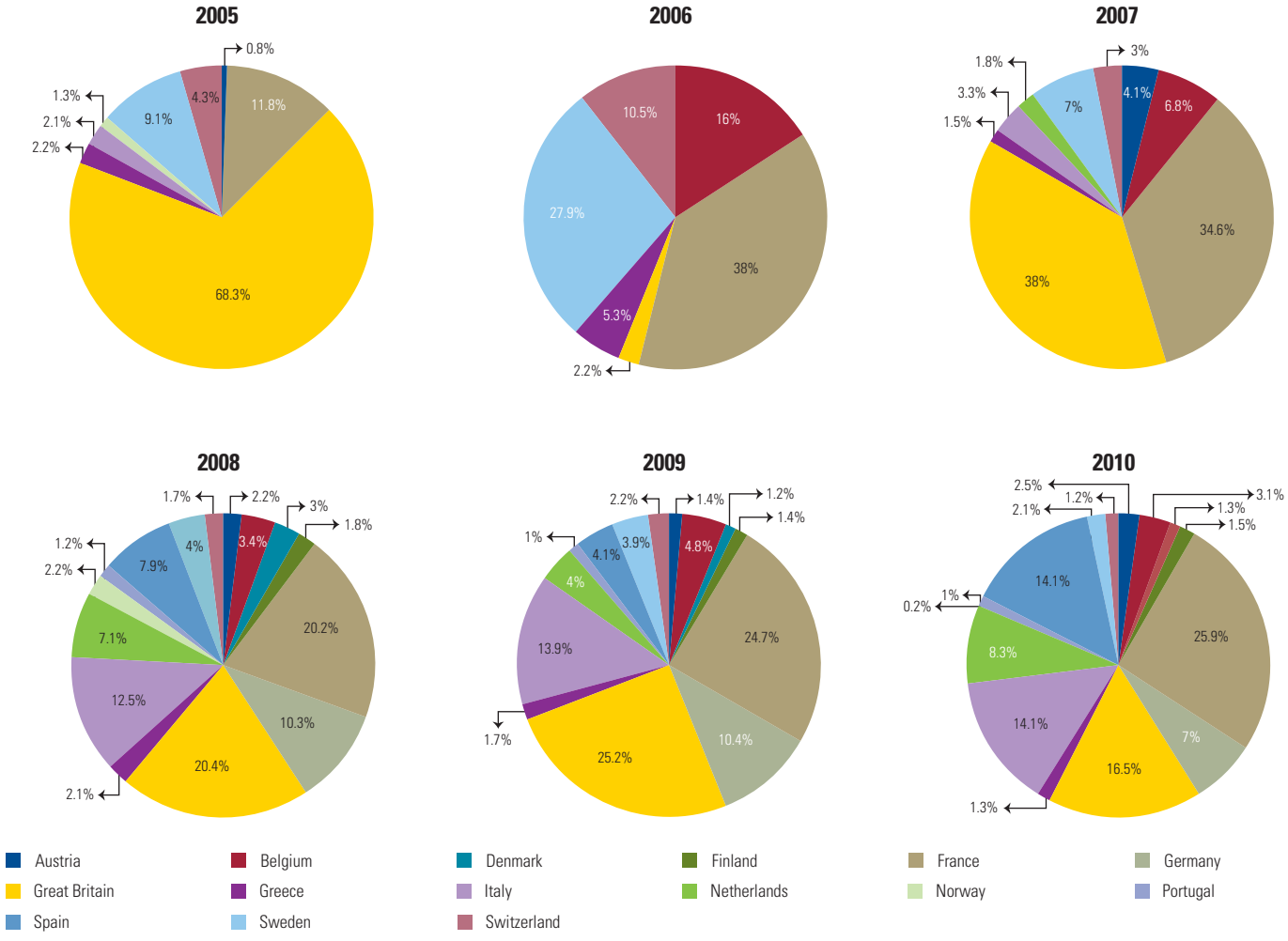
Figure 16: Differences among countries are well explained by the percentage of financial companies within each sub-sample



Source: FactSet; FactSet Fundamentals

Figure 17 provides a breakdown by country of the European companies with market value below book value, on the basis of their market capitalization as a percentage of total market capitalization. In 2010, the countries featuring the highest presence of such companies were France, Great Britain, Italy and Spain.

Figure 17: STOXX 600: country composition by market cap for companies with MV<BV*



*Market cap of companies with MV<BV within the industry/Market cap of companies with MV<BV.
Source: FactSet; FactSet Fundamentals

Part 2

The value in use standard distinguishes IAS/IFRS impairment from US GAAP, so Part 2 of the paper investigates whether the differences in the incidence and amount of a negative difference between market book value documented in Part 1 can be attributed to this difference in standards. The main tests are in Section 10. As a preamble, Section 7 outlines the differences in impairment testing for goodwill under the two regimes, supported by comparative data on goodwill impairments. Under IAS/IFRS, companies have to pick the higher of fair value less costs to sell and value-in-use for impairments, so before the tests in Section 10 that specifically focus on value in use, Section 8 documents the frequency with which companies choose value-in-use over fair value in Europe. Section 9 illustrates why the use of amortized cost and the incurred cost model by banks (the group of companies featuring a higher and more frequent negative difference between market value and book value of equity) to account for their loans (their most significant asset class) does not change substantively the relevance of the test in Section 10.

7. Goodwill impairment testing under US GAAP and IAS/IFRS

US GAAP and IAS/IFRS differ in part in their approach to goodwill impairment testing. Under both sets of standards, impairment testing is based on a comparison between the recoverable amount and the book value of the organizational unit to which goodwill is allocated. However, the impairment tests differ in five main respects:

US GAAP adopt a process founded on:

1. Two steps: step 1 involves a comparison between the fair value and the carrying amount of the reporting unit, with step 2 (below) taken when the fair value of the reporting unit is lower than its carrying amount.
2. One standard of value (fair value).
3. One unit of valuation, which is usually large (the reporting unit).
4. Single level of impairment test (at the reporting unit level).
5. Goodwill impairment loss is measured in step 2 as the difference between goodwill that would arise in case of purchase at fair value of the reporting unit – equal to the difference between the fair value of the reporting unit and the fair value of the net assets of the reporting unit (including unrecognized assets such as internally generated intangibles) – and reported goodwill. This means that the goodwill impairment loss is generally greater than the difference between the carrying amount and the fair value of the reporting unit to which goodwill is allocated.

IAS/IFRS adopt a process founded on:

1. One step involving a comparison between the recoverable amount and carrying amount of the CGU.
2. Two different standards of value (recoverable amount is the greater of value in use and fair value less costs to sell of the CGU).
3. One unit of valuation, which can be very small (CGU).
4. Different impairment test levels (in case overheads or resources utilized by the central structures are not fully allocated to the CGU, the impairment test must be run also at the level of the entire company or the group of CGU to which costs and resources can be allocated).
5. Impairment loss is measured as the difference between the recoverable amount and the carrying amount of the CGU to which goodwill is allocated (first level) and as the difference between the recoverable amount and the carrying amount of the entire entity (second level) if corporate assets are tested at that level. This entails a goodwill impairment loss greater than the difference between the carrying amount and the recoverable amount of the CGU to which goodwill is allocated, only when there are significant unallocated resources and costs and the CGU do not show recoverable amounts substantially larger than their carrying amounts.

Under the same set of circumstances (same goodwill amount, equal future prospects), the mechanics of the two impairment tests can lead also to widely varying results. If fair value is greater than value in use (thus under IAS/IFRS the recoverable amount is the same as fair value) but lower than the carrying amount, US GAAP tend to take larger but less frequent impairment losses than IAS/IFRS.

An example demonstrates why.

Consider a business unit (reporting unit = group of CGU) whose fair value at time zero (T = 0) is 100 CU and its carrying amount 110 CU. The table shows that the mechanism of the second step under US GAAP results in a larger goodwill impairment loss (25 vs. 10) compared with IAS/IFRS. The greater amount of goodwill write-off under US GAAP entails the creation of accounting slack between the fair value and the carrying amount (post impairment loss) of the reporting unit. The size of the accounting slack is equal to the excess impairment loss (= 15 = 25-10) under US GAAP compared with IAS/IFRS and derives from the difference between the fair value and the carrying amount of the assets of the business unit (excluding goodwill, but including unrecognized internally generated intangibles). On the other hand, under IAS/IFRS there is no accounting slack as the goodwill impairment loss is equal to the difference between the recoverable amount and the carrying amount; accordingly, after the impairment test, the recoverable amount is equal to the unit's accounting value.

Table 8 shows that a subsequent (T= 1) reduction of fair value from 100 CU to 85 CU will generate an impairment loss under IAS/IFRS but not under US GAAP.[15]

15 For simplicity's sake, the exercise assumes that the carrying amount between T_0 e T_1 is unchanged.

Table 8. Impairment test of goodwill: US GAAP vs. IAS/IFRS

	T = 0		T = 1	
Impairment test of goodwill	**US GAAP**	**IAS/IFRS**	**US GAAP**	**IAS/IFRS**
	Step 1		**Step 1**	
Fair value (business unit)	100	100	85	85
Carrying amount (business unit) before impairment test of which:	110	110	85	100
Carrying amount goodwill	40	40	15	30
Carrying amount assets	70	70	70	70
	Step 2		**No Step 2**	
Fair value (business unit)	100			
Fair value assets (e.g. goodwill)	85			
Fair value goodwill	15			
Carrying amount goodwill	40			
Impairment loss	**-25**	**-10**		**-15**
Carrying amount (business unit) after impairment test	85	100	85	85
Fair value – Carrying amount (business unit) after impairment test	**15**	**0**	**0**	**0**

These effects materialize when the recoverable amount of reference under US GAAP and IAS/IFRS is the same (i.e. when fair value is greater than value in use). Obviously, this is only one of the possible situations. Table 9 sets out the possible relationships among carrying amount (CA), fair value (FV) and value in use (VIU) of a business unit and the effects in terms of materialization of impairment losses and the extent of such losses under US GAAP and IAS/IFRS.

Table 9. Impairment losses in US GAAP and IAS/IFRS

	Impairment losses	
	US GAAP	**IAS/IFRS**
CA > FV > VIU	√√√	√√
VIU > CA > FV	√√√	X
VIU > FV > CA	X	X
FV > VIU > CA	X	X
FV > CA > VIU	X	X
CA > VIU > FV	√√	√
CA = carrying amount		
FV = fair value		
VIU = value in use		
√√√ = high impairment loss		
√√ = medium impairment loss		
√ = low impairment loss		
X = no impairment loss		

The first line of the table is the case of the previous example, where fair value is greater than value in use but lower than the carrying amount. In this case both the US GAAP and ISA/IFRS recognize a goodwill impairment loss, but the amount of the loss is greater under US GAAP than IAS/IFRS.

The second line shows the case where value in use is greater than the carrying amount and the carrying amount is in turn greater than fair value. In this case there is a goodwill impairment loss under US GAAP but not under IAS/IFRS.

The last line considers the case where value in use is greater than fair value but both are lower than the carrying amount. In this case, both IAS/IFRS and US GAAP recognize an impairment loss, though the difference in the losses under both sets of standards is even more pronounced than in the previous case.

In all the other cases there is no goodwill impairment under both US GAAP and IAS/IFRS.

Table 10 shows the varying extent of impairment losses under both IAS/IFRS and US GAAP in the three cases where such losses are recognized under US GAAP (CA>FV). As can be seen, under IAS/IFRS goodwill impairment is lower in the two cases where the carrying amount is greater than both fair value and value in use (CA>FV>VIU; CA>VIU>FV) but there is no impairment when value in use is greater than the carrying amount, even though the carrying amount is greater than fair value (VIU>CA>FV).

This last case, in particular, is considered a rare occurrence by IASB. In fact, according to paragraph BCZ18 of IAS 36 (Impairment of assets): "If no deep and liquid market exists for an asset, IASC considered that value in use would be a reasonable estimate of fair value. This is likely to happen for many assets within the scope of IAS 36: observable market prices are unlikely to exist for goodwill, most intangible assets and many items of property, plant and equipment. Therefore, it is likely that the recoverable amounts of these assets, determined in accordance with IAS 36, will be similar to the recoverable amount based on the fair value of these assets" while according to paragraph BCZ20: "IASC believed that IAS 36 included sufficient requirements to prevent an enterprise from using assumptions different from the marketplace that are unjustified. For example, an enterprise is required to determine value in use using:

a) cash flows projections based on reasonable and supportable assumptions and giving greater weight to external evidence

b) a discount rate that reflects current market assessments of the time value of money and the risks specific to the asset".

Table 10. Impairment test of goodwill: three different cases

	CA>FV>VIU		VIU>CA>FV		CA>VIU>FV	
Impairment test of goodwill	**US GAAP**	**IAS/IFRS**	**US GAAP**	**IAS/IFRS**	**US GAAP**	**IAS/IFRS**
Value in use		90		115		105
	Step 1		**Step 1**		**Step 1**	
Fair value (business unit)	100	100	100	100	100	100
Carrying amount (business unit) before impairment test of which:	110	110	110	110	110	110
Carrying amount goodwill	40		40		40	
Carrying amount assets	70		70		70	
	Step 2		**No Step 2**		**No Step 2**	
Fair value (business unit)	100		100		100	
Fair value assets (e.g. goodwill)	85		85		85	
Fair value goodwill	15		15		15	
Carrying amount goodwill	40		40		40	
Impairment loss	**-25**	**-10**	**-25**	**0**	**-25**	**-5**

In explaining why it rejected the argument whereby the recoverable amount should be equal only to fair value, IASB clarified that:

a) value in use can have better information content than fair value

b) value in use does not adopt the disposal view typical of fair value and, as such, it captures the service potential of the reporting unit from the standpoint of its controlling entity

c) value in use includes also entity-specific synergies. From this standpoint, value in use reflects more closely than fair value the intrinsic or fundamental value of the reporting unit to which goodwill is allocated. As intrinsic or fundamental value is the base used by the entity to evaluate the expected return on the investment made, value in use would be an economic concept more fitting for those reporting units which are controlled by other entities precisely because their value in use is greater than their net selling value.

The most critical aspect concerning the IAS/IFRS's adoption of value in use is related to the greater degree of subjectivity (and the lower degree of verifiability) in estimating this value, compared with fair value. Mindful of this, IASC introduced safeguards to limit the risk that a company might be overly optimistic in estimating value in use[16] and then incur impairment losses when fair value is lower than the carrying amount. These include:

a) the identification of a series of (external and internal) indicators of impairment of goodwill[17]

16 IAS 36.BCZ24. "IASC acknowledged that an enterprise would use judgment in determining whether an impairment loss needed to be recognized. For this reason, IAS 36 included some safeguards to limit the risk that an enterprise may make an over-optimistic (pessimistic) estimate of recoverable amount:
a) IAS 36 requires a formal estimate of recoverable amount whenever there is an indication that:
i. An asset may be impaired; or
ii. An impairment loss may no longer exist or may have decreased.
For this purpose, IAS 36 includes a relatively detailed (although not exhaustive) list of indicators that an asset may be impaired (see paragraphs 12 and 111 of IAS 36).
b) IAS 36 provides guidelines for the basis of management's projections of future cash flows to be used to estimate value in use (see paragraph 33 of IAS 36).

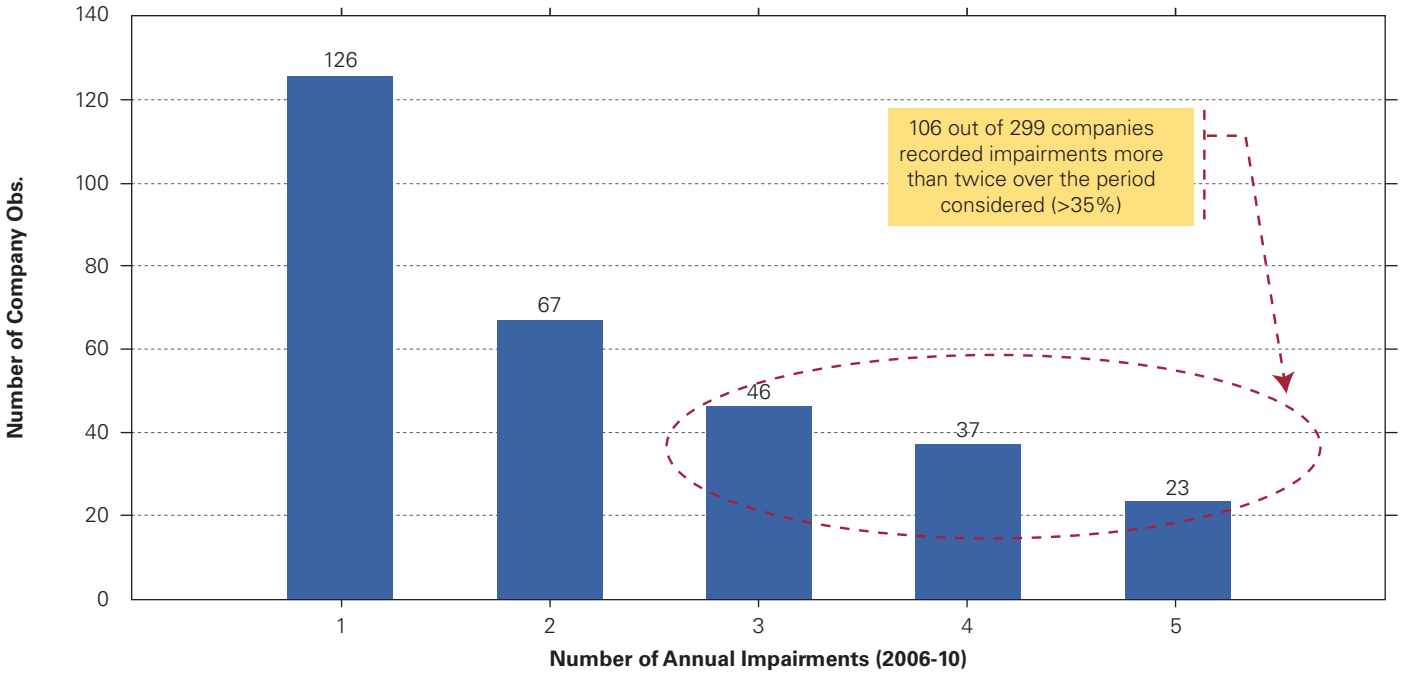
17 IAS 36.12 "In assessing whether there is any indication that an asset may be impaired, an entity shall consider, as a minimum, the following indications:
External sources of information
a) During the period, an asset's market value has declined significantly more than would be expected as a result of the passage of time or normal use.
b) Significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates or in the market to which an asset is dedicated.
c) Market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially.
d) The carrying amount of the net assets of the entity is more than its market capitalization.
Internal sources of information
e) Evidence is available of obsolescence or physical damage of an asset.
f) Significant changes with an adverse effect on the entity have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include the asset becoming idle, plans to discontinue or restructuring the operation to which an asset belongs, plan to dispose of an asset before the previously expected date, and reassessing the useful life of an asset as finite rather than indefinite.
g) Evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected. […]"

b) the requirement to place more emphasis, in connection with performance forecasts, on information from external sources and to exclude any benefit deriving from future growth and/or reorganization plans.[18]

As illustrated above, goodwill impairment testing under US GAAP results in steeper losses and the simultaneous creation of accounting slack capable of limiting future impairment losses upon the occurrence of future adverse events. On the other hand, goodwill impairment testing under IAS/IFRS results in lower impairment losses and a perfect alignment between recoverable amount and carrying amount, with the effect of making the company liable to subsequent impairment losses determined also by limited-impact adverse events.

Part 1 of this paper showed that goodwill impairment losses are lower for European companies than for US companies. Figures 18 and 19 show the number of companies that recorded impairment losses on goodwill up to five times during the period 2006-10.

Figure 18: Number of annual impairments for companies in the STOXX 600, over the period 2006–10

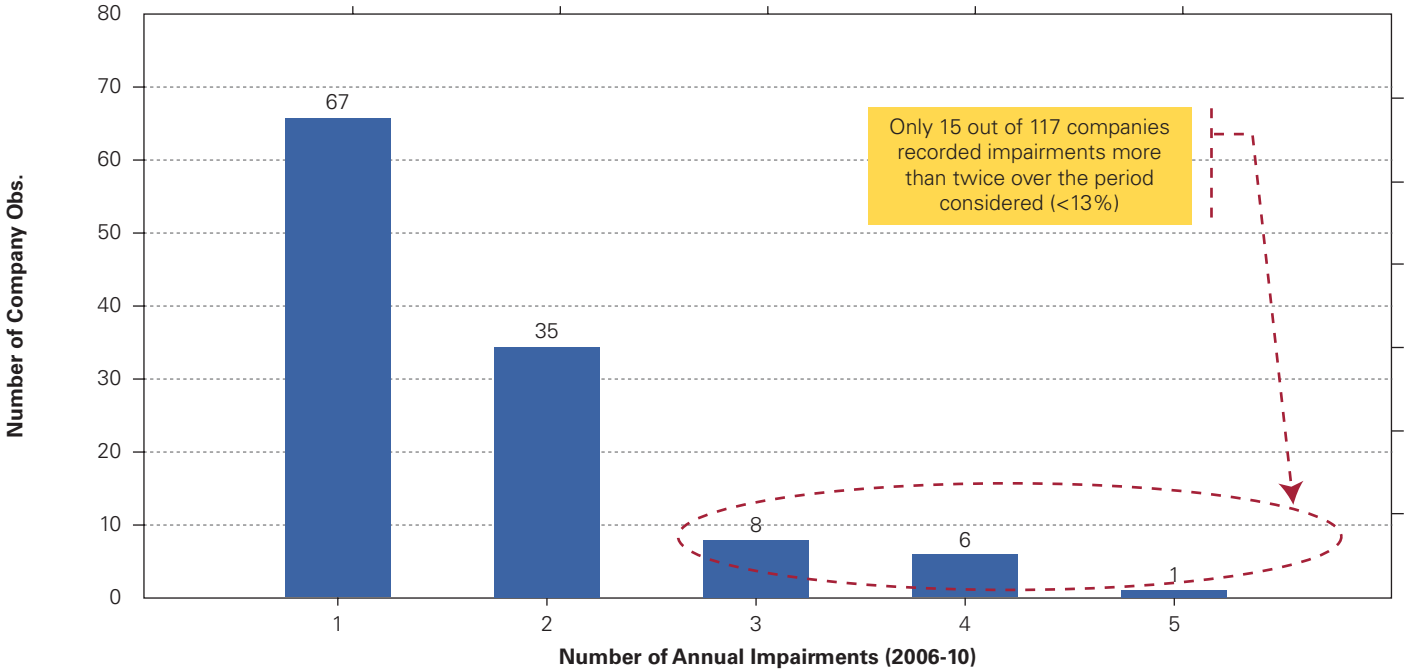


Source: FactSet; FactSet Fundamentals

In Europe, the average number of goodwill impairment losses per company (of companies that took impairment losses in the 2006-10 period) was 2.52 (median 2). In the US, the number of goodwill impairment losses per company was 1.7 (median 1). Over 35 percent of the European companies that recognized goodwill impairment losses had more than two write-offs in the period. On the other hand, in the US, companies with more than two write-offs in the same period accounted for less than 13 percent.

18 IAS 36.33. "In measuring value in use an entity shall:
a) Base cash flows projections on reasonable and supportable assumptions that represent management's best estimate of the range of economic conditions that will exist over the remaining useful life of the asset. Greater weight shall be given to external evidence.
b) Base cash flows projections on the most recent financial budget/forecast approved by management, but shall exclude any estimated future cash inflows or outflows expected to arise from future restructuring or from improving or enhancing the asset's performance. Projections based on these budget/forecasts shall cover a maximum period of five years, unless a longer period can be justified.
c) Estimate cash flow projections beyond the period covered by the most recent budgets/forecasts by extrapolating the projections based on the budgets/forecasts using a steady or declining growth rate for subsequent years, unless an increasing rate can be justified. This growth rate shall not exceed the long-term average growth rate for the products, industries, or country or countries in which the entity operates, or for the market in which the asset is used, unless a higher rate can be justified."

Figure 19: Number of annual impairments for companies in the S&P 500, over the period 2006-10



Source: FactSet; FactSet Fundamentals

8. Flexibility in estimating recoverable amounts under IAS/IFRS

Standard setters are faced with the challenge of determining the degree of discretion that management should exercise in estimating recoverable amounts in an attempt to achieve a trade-off between the benefits of permitting managers to disclose private information – thereby reducing the adverse selection problem – and the moral hazard cost associated with discretional estimates (Landsman, 2007).

Since under IAS/IFRS the recoverable amount is the greater of value in use and fair value, companies select value in use or fair value, or both (and then use the higher).[19] This is applied to each CGU or group of CGUs to which goodwill is allocated. This means that the companies can use fair value as the recoverable amount for one CGU and value in use as the recoverable amount for another. Thus, IAS/IFRS allow greater flexibility in estimating recoverable amounts than US GAAP. Flexibility poses a risk. In fact, it is hard to write standards that provide flexibility to managers when it is necessary and simultaneously restrain their behavior when it is not.

Typically, an entity should be interested in maintaining the same standard of value over time (fair value or value in use) due to consistency (which is appreciated by financial statements' users) and cost (changing the standard of value means revising the process to estimate recoverable amounts).

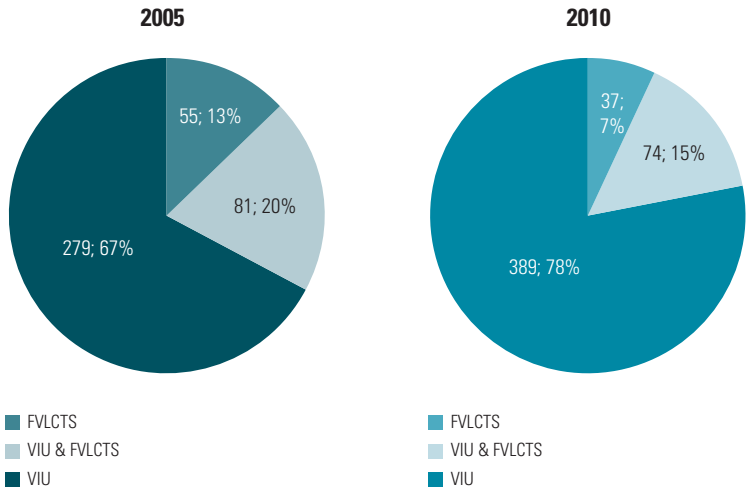
The reasons that might prompt an entity to change the procedure to calculate its recoverable amounts in times of crisis might be due to two main circumstances:

a) Estimates of a given type of value may be harder. For instance, during a crisis the number of transactions in financial markets declines and fair value estimates on the basis of the market approach may be more difficult. Faced with the alternative of an income approach to estimate fair value, management might prefer to estimate directly value in use, a process that leaves more room for discretion.

b) The outcomes of the processes to estimate both types of value can differ substantially. For instance, in time of crisis, management can rely on private information that is not publicly available. Since the company is under no obligation to explain the difference between fair value and value in use, outsiders cannot check the use of private information, which might give rise to a significant moral hazard cost (represented by the discount that investors apply to value-in-use estimates).

Figure 20 illustrates the frequency with which value in use, fair value, or both are utilized by listed European companies, in 2005 and 2010.

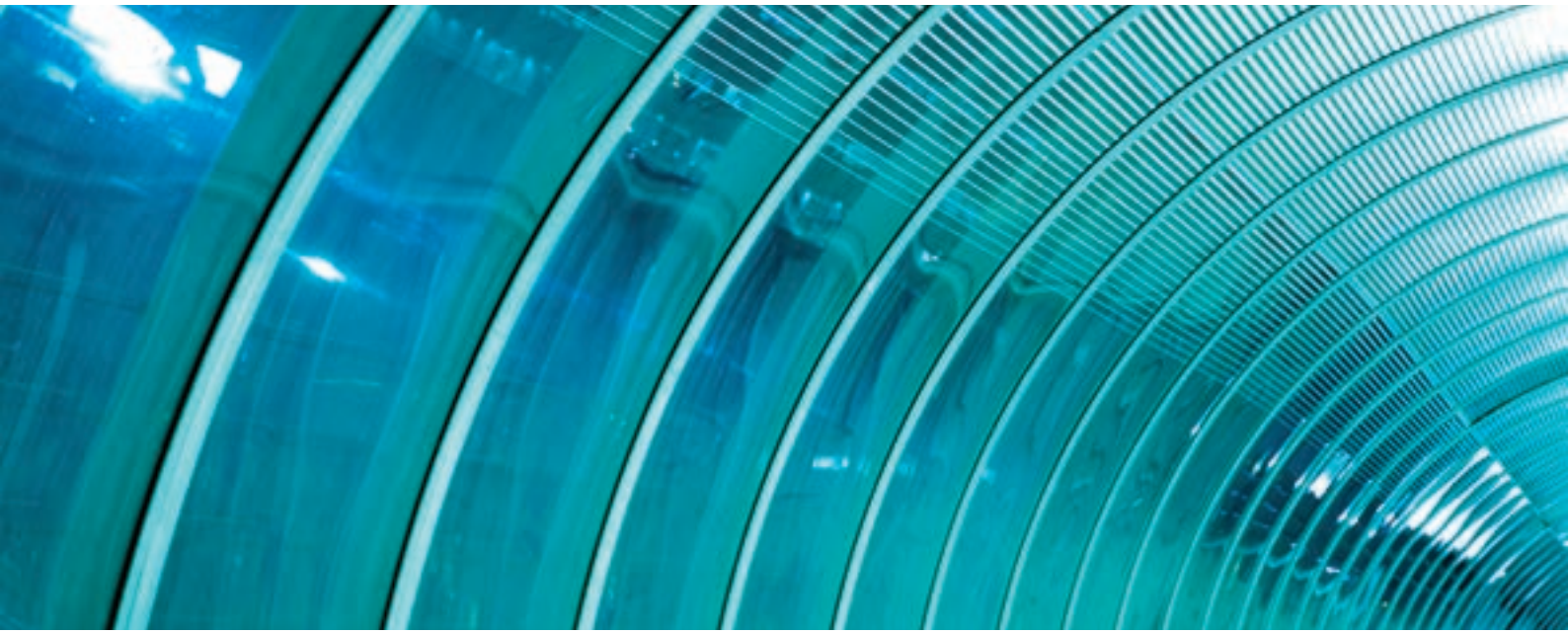
Figure 20: Percentage breakdown of the standard of value utilized for goodwill impairment testing purposes



VIU = value in use applied to all CGUs; FVLCTS = fair value less costs to sell applied to all CGUs; VIU & FVLCTS = VIU applied to some CGUs and FVLCTS to the others

Source: Data collected from companies' 'Annual Reports and Financial Statements'

19 Of course companies will calculate only if one approach (VIU of FV) indicates that there is no impairment. IAS 36.19. *"It is not always necessary to determine both an asset's fair value less costs to sell and its value in use. If either of these amounts exceeds the asset's carrying amount, the asset is not impaired and it is not necessary to estimate the other amount"* (IAS 36 uses 'an asset' but the term applies equally to an individual asset or a CGU).



The percentage of companies in the STOXX 600 that used fair value halved (from 13 percent to 7 percent) between 2005 and 2010. The percentage of companies that used both standards of value also fell (from 20 percent to 15 percent) while the share of companies that utilized value in use rose (from 67 percent to 78 percent).

Table 11 reports the number of companies that changed the metric over the years. With the exception of 2010, there seems to be a progressive increase in the utilization of value in use.

Table 11. Change of standard of value utilized for impairment testing purposes by constituents of the STOXX 600

From	To	2006	2007	2008	2009	2010
FVLCTS	VIU	8	3	4	5	3
FVLCTS	FVLCTS/VIU	3	4	1	1	1
FVLCTS/VIU	VIU	11	15	17	10	5
FVLCTS/VIU	FVLCTS	1	0	2	1	3
VIU	FVLCTS/VIU	9	9	12	6	7
VIU	FVLCTS	4	1	4	2	3
Total move towards VIU		***22***	***22***	***22***	***16***	***9***
Total move towards FVLCTS		***14***	***10***	***18***	***9***	***13***
Total move		**36**	**32**	**40**	**25**	**22**

Source: Data collected from companies' 'Annual Reports and Financial Statements'

9. Accounting for loans in the banking sector

Part I showed that banking is the sector with the highest (negative) difference between market value and book value. This is due to the combined effects of the following:

a) banking is without a doubt one of the sectors that was hit hardest by the crisis and, as a result, banking shares underperformed the market as a whole. It was even suggested that the volatility of bank share prices was excessive[20]

b) the banking sector is characterized by greater accounting slack compared with other sectors, due to the recognition of loans on the basis of amortized cost (an accounting concept that protects loans against changes in interest rates and risk premiums) and the incurred loss model (a model that immunizes accounting value against expected future losses).

These circumstances are only partially relevant for our purposes.

First of all, in time of crisis:

a) estimating the fair value of a reporting unit is not the same as marking that unit to market and requires in any case a mark-to-model approach (Level 3 fair value). This leads to the removal from the valuation model of those elements that market participants would not consider in a non-distressed market

b) a value-in-use estimate could not ignore the presence of a significant discount of book value to the market value of equity, including when this difference is not attributable to the fundamentals. As already noted, IAS 36.A1 refers expressly to illiquidity as one of the factors to be considered in estimating value in use

c) regardless of the type of value adopted, recoverable amounts must be calculated as of the measurement date and must reflect the information at that date.

Second of all, in time of crisis, accounting for loans at amortized cost with the application of the incurred loss model definitely leads to a book value for those assets greater than their market value (both for the expected losses component and for the higher premium risk implicit in market returns). On the other hand, this increases the likelihood of presumed goodwill impairment instead of diminishing it.

In fact, goodwill cannot be tested for recoverability separately from the CGUs or the reporting unit (RU) to which goodwill is allocated. The negative difference between carrying amount and recoverable amount of the CGU or RU must first of all reduce the carrying amount of the allocated goodwill. Thus, if the carrying amounts of the loans booked by the CGU or the RU exceed their recoverable amounts, the lower value of those assets translates into an impairment loss of goodwill (unless the bank's internally generated franchise value offsets such difference).

A negative difference between market value and book value that is not explained by goodwill impairment testing could be due to the fact that:

a) the bank has already written off its goodwill

b) there are CGUs without impairment offset by units with significant unrecorded losses (the non-offsetting and negative CGUs may explain a portion of this).

However, this is not currently the case for listed European banks. To that end, reported goodwill was estimated with respect to the (negative) difference between market value and book value.

The sample considers only banks (ICB Sector 2 Codification), included in the STOXX 600, with market value (MV) below book value (BV). The period considered is that between 2005 and 2010, on a yearly basis.

In order to investigate further the difference between BV and MV, we adopted the following indicators:[21]

$$\frac{GW}{(BV-MV)} = \begin{cases} GW > BV-MV \rightarrow 100\% \\ GW < BV-MV \rightarrow \dfrac{GW}{(BV-MV)} \end{cases}$$

This represents the extent to which the difference between BV and MV could be explained by goodwill impairment (not already recorded).

20 American Bankers Association, Letter to SEC, September 23, 2008
21 GW = carrying value of goodwill

$$\frac{(BV-MV)}{GW} = \begin{cases} (BV-MV) > GW \rightarrow 100\% \\ (BV-MV) < GW \rightarrow \dfrac{GW}{(BV-MV)} \end{cases}$$

This represents the percentage of goodwill not priced in the market.

Table 12. BV-MV difference and goodwill accounting for European Banks (STOXX 600) with MV< BV

	STOXX 600 (Banks only)					
	2010	2009	2008	2007	2006	2005
No. of companies	36	35	41	4	2	2
Average (BV-MV)/GW	87%	86%	85%	37%	59%	100%
Average GW/(BV-MV)	49%	63%	55%	86%	54%	46%
Median (BV-MV)/GW	100%	100%	100%	19%	59%	100%
Median GW/(BV-MV)	46%	75%	45%	100%	54%	46%

Source: FactSet; FactSet Fundamentals

While the first indicator may reflect the role of goodwill in determining a negative difference between MV and BV, raising the question on the lack of further asset impairments, the second confirms that goodwill impairment is almost always completely triggered for impairment.

The table in the next page shows that the adoption of an expected loss model instead of the current incurred loss model for an entity with a recoverable amount for the CGU lower than book value would entail a lower impairment loss of goodwill but equal write-offs of the accounting value of assets (loans + goodwill).

Table 13. A comparison of the effects of the incurred loss model and the expected loss model on impairment loss of goodwill

	Hypothesis:					
	Tax Rate		*0%*			
	Payout		*100%*			
	Inputs:	***Years:***	**0**	**1**	**2**	**3**
A	Initial Loan (Amortized Cost)		100	100	100	100
B	Reductions in Loans			-5	-5	-5
C = A+B	Old Loans			95	95	95
D	New Loans			5	5	5
	Final Loan			100	100	100
E	Risk Free Rate = Interbank Rate		2.50%	2.50%	3.00%	3.50%
F	Expected Loss (Revised Estimate)		1.00%	1.25%	1.50%	1.75%
$G_{t+1}(C_t \times G_t + D_t \times H_t)/A_t$	Average Spread on Initial Loans		3.00%	3.00%	3.01%	3.04%
H	Spread on New Loans (At Issuing Date)		3.00%	3.25%	3.50%	3.75%
I = E+G	Average Interest Rate on Old Loans		5.50%	5.50%	6.01%	6.54%
L = E+H	Interest Rate on New Loans			5.75%	6.50%	7.25%
	Assets					
	Loans		100			
M	Goodwill		10			
N	Total Assets		110			
	Liabilities and Equity					
O	Interbank Loan (Debt)		90			
P	Equity (Base Case)		20			
	Total Liabilities and Equity		110			
	Time		**0**	**1**	**2**	**3**
	Risk Free			2.50%	3.00%	3.50%
	ERP × Beta			7.50%	7.50%	7.50%
	Cost of Equity			10.00%	10.50%	11.00%
	Incurred Loss Method		**0**	**1**	**2**	**3**	**TV**
$C_t \times I_t + D_t \times L_t$	Interest Income			5.51	6.04	6.57	6.57
$O \times E$	Interest Expense			-2.25	-2.70	-3.15	-3.15
$D \times F$	Expected Loss on New Loans			-0.06	-0.08	-0.09	-0.09
$C_t \times (F_t - F_{t-1})$	Expected Loss on Existing Loans			-0.24	-0.24	-0.24	
Fixed	Other Expenses			-1.50	-1.50	-1.50	-1.50
Q	Net Income			1.46	1.52	1.60	1.84
	Book Value		20.00				
Q × payout@100%	Dividends			1.46	1.52	1.60	
	Discount Factor			0.909	0.819	0.731	
	PV (Dividends)			1.33	1.25	1.17	
	Terminal Value						16.68
	PV (Terminal Value)		12.20				
R	Equity Value		15.94				
P	Book Value = Carrying Amount		20.00				
S = R–P	**Impairment Loss on Goodwill**		**-4.06**				

	Expected Loss Method	0	1	2	3	TV
$C_t \times I_t + D_t \times L_t$	Interest Income		5.51	6.04	6.57	6.57
$O \times E$	Interest Expense		-2.25	-2.70	-3.15	-3.15
$D \times F$	Expected Loss on New Loans		-0.06	-0.08	-0.09	-0.09
$C_t \times (F_t - F_{t-1})$	Expected Loss on Existing Loans		-0.24	-0.24	-0.24	
Fixed	Other Expenses		-1.50	-1.50	-1.50	-1.50
Q	Net Income		1.46	1.52	1.60	1.84
	Book Value Ante Impairment on Loans	20.00				
$C_t \times (F_t - F_{t-1})$	Expected Loss on Existing Loans		-0.24	-0.24	-0.24	
	PV (Expected Loss)		-0.22	-0.19	-0.17	
T	**Impairment Loss on Loans**	**-0.58**				
$U = P - T$	Book Value Post Impairment on Loans	19.42				
$Q \times$ *payout@100%*	Dividends		1.46	1.52	1.60	
	Discount Factor		0.909	0.819	0.731	
	PV (Dividends)		1.33	1.25	1.17	
	Terminal Value					16.68
	PV (Terminal Value)	12.20				
R	Equity Value	15.94				
U	Book Value Adjusted	19.42				
$V = R - U$	**Impairment Loss on Goodwill**	**-3.47**				
$Z = T + V$	**Total Impairment Losses**	**-4.06**				

10. Tests of the role of value in use in determining the difference between MV and BV

These observations prompt the question: is the value-in-use criterion a determinant of the negative difference between market value and book value (the GAP)?

We ran two regression analyses to answer the question, with different objectives in mind:

1. The first model is an OLS regression with the GAP between market and book values at the dependent variable. This model aims to identify the contribution of the choice between value in use and fair value less cost to sell to explaining the GAP, after controlling for all relevant known variables that play a role in determining the GAP.
2. The second model works the other way around. We look for a significant relationship between the goodwill booked on balance sheets (as the dependent variable) and two explanatory variables: market goodwill (which equals accounting goodwill only in a full fair value accounting world) and a dichotomous dummy variable that assumes value 1 if only value in use is chosen.

The data for the analysis were assembled as follows:

- The dataset is made of all STOXX 600 and S&P 500 constituents over the period between 31 december 2005 and 31 december 2010. Constituents are selected at each reporting date.
- Data were collected from FactSet, FactSet Fundamentals and FactSet LionShares.
- For STOXX 600 constituents only, we analyzed fiscal year-end financial statements at each reporting date, in order to determine whether the company uses value in use, fair value or a combination of both.
- The dataset contains 6,600 company-year observations; each analysis is limited only by data availability.

1. First regression analysis: Explaining the gap between market value and book value.

- The object of the analysis is to test whether the gap between book and market values can be explained by the application of a value in use (VIU) standard for impairment testing purposes.
- The model, that includes a number of control variables, is specified as follows:

$$\frac{P-BV}{BV}_{i,t} = \alpha+\beta_1\, ROE^{1e}_{i,t}+\beta_2\, GROWTH_{i,t}+\beta_3\, PAYOUT_{i,t}+\beta_4\frac{TA}{BV_{i,t}}+\beta_5\, COUNTRY\_Rf_{c,t}+\beta_6 TURNOVER_{i,t}$$
$$+\beta_7\, SIZE_{i,t}+\beta_8 GINI\_INDEX_{i,t}+\beta_9\, DEVST\, TOP\, 100\, SH_{i,t}+\beta_{10}\frac{R\&D}{BV_{i,t}}+\beta_{11} VIU_{i,t}$$
$$+\beta_{12}\,(DUMMY_{YEAR})+\beta_{13}(DUMMY_{INDUSTRY})+\varepsilon$$

- Market caps, and other non-accounting variables, are at the end of the third month after year-end.
- The GAP = P–BV is scaled by book value in order to avoid heteroscedasticity of residuals. Diagnostics from the regression estimation confirm that the relationship holds. Note that GAP is price minus book value and not book value minus price.
- Control variables in the regression are those that previous research indicates are factors that explain the difference between market and book values. The literature shows that the following four fundamental variables are key to explaining the difference:
  - $ROE^{1e}_{i,t}$ = expected return on equity for the first period after the reference date, computed by using equity analysts' earnings estimates. Companies with higher ROE usually have higher market values once scaled over book values. Intangible resources allow those companies to earn a return which is usually higher than the cost of capital: those assets are priced at a premium above book values when internally generated, thus explaining part of the difference between book and market values.

- GROWTH (*g*) = cumulative average growth rate implicit in analysts' forecasts of net income in the upcoming three forecasting periods at the reference date. Under normal market conditions, growth is supposed to be priced into market values as goodwill.
- PAYOUT = weighted average payout ratio as indicated by EPS and DPS estimates of equity analysts. This variable should be able to size the equity re-financing needs of the companies: more relaxed in bull markets and tighter in bear markets. In other words, we expect this variable to capture the expected re-capitalization needs of most companies.
- TA/BV is a proxy for the risk and economics associated with financial leverage which affects price relative to book value.

- The other three variables in the regression are related to cost of capital components, as follows:
  - COUNTRY: the risk free rate of companies' own country is considered in order to take into account country risk.
  - TURNOVER: as a proxy for liquidity of the stocks and the corresponding liquidity premium required in the market.
  - SIZE: to consider the well-documented size effect on cost of capital (size defined as the natural log of total assets).
- Since one of the differences between market and book values might be the different premise of value (minority shareholders vs. controlling shareholder), we included variables that should take this effect into account:
  - the GINI coefficient computed on the distribution of shareholders, further detailed later, as the inequality measure capable of giving evidence of owners' concentration.
  - the standard deviation of the equity interests held by the first 100 shareholders in order to detail the presence of a single large shareholder versus multiple smaller, but still potentially control oriented, shareholders.
- We introduced variables that should capture accepted and well-known effects of different accounting treatments. R&D accounting treatment has an impact on the GAP because development (but not research) is capitalized under IAS/IFRS whereas neither are under US GAAP.
- Finally we introduced the value in use (VIU/FVLCTS = 1; FVLCTS = 0) dummy variable in order to detect and size the impact of the choice to adopt value in use on the GAP between book

and market values. The VIU dummy assumes value 1 when value in use or a combination of value in use and fair value less cost to sell is used.

- Before running the regression, the following variables have been winsorized at the 97.5 percent percentile, in order to keep the sample as large as possible, reducing the impact of outliers: (P-BV)/BV; ROE, GROWTH, PAYOUT; TA/BV; TURNOVER and R&D/BV.
- We considered two sets of dummy variables, dummy year and dummy industry, in order to batch all observations (company-year) in a single regression.
- The sample is all firms in the STOXX 600 and S&P 500.

Table 14 reports the regression results.

- We performed analyses with and without the VIU dummy (Regression 2 and 4).
- We also considered an alternative (Regression 1 and 3) in which we excluded those variables that, being correlated with the VIU dummy, were not (or were less) significant without the dummy VIU.
- The comparison assumes a closed set of observations, limited by data availability.
- **The results show that the dummy VIU is significant at the 1 percent level (|t-stat| > 2.33)** and it contributes to a small increase in explanatory power (slightly higher R^2). The negative sign of the coefficient indicates that the adoption of value in use is associated with a higher book value relative to market value, thus confirming a role of value in use in explaining this difference.

Table 14. Results for the regression analysis of the effect of value in use on the GAP; all companies in S&P 500 and STOXX 600

Variable	Regression 1	Regression 2	Regression 3	Regression 4
Intercept	1.00 *(1.94)*	0.54 *(0.65)*	1.84 *(3.52)*	-0.30 *-(0.37)*
ROE	14.13 *(77.69)*	13.97 *(74.57)*	13.91 *(76.22)*	13.71 *(73.40)*
g	2.65 *(11.04)*	2.47 *(9.89)*	2.71 *(11.36)*	2.46 *(9.99)*
PAYOUT		0.39 *(2.23)*		0.64 *(3.66)*
TA/BV	0.04 *(4.83)*	0.04 *(4.87)*	0.05 *(6.63)*	0.06 *(7.13)*
COUNTRY_Rf	-0.05 *-(1.28)*	-0.05 *-(1.23)*	-0.03 *-(0.87)*	-0.04 *-(0.89)*
TURNOVER_SH	0.18 *(5.73)*	0.24 *(5.99)*	0.04 *(1.07)*	0.12 *(2.82)*
GINI Index		-0.05 *-(0.06)*		1.83 *(2.50)*
DEVST_TOP_100_SH		1.46 *(1.62)*		2.74 *(3.05)*
SIZE	-0.27 *-(8.43)*	-0.25 *-(7.54)*	-0.33 *-(10.15)*	-0.33 *-(9.93)*
R&D/BV	4.70 *(12.55)*	4.80 *(12.77)*	4.64 *(12.48)*	4.74 *(12.76)*
VIU			-0.71 *-(7.78)*	-0.98 *-(9.71)*
Number of Observations	**3,702**	**3,511**	**3,702**	**3,511**
Adj R^2	**78.55%**	**78.66%**	**78.89%**	**79.22%**

2. Second analysis: explaining recorded goodwill.

- The second part of the analysis focuses more closely on the accounting effect of the adoption of value in use versus fair value less cost to sell. The dependent variable is a pure accounting factor, accounting goodwill, regressed on two explanatory variables. The first is market goodwill (which equals accounting goodwill only in a full fair value accounting world) and the way the impairment test is performed.
- The model can be described by the following equation:

GOODWILL CURRENT VALUE ACCOUNTING CHOICE

$$\left(\frac{GW}{TA}\right)_{i,t} = \alpha + \beta_{GW} \times \left(\frac{S_{DDM} - TBV}{TA}\right)_{i,t} + \beta_{IT} \times Dummy_{VIU_{i,t}} + \varepsilon \qquad [1]$$

'GOODWILL CURRENT VALUE' is determined by taking the difference between:

- equity value 'S', based on a Dividend Discount Model with no growth in terminal value that assumes equity analysts' estimates of DPS and EPS
- tangible book value.

The variable should capture the share of goodwill that is booked on balance sheets.

GW, TA and TBV are considered on a per-share basis, scaled by using common shares outstanding at FYend. Data are downloaded from FactSet.

Dummy variable 'VIU' assumes value 1 if the company adopts exclusively value in use and 0 otherwise.

The sign and coefficient of the dummy represents the average difference in goodwill booked between companies implementing different accounting choices.

  - The independent and dependent variables are scaled over tangible assets to avoid heteroscedasticity.
  - The premise of the analysis is that the amount of goodwill internally generated, not accrued on balance sheet, is included in residuals 'ε'.
  - The sample is STOXX 600 firms with market value less than book value, in order to explain the share of goodwill not impaired where equity value is below book value. If the application of value in use leads to fewer cases of impairment or lower impairments, we should expect that the dummy variable assumes a positive value.

Table 15 reports the results from this OLS regression, using both Fama French betas and CAPM betas versus STOXX 600 in calculation of the discount rates for S_{DDM}.

Table 15. Results for the regression analysis of the effect of value in use on recorded goodwill; STOXX 600 companies with BV<MV

S_{DDM_FF} OLS Regression Results

Variable		Coefficient
Intercept		0.069***
		(8.047)
$(S_{DDM\_FF} - TBV)/TA$	β_{GW}	0.618***
		(22.245)
$Dummy^{VIU}$	β_{IT}	0.026***
		(2.631)
N° of Observations		300
R^2 Adjusted		**62.67%**

S_{DDM_CAPM} OLS Regression Results

Variable		Coefficient
Intercept		0.057***
		(5.527)
$(S_{DDM\_Europe} - TBV)/TA$	β_{GW}	0.442***
		(16.112)
$Dummy^{VIU}$	β_{IT}	0.028**
		(2.382)
N° of Observations		299
R^2 Adjusted		**46.95%**

The results show that the dummy VIU is significant at the 1 percent level (|t-stat| > 2.33).

In order to test the reliability of results, we considered the whole sample. Table 16 reports the results using all firms in the STOXX 600, again using both FF betas and CAPM betas.

Table 16. Results for the regression analysis of the effect of value in use on recorded goodwill; all companies in the STOXX 600

S_{DDM_FF} OLS Regression Results – Whole Sample

Variable		Coefficient
Intercept		0.107***
		(16.395)
$(S_{DDM\_FF} - TBV)/TA$	β_{GW}	0.027***
		(10.178)
$Dummy^{VIU}$	β_{IT}	0.024***
		(3.462)
N° of Observations		2,525
R^2 Adjusted		**4.28%**

S_{DDM_CAPM} OLS Regression Results – Whole Sample

Variable		Coefficient
Intercept		0.102***
		(15.760)
$(S_{DDM\_Europe} - TBV)/TA$	β_{GW}	0.044***
		(12.185)
$Dummy^{VIU}$	β_{IT}	0.023***
		(3.409)
N° of Observations		2,563
R^2 Adjusted		**5.84%**

The dummy variable VIU is still significant at the 1 percent level.

The lower R^2 here can be reconciled with previous regression: no matter what amount of GW/TA a company has, when S_{DDM} falls below book value and assets are correctly accrued (which means no impairment of tangible assets exists), the amount of goodwill internally generated, not yet recognized in the balance sheet, has to be zero (thus leading to lower ε).

11. Conclusions

The analysis of the companies in the S&P 500 and the STOXX 600 showed:

- **A significant prevalence** of European companies with market value below book value vis-à-vis US companies. This phenomenon became more widespread after the global financial crisis of 2008. In 2008, approximately 30 percent of companies in the European index STOXX 600 had market values lower than book values compared with 20 percent for US companies. In 2010, this percentage dropped to 16 percent for European companies and 7 percent for US companies.
- **From as early as 2007,** there is a prevalence of financial companies (banks, financial services and insurance companies) among companies whose market value was lower than their book value, both in Europe and in the US Out of 10 companies with market value below book value, financial companies account for about nine in the US and about eight in Europe.
- **The difference between market value** and book value is also evident after adjusting for control premiums. In 2010, only 3 percent of US-listed companies showed a market price corrected for a control premium lower than book value, compared with 9 percent in Europe.
- **The distribution of companies** by number of quarters where market value is lower than book value shows that there is a greater persistence for US companies. But in the case of US companies, this is due to the control premium, which accounts for nearly all the difference between market value and book value.
- **The difference between market value** and book value at 31 December 2010 totalled €193 billion for the 38 companies of the S&P 500 (with market capitalization lower than equity value) and €492 billion for the 98 European companies of the STOXX 600 (still with market capitalization lower than equity value). On the same date, US companies (with market capitalization lower than equity value) had reported goodwill for the same amount (€193 billion). Intangible assets other than goodwill amounted instead to €101 billion. The European companies (with market capitalization lower than equity value) had reported goodwill for €383 billion and intangible assets other than goodwill of an additional €136 billion.
- **Between 2008 and 2010,** the US companies and the European companies had total impairment losses (in relation to financial assets, goodwill, intangibles other than goodwill and PPE) for €483 billion and €264 billion, respectively.
- **The European companies** that took goodwill impairment losses had a median of two write-offs for the period 2005-10 as against one for the US companies. This is because the two-step mechanism under US GAAP, which is not adopted by IAS/IFRS, creates accounting slack after an impairment loss is taken.
- **Between 2005 and 2010,** a growing number of European companies began utilizing value in use to estimate the recoverable amount of CGUs, with a resulting decrease of the number of companies that utilized fair value less costs to sell alone or a combination of fair value less costs to sell and value in use.
- **The use of value in use in goodwill** impairment tests helps to explain the negative difference between market value and book value and the amount of goodwill reported by listed companies.

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APPENDIX: Country and industry breakdown

Note: When computing the median percentage of impairment (goodwill or PPE), the sample is restricted to companies that recorded impairments. The calculation of the weighted average impairment uses the complete sample, including companies that did not impair. For example, for goodwill impairment the percentage is computed as the sum of impairments over the sum of goodwill. Negative impairments (reverse) have been excluded.

Median – Industry Level 1

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	1.20%	15.51%	0.90%	21.40%	1.99%	44.72%	6.00%	24.47%	4.22%	0.06%	0.50%	N/A
Consumer Goods	1.14%	2.96%	0.77%	1.14%	0.76%	70.03%	2.95%	27.43%	1.25%	31.67%	1.85%	1.91%
Consumer Services	1.21%	13.69%	1.61%	0.92%	0.80%	29.47%	3.98%	38.94%	6.41%	5.83%	1.03%	1.25%
Financials	1.14%	0.93%	0.41%	26.32%	0.42%	5.30%	4.24%	28.14%	3.26%	7.82%	1.65%	13.70%
Health Care	0.26%	0.22%	0.76%	14.88%	3.23%	N/A	2.35%	13.98%	0.60%	2.32%	0.45%	11.37%
Industrials	2.15%	1.55%	0.61%	2.93%	0.48%	1.60%	1.07%	7.93%	1.48%	5.11%	0.76%	7.21%
Oil & Gas	0.49%	N/A	0.21%	N/A	0.11%	N/A	0.53%	48.11%	10.43%	23.83%	6.63%	60.60%
Technology	12.59%	16.76%	1.46%	15.29%	2.24%	49.19%	1.27%	17.35%	0.57%	58.19%	0.12%	0.53%
Telecommunications	1.04%	N/A	2.04%	N/A	0.71%	97.14%	1.38%	N/A	1.57%	N/A	1.25%	N/A
Utilities	0.72%	12.47%	0.23%	23.23%	0.47%	N/A	2.25%	0.66%	0.06%	20.35%	1.48%	16.02%

PPE Impairment/(PPE+PPE Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	1.13%	0.98%	0.75%	1.30%	0.59%	0.44%	1.01%	1.99%	0.66%	0.49%	0.56%	0.05%
Consumer Goods	0.84%	1.04%	0.74%	0.75%	0.47%	0.98%	0.82%	1.82%	1.31%	0.90%	0.51%	0.63%
Consumer Services	0.41%	0.50%	0.31%	0.53%	0.61%	0.24%	0.94%	0.36%	1.11%	0.74%	0.51%	0.29%
Financials	0.24%	1.11%	0.24%	0.22%	0.32%	10.73%	0.68%	2.07%	1.46%	0.90%	0.90%	0.26%
Health Care	0.85%	3.05%	0.74%	2.65%	0.58%	2.06%	0.35%	5.01%	1.50%	1.52%	0.78%	2.11%
Industrials	0.47%	0.43%	0.30%	0.30%	0.26%	0.86%	0.51%	0.25%	0.61%	0.49%	0.53%	0.34%
Oil & Gas	0.54%	0.39%	0.46%	0.66%	0.77%	0.53%	2.04%	1.87%	1.39%	1.44%	1.47%	0.81%
Technology	1.97%	2.67%	0.69%	1.07%	1.82%	3.69%	3.55%	2.56%	0.16%	1.25%	0.27%	1.35%
Telecommunications	0.46%	0.30%	0.33%	0.28%	0.38%	0.32%	0.19%	0.25%	0.17%	0.26%	0.16%	0.67%
Utilities	0.10%	0.34%	0.35%	0.36%	0.19%	0.13%	0.12%	0.24%	0.14%	0.74%	0.20%	0.67%

Goodwill/Book Value–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	9.55%	26.12%	10.89%	22.37%	13.43%	22.37%	15.28%	26.19%	15.40%	24.40%	14.41%	28.21%
Consumer Goods	36.90%	45.44%	38.42%	45.17%	30.23%	45.00%	40.06%	46.48%	39.19%	47.19%	29.26%	55.33%
Consumer Services	56.48%	37.25%	61.78%	43.60%	70.69%	44.49%	66.77%	43.88%	63.25%	44.84%	58.84%	37.17%
Financials	10.81%	20.58%	12.56%	19.08%	15.18%	20.48%	18.66%	21.73%	14.55%	18.33%	12.62%	16.26%
Health Care	20.85%	45.26%	25.93%	48.33%	31.52%	53.16%	27.80%	57.14%	33.59%	50.07%	41.55%	46.95%
Industrials	51.01%	54.73%	55.69%	55.65%	54.77%	56.12%	59.59%	61.63%	59.37%	62.62%	49.60%	63.14%
Oil & Gas	9.25%	12.19%	9.13%	10.51%	13.26%	12.53%	8.13%	9.31%	9.41%	9.33%	9.28%	10.60%
Technology	46.40%	15.86%	53.38%	28.43%	65.60%	34.11%	63.01%	32.29%	67.62%	29.02%	63.26%	22.09%
Telecommunications	57.62%	44.09%	56.94%	58.36%	70.52%	66.85%	89.15%	74.55%	66.15%	69.70%	63.96%	68.52%
Utilities	14.50%	22.08%	12.23%	26.94%	26.70%	27.26%	24.38%	23.47%	24.25%	21.14%	22.40%	21.45%

Goodwill/Total Assets–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	4.32%	11.14%	4.58%	8.85%	6.94%	9.71%	6.77%	7.42%	7.22%	7.99%	8.19%	11.47%
Consumer Goods	15.36%	20.72%	15.59%	19.32%	13.90%	20.21%	14.09%	18.44%	14.29%	18.09%	13.74%	17.77%
Consumer Services	14.44%	13.65%	16.60%	14.60%	22.55%	15.98%	22.34%	14.02%	23.00%	15.56%	22.94%	14.42%
Financials	0.61%	2.56%	0.76%	2.53%	1.04%	3.02%	1.12%	3.05%	0.97%	2.51%	0.85%	2.31%
Health Care	11.52%	18.32%	13.21%	19.35%	15.99%	25.32%	13.44%	23.54%	13.25%	23.89%	16.95%	24.43%
Industrials	14.42%	23.50%	16.41%	22.31%	15.33%	26.37%	15.86%	26.24%	16.71%	26.65%	16.61%	27.03%
Oil & Gas	4.02%	4.73%	4.75%	4.53%	4.46%	4.69%	3.56%	3.49%	3.70%	4.05%	3.47%	4.74%
Technology	19.61%	9.19%	26.53%	14.67%	22.07%	14.65%	23.39%	14.18%	28.81%	12.11%	29.79%	11.76%
Telecommunications	16.64%	22.61%	20.23%	25.21%	23.31%	26.23%	23.31%	26.62%	23.11%	25.48%	24.66%	25.72%
Utilities	3.41%	5.68%	3.91%	5.78%	6.63%	5.58%	6.41%	5.04%	6.36%	5.02%	6.55%	5.36%

Source: FactSet; FactSet Fundamentals

Median – Industry Level 2

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	1.57%	N/A	2.95%	N/A	0.04%	63.02%	N/A	14.59%	7.84%	48.26%	4.59%	N/A
Banks	0.65%	0.93%	0.40%	N/A	0.24%	28.29%	3.39%	27.01%	6.95%	30.30%	1.57%	14.54%
Basic Resources	0.90%	1.33%	0.98%	21.40%	8.41%	44.72%	6.85%	48.66%	4.27%	N/A	0.50%	N/A
Chemicals	7.97%	29.68%	0.57%	N/A	1.31%	N/A	1.16%	6.27%	4.16%	0.06%	3.00%	N/A
Construction & Materials	1.40%	1.55%	0.53%	11.69%	0.23%	3.70%	1.39%	7.22%	1.12%	4.71%	0.74%	11.94%
Financial Services	0.55%	N/A	0.13%	N/A	1.54%	5.30%	4.76%	12.67%	1.58%	0.23%	2.11%	2.94%
Food & Beverage	1.00%	5.14%	0.69%	N/A	0.77%	N/A	2.73%	16.38%	0.87%	17.65%	2.79%	0.78%
Health Care	0.26%	0.22%	0.76%	14.88%	3.23%	N/A	2.35%	13.98%	0.60%	2.32%	0.45%	11.37%
Industrial Goods & Services	3.46%	4.29%	0.64%	0.74%	0.75%	0.77%	1.12%	12.30%	1.03%	5.11%	2.02%	7.21%
Insurance	1.87%	N/A	1.87%	N/A	0.58%	N/A	4.10%	30.42%	0.88%	6.52%	1.90%	23.12%
Media	0.94%	13.69%	1.05%	0.83%	0.80%	39.76%	3.08%	18.43%	6.41%	12.55%	0.80%	1.43%
Oil & Gas	0.49%	N/A	0.21%	N/A	0.11%	N/A	0.53%	48.11%	10.43%	23.82%	6.63%	60.60%
Personal & Household Goods	0.13%	0.78%	1.31%	1.14%	0.43%	77.05%	1.82%	40.76%	1.25%	39.34%	1.53%	9.30%
Real Estate	28.79%	N/A	53.63%	26.32%	16.01%	1.43%	10.83%	97.84%	13.74%	7.18%	3.37%	N/A
Retail	11.95%	N/A	3.55%	34.22%	0.79%	19.19%	8.30%	43.25%	3.81%	48.85%	1.06%	1.62%
Technology	12.59%	16.76%	1.46%	15.29%	2.24%	49.19%	1.27%	17.35%	0.57%	58.19%	0.12%	0.53%
Telecommunications	1.04%	N/A	2.04%	N/A	0.71%	97.14%	1.38%	N/A	1.57%	N/A	1.25%	N/A
Travel & Leisure	3.50%	N/A	2.71%	N/A	1.20%	N/A	3.07%	46.31%	6.83%	5.77%	0.32%	0.27%
Utilities	0.72%	12.47%	0.23%	23.23%	0.47%	N/A	2.25%	0.66%	0.06%	20.35%	1.48%	16.02%

PPE Impairment/(PPE+PPE Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	0.47%	N/A	0.22%	0.10%	0.29%	N/A	0.72%	21.02%	1.08%	3.18%	0.37%	N/A
Banks	0.21%	1.11%	0.12%	0.22%	0.33%	23.66%	0.56%	0.83%	1.89%	3.02%	2.00%	N/A
Basic Resources	1.13%	0.86%	0.36%	7.29%	0.53%	-1.62%	2.57%	2.36%	0.87%	0.08%	0.55%	0.04%
Chemicals	1.67%	1.10%	0.89%	1.30%	0.72%	2.35%	0.73%	0.69%	0.53%	3.67%	0.56%	0.30%
Construction & Materials	0.26%	0.04%	0.21%	0.31%	0.08%	N/A	0.53%	0.00%	0.51%	N/A	0.23%	N/A
Financial Services	0.99%	N/A	0.25%	N/A	0.78%	33.65%	0.54%	8.16%	0.94%	16.17%	0.81%	1.13%
Food & Beverage	1.17%	0.77%	0.74%	3.01%	0.80%	0.78%	0.98%	1.32%	1.47%	0.79%	0.36%	0.13%
Health Care	0.85%	3.05%	0.74%	2.65%	0.58%	2.06%	0.35%	5.01%	1.50%	1.52%	0.78%	2.11%
Industrial Goods & Services	0.52%	0.52%	0.46%	0.30%	0.35%	0.86%	0.51%	0.28%	0.61%	0.49%	0.57%	0.34%
Insurance	1.40%	13.95%	1.52%	3.09%	1.31%	N/A	4.39%	2.48%	0.92%	3.88%	0.85%	6.23%
Media	1.77%	0.12%	1.83%	0.63%	1.74%	0.13%	1.00%	0.72%	0.99%	1.27%	0.57%	0.74%
Oil & Gas	0.54%	0.39%	0.46%	0.66%	0.77%	0.53%	2.04%	1.87%	1.39%	1.44%	1.47%	0.81%
Personal & Household Goods	0.93%	1.70%	0.80%	0.61%	0.26%	1.21%	0.46%	7.40%	1.76%	0.90%	0.93%	0.99%
Real Estate	0.10%	0.18%	0.16%	0.11%	0.04%	0.08%	1.01%	0.76%	0.13%	0.54%	-0.24%	0.23%
Retail	0.33%	0.50%	0.50%	0.42%	0.29%	0.20%	0.93%	0.17%	0.59%	0.63%	0.39%	0.31%
Technology	1.97%	2.67%	0.69%	1.07%	1.82%	3.69%	3.55%	2.56%	0.16%	1.25%	0.27%	1.35%
Telecommunications	0.46%	0.30%	0.33%	0.28%	0.38%	0.32%	0.19%	0.25%	0.17%	0.26%	0.16%	0.67%
Travel & Leisure	0.44%	0.73%	0.15%	0.75%	0.60%	0.96%	0.78%	0.49%	1.79%	1.07%	0.67%	0.20%
Utilities	0.10%	0.34%	0.35%	0.36%	0.19%	0.13%	0.12%	0.24%	0.14%	0.74%	0.20%	0.67%

Goodwill/Book Value–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	10.77%	39.55%	12.11%	2.13%	10.97%	25.02%	7.91%	6.55%	18.08%	5.07%	9.36%	34.97%
Banks	10.22%	36.56%	13.92%	31.54%	17.69%	36.74%	23.90%	28.78%	17.09%	24.74%	14.09%	26.95%
Basic Resources	4.29%	29.67%	10.63%	13.83%	11.99%	16.58%	9.92%	15.79%	9.36%	13.81%	9.22%	14.40%
Chemicals	13.05%	25.35%	12.53%	23.99%	20.61%	24.19%	32.25%	29.06%	27.59%	34.28%	25.33%	43.58%
Construction & Materials	45.77%	49.66%	52.91%	42.16%	58.00%	58.91%	59.82%	56.99%	44.93%	57.34%	45.15%	57.44%
Financial Services	15.71%	21.00%	20.00%	21.65%	24.17%	39.37%	18.81%	26.75%	29.87%	27.25%	17.20%	27.10%
Food & Beverage	73.64%	73.73%	71.47%	75.21%	72.45%	64.33%	64.96%	76.52%	65.69%	75.74%	58.74%	73.02%
Health Care	20.85%	45.26%	25.93%	48.33%	31.52%	53.16%	27.80%	57.14%	33.59%	50.07%	41.55%	46.95%
Industrial Goods & Services	57.63%	65.85%	59.08%	64.80%	54.68%	55.77%	59.41%	63.52%	63.57%	62.62%	50.40%	63.14%
Insurance	11.66%	11.98%	10.39%	13.47%	13.76%	12.74%	16.72%	12.47%	10.71%	9.68%	10.22%	9.52%
Media	79.49%	64.44%	100.38%	64.93%	97.22%	71.32%	98.08%	77.33%	101.09%	89.25%	94.32%	64.23%
Oil & Gas	9.25%	12.19%	9.13%	10.51%	13.26%	12.53%	8.13%	9.31%	9.41%	9.33%	9.28%	10.60%
Personal & Household Goods	18.87%	34.15%	27.72%	34.30%	26.27%	41.96%	20.95%	36.95%	30.95%	37.95%	26.81%	40.86%
Real Estate	1.86%	1.09%	1.88%	1.85%	2.21%	1.63%	2.08%	0.99%	1.80%	0.99%	1.82%	0.99%
Retail	31.71%	22.92%	53.84%	32.22%	50.80%	30.87%	40.91%	37.98%	51.09%	27.71%	43.93%	23.47%
Technology	46.40%	15.86%	53.38%	28.43%	65.60%	34.11%	63.01%	32.29%	67.62%	29.02%	63.26%	22.09%
Telecommunications	57.62%	44.09%	56.94%	58.36%	70.52%	66.85%	89.15%	74.55%	66.15%	69.70%	63.96%	68.52%
Travel & Leisure	18.89%	33.33%	35.81%	46.07%	53.29%	54.29%	74.71%	38.52%	59.29%	39.44%	33.04%	34.99%
Utilities	14.50%	22.08%	12.23%	26.94%	26.70%	27.26%	24.38%	23.47%	24.25%	21.14%	22.40%	21.45%

Goodwill/Total Assets–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	3.87%	1.86%	3.64%	2.01%	4.53%	1.42%	2.42%	2.49%	4.31%	2.53%	2.20%	3.49%
Banks	0.48%	3.43%	0.60%	3.34%	0.68%	3.22%	0.66%	3.05%	0.65%	2.38%	0.59%	2.31%
Basic Resources	1.82%	12.42%	4.55%	6.29%	4.69%	8.63%	4.85%	5.60%	4.56%	6.99%	4.22%	7.38%
Chemicals	6.57%	11.14%	7.18%	11.39%	9.20%	10.70%	11.46%	11.04%	10.20%	14.61%	10.46%	16.71%
Construction & Materials	13.17%	21.79%	15.49%	18.90%	14.68%	28.32%	12.55%	28.51%	13.86%	28.00%	13.42%	26.27%
Financial Services	2.00%	4.40%	2.28%	7.05%	3.88%	9.51%	2.83%	9.59%	3.34%	7.84%	1.46%	7.48%
Food & Beverage	24.63%	28.78%	28.01%	25.28%	29.02%	25.17%	26.23%	25.48%	26.92%	23.64%	27.55%	24.24%
Health Care	11.52%	18.32%	13.21%	19.35%	15.99%	25.32%	13.44%	23.54%	13.25%	23.89%	16.95%	24.43%
Industrial Goods & Services	14.89%	24.30%	16.58%	26.07%	15.49%	26.37%	16.94%	26.24%	18.45%	26.65%	17.89%	27.03%
Insurance	0.86%	0.98%	0.89%	1.55%	1.08%	1.83%	1.10%	1.25%	0.97%	1.19%	0.93%	1.54%
Media	26.70%	25.37%	24.67%	26.76%	28.47%	26.70%	31.15%	28.01%	31.90%	27.07%	31.45%	26.78%
Oil & Gas	4.02%	4.73%	4.75%	4.53%	4.46%	4.69%	3.56%	3.49%	3.70%	4.05%	3.47%	4.74%
Personal & Household Goods	11.97%	18.13%	11.03%	16.93%	12.52%	16.85%	11.96%	17.25%	13.30%	17.19%	12.95%	16.17%
Real Estate	0.78%	0.51%	0.67%	0.65%	0.86%	0.59%	0.82%	0.44%	0.97%	0.41%	0.95%	0.46%
Retail	7.44%	7.39%	12.73%	10.04%	13.81%	9.38%	13.86%	11.57%	18.68%	12.66%	16.51%	9.01%
Technology	19.61%	9.19%	26.53%	14.67%	22.07%	14.65%	23.39%	14.18%	28.81%	12.11%	29.79%	11.76%
Telecommunications	16.64%	22.61%	20.23%	25.21%	23.31%	26.23%	23.31%	26.62%	23.11%	25.48%	24.66%	25.72%
Travel & Leisure	5.97%	11.58%	7.52%	10.84%	15.21%	10.60%	16.93%	10.05%	15.13%	10.44%	14.08%	9.60%
Utilities	3.41%	5.68%	3.91%	5.78%	6.63%	5.58%	6.41%	5.04%	6.36%	5.02%	6.55%	5.36%

Source: FactSet; FactSet Fundamentals

Median – Country

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	1.18%	2.95%	0.58%	6.48%	4.37%	14.06%	6.86%	20.77%	16.26%	8.43%	1.57%	3.41%
Belgium	1.56%	2.95%	0.48%	6.48%	0.75%	14.06%	0.68%	20.77%	11.09%	8.43%	6.01%	3.41%
Denmark	2.65%	2.95%	1.92%	6.48%	5.56%	14.06%	2.58%	20.77%	7.39%	8.43%	4.19%	3.41%
Finland	5.65%	2.95%	0.98%	6.48%	12.85%	14.06%	19.78%	20.77%	0.73%	8.43%	1.11%	3.41%
France	0.61%	2.95%	0.39%	6.48%	0.18%	14.06%	1.07%	20.77%	0.79%	8.43%	0.97%	3.41%
Germany	3.03%	2.95%	0.37%	6.48%	1.50%	14.06%	3.34%	20.77%	2.66%	8.43%	1.24%	3.41%
Great Britain	2.32%	2.95%	2.33%	6.48%	0.55%	14.06%	7.93%	20.77%	3.64%	8.43%	2.09%	3.41%
Greece	35.62%	2.95%	N/A	6.48%	19.45%	14.06%	0.21%	20.77%	1.22%	8.43%	1.30%	3.41%
Italy	2.56%	2.95%	0.39%	6.48%	0.75%	14.06%	2.83%	20.77%	0.04%	8.43%	0.74%	3.41%
Netherlands	0.85%	2.95%	0.24%	6.48%	0.79%	14.06%	3.76%	20.77%	6.14%	8.43%	0.35%	3.41%
Norway	0.55%	2.95%	0.36%	6.48%	0.88%	14.06%	1.16%	20.77%	4.06%	8.43%	1.07%	3.41%
Portugal	N/A	2.95%	0.27%	6.48%	N/A	14.06%	0.54%	20.77%	N/A	8.43%	28.93%	3.41%
Spain	0.19%	2.95%	0.39%	6.48%	0.37%	14.06%	0.63%	20.77%	3.39%	8.43%	0.12%	3.41%
Sweden	0.54%	2.95%	1.90%	6.48%	0.59%	14.06%	1.28%	20.77%	4.43%	8.43%	1.93%	3.41%
Switzerland	3.94%	2.95%	0.92%	6.48%	0.75%	14.06%	2.13%	20.77%	2.51%	8.43%	2.11%	3.41%

PPE Impairment/(PPE+PPE Impairment)–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	0.10%	0.75%	0.29%	0.55%	0.47%	0.69%	0.67%	1.20%	1.11%	0.82%	0.32%	0.67%
Belgium	0.96%	0.75%	0.79%	0.55%	0.52%	0.69%	0.49%	1.20%	0.56%	0.82%	0.43%	0.67%
Denmark	0.65%	0.75%	0.72%	0.55%	0.44%	0.69%	0.38%	1.20%	0.85%	0.82%	0.50%	0.67%
Finland	0.93%	0.75%	0.56%	0.55%	0.34%	0.69%	2.28%	1.20%	0.25%	0.82%	0.51%	0.67%
France	1.74%	0.75%	0.39%	0.55%	0.50%	0.69%	0.46%	1.20%	0.64%	0.82%	0.32%	0.67%
Germany	0.50%	0.75%	0.62%	0.55%	0.32%	0.69%	0.51%	1.20%	0.73%	0.82%	0.57%	0.67%
Great Britain	0.79%	0.75%	0.36%	0.55%	0.98%	0.69%	1.29%	1.20%	1.34%	0.82%	1.22%	0.67%
Greece	0.04%	0.75%	0.20%	0.55%	0.00%	0.69%	N/A	1.20%	0.10%	0.82%	0.12%	0.67%
Italy	0.22%	0.75%	0.51%	0.55%	0.32%	0.69%	0.72%	1.20%	0.39%	0.82%	0.37%	0.67%
Netherlands	1.26%	0.75%	0.74%	0.55%	0.80%	0.69%	0.53%	1.20%	1.14%	0.82%	0.83%	0.67%
Norway	0.80%	0.75%	0.68%	0.55%	0.14%	0.69%	0.66%	1.20%	1.00%	0.82%	0.23%	0.67%
Portugal	0.26%	0.75%	N/A	0.55%	1.90%	0.69%	0.29%	1.20%	6.23%	0.82%	0.53%	0.67%
Spain	0.15%	0.75%	0.08%	0.55%	0.04%	0.69%	0.54%	1.20%	0.80%	0.82%	0.90%	0.67%
Sweden	0.44%	0.75%	0.44%	0.55%	0.43%	0.69%	0.27%	1.20%	0.55%	0.82%	0.76%	0.67%
Switzerland	0.47%	0.75%	0.38%	0.55%	0.27%	0.69%	0.82%	1.20%	0.77%	0.82%	0.20%	0.67%

Goodwill/Book Value–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	14.38%	31.31%	7.89%	33.08%	18.69%	36.20%	35.72%	35.28%	28.37%	32.90%	26.96%	31.69%
Belgium	9.55%	31.31%	20.35%	33.08%	16.07%	36.20%	15.55%	35.28%	12.10%	32.90%	10.75%	31.69%
Denmark	12.30%	31.31%	10.19%	33.08%	22.36%	36.20%	16.37%	35.28%	14.42%	32.90%	18.67%	31.69%
Finland	22.03%	31.31%	27.02%	33.08%	20.24%	36.20%	15.28%	35.28%	18.71%	32.90%	20.35%	31.69%
France	48.06%	31.31%	44.78%	33.08%	57.56%	36.20%	53.36%	35.28%	48.86%	32.90%	49.46%	31.69%
Germany	17.16%	31.31%	26.12%	33.08%	34.44%	36.20%	37.38%	35.28%	38.83%	32.90%	36.91%	31.69%
Great Britain	27.77%	31.31%	29.71%	33.08%	35.73%	36.20%	39.61%	35.28%	41.23%	32.90%	40.54%	31.69%
Greece	4.52%	31.31%	11.33%	33.08%	19.45%	36.20%	29.03%	35.28%	23.59%	32.90%	10.70%	31.69%
Italy	23.07%	31.31%	23.00%	33.08%	31.33%	36.20%	37.14%	35.28%	35.00%	32.90%	35.90%	31.69%
Netherlands	47.21%	31.31%	43.82%	33.08%	23.83%	36.20%	45.01%	35.28%	31.56%	32.90%	26.62%	31.69%
Norway	9.79%	31.31%	19.71%	33.08%	21.58%	36.20%	15.36%	35.28%	10.80%	32.90%	9.73%	31.69%
Portugal	24.87%	31.31%	28.02%	33.08%	15.69%	36.20%	38.51%	35.28%	25.26%	32.90%	9.49%	31.69%
Spain	18.83%	31.31%	16.39%	33.08%	24.44%	36.20%	19.01%	35.28%	21.83%	32.90%	23.85%	31.69%
Sweden	24.52%	31.31%	23.40%	33.08%	29.89%	36.20%	29.54%	35.28%	35.84%	32.90%	30.73%	31.69%
Switzerland	20.82%	31.31%	25.35%	33.08%	22.57%	36.20%	24.35%	35.28%	23.68%	32.90%	24.92%	31.69%

Goodwill/Total Assets–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	1.43%	11.11%	2.00%	12.96%	2.19%	12.95%	5.86%	13.23%	5.82%	12.25%	5.02%	13.03%
Belgium	3.16%	11.11%	6.69%	12.96%	5.25%	12.95%	3.68%	13.23%	3.29%	12.25%	2.95%	13.03%
Denmark	5.55%	11.11%	2.74%	12.96%	5.97%	12.95%	7.00%	13.23%	4.52%	12.25%	6.58%	13.03%
Finland	9.74%	11.11%	10.46%	12.96%	6.14%	12.95%	4.80%	13.23%	7.11%	12.25%	7.40%	13.03%
France	14.67%	11.11%	15.20%	12.96%	16.28%	12.95%	15.07%	13.23%	15.03%	12.25%	13.70%	13.03%
Germany	6.09%	11.11%	9.42%	12.96%	9.58%	12.95%	9.56%	13.23%	11.15%	12.25%	11.87%	13.03%
Great Britain	6.32%	11.11%	7.48%	12.96%	12.25%	12.95%	12.83%	13.23%	14.29%	12.25%	14.26%	13.03%
Greece	0.66%	11.11%	2.77%	12.96%	2.71%	12.95%	2.00%	13.23%	1.80%	12.25%	0.68%	13.03%
Italy	2.46%	11.11%	3.84%	12.96%	4.51%	12.95%	4.31%	13.23%	3.94%	12.25%	4.26%	13.03%
Netherlands	12.75%	11.11%	11.84%	12.96%	10.08%	12.95%	10.24%	13.23%	10.31%	12.25%	10.71%	13.03%
Norway	1.80%	11.11%	10.30%	12.96%	8.47%	12.95%	5.71%	13.23%	5.03%	12.25%	5.38%	13.03%
Portugal	4.12%	11.11%	4.89%	12.96%	4.18%	12.95%	7.91%	13.23%	7.84%	12.25%	2.76%	13.03%
Spain	2.31%	11.11%	2.26%	12.96%	3.51%	12.95%	4.46%	13.23%	5.10%	12.25%	6.51%	13.03%
Sweden	7.04%	11.11%	10.88%	12.96%	12.09%	12.95%	11.14%	13.23%	12.16%	12.25%	11.45%	13.03%
Switzerland	8.93%	11.11%	9.23%	12.96%	8.74%	12.95%	8.34%	13.23%	8.81%	12.25%	9.93%	13.03%

Source: FactSet; FactSet Fundamentals

Weighted Average – Industry Level 1

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	0.66%	0.15%	2.73%	3.04%	1.22%	3.94%	7.45%	22.26%	0.64%	0.02%	0.06%	0.00%
Consumer Goods	0.46%	0.12%	0.29%	0.05%	0.19%	1.94%	0.90%	1.34%	0.55%	1.00%	0.40%	0.43%
Consumer Services	0.69%	2.84%	0.83%	0.13%	0.63%	0.69%	3.65%	8.21%	1.96%	3.15%	0.58%	0.79%
Financials	0.54%	0.01%	0.48%	0.23%	0.59%	0.15%	14.48%	4.08%	2.16%	1.13%	0.82%	3.00%
Health Care	0.73%	0.01%	0.37%	0.18%	0.21%	0.00%	0.05%	1.54%	0.03%	0.15%	0.17%	0.82%
Industrials	0.72%	0.31%	0.33%	0.24%	0.29%	0.42%	1.24%	1.71%	1.17%	1.52%	0.70%	0.37%
Oil & Gas	0.28%	0.00%	0.01%	0.00%	0.01%	0.00%	0.87%	43.37%	4.78%	3.00%	1.94%	1.76%
Technology	0.33%	0.11%	0.07%	1.13%	0.04%	1.60%	9.33%	6.60%	2.77%	0.74%	0.07%	0.01%
Telecommunications	14.69%	0.00%	9.06%	0.00%	0.27%	26.51%	3.58%	1.02%	2.87%	0.00%	3.81%	0.00%
Utilities	1.32%	2.88%	0.51%	1.76%	0.06%	0.00%	3.20%	0.02%	0.02%	1.06%	1.37%	3.26%

PPE Impairment/(PPE+PPE Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	0.65%	0.23%	0.82%	1.54%	0.64%	0.13%	1.33%	7.05%	2.64%	0.18%	0.69%	0.01%
Consumer Goods	0.93%	0.60%	0.54%	0.70%	0.58%	0.32%	0.69%	5.51%	0.77%	1.12%	0.57%	0.15%
Consumer Services	0.32%	0.91%	0.33%	0.18%	0.27%	0.45%	0.64%	2.78%	0.85%	0.32%	0.53%	0.18%
Financials	0.18%	0.27%	0.10%	0.19%	0.08%	0.25%	0.77%	1.05%	0.73%	1.13%	0.76%	0.86%
Health Care	2.27%	0.53%	0.91%	0.67%	0.68%	0.81%	0.72%	2.17%	2.43%	0.48%	1.16%	0.69%
Industrials	0.33%	0.05%	0.32%	0.02%	0.41%	0.03%	0.43%	1.16%	0.76%	0.12%	0.85%	0.04%
Oil & Gas	0.41%	0.23%	0.26%	0.27%	0.62%	0.95%	0.90%	2.63%	1.42%	3.18%	1.28%	0.71%
Technology	0.66%	0.13%	2.65%	0.50%	2.44%	0.86%	4.26%	0.85%	0.51%	0.31%	0.29%	0.16%
Telecommunications	0.57%	0.15%	0.23%	0.03%	0.27%	0.00%	0.14%	0.01%	1.32%	0.07%	3.57%	0.10%
Utilities	0.17%	0.09%	0.19%	0.23%	0.11%	0.21%	0.09%	0.07%	0.17%	0.23%	0.66%	0.29%

Goodwill/Book Value–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	14.52%	29.10%	20.64%	25.35%	25.08%	25.69%	26.94%	27.95%	23.08%	31.67%	20.25%	29.60%
Consumer Goods	40.82%	57.60%	38.92%	65.27%	39.62%	59.46%	51.24%	73.70%	52.85%	68.53%	44.34%	68.83%
Consumer Services	58.97%	38.76%	58.99%	41.68%	61.90%	45.95%	69.26%	45.49%	65.30%	42.71%	60.69%	41.75%
Financials	19.83%	25.20%	19.78%	26.84%	23.27%	29.27%	24.46%	26.11%	19.99%	24.32%	18.92%	23.14%
Health Care	36.60%	40.34%	39.97%	45.46%	43.29%	48.78%	45.78%	51.73%	49.64%	47.56%	55.92%	49.25%
Industrials	54.31%	57.57%	57.15%	60.24%	60.83%	61.14%	64.43%	72.84%	60.06%	62.53%	59.28%	60.05%
Oil & Gas	8.15%	11.73%	8.06%	14.13%	8.06%	12.66%	7.60%	7.28%	7.78%	7.41%	7.29%	8.59%
Technology	26.64%	24.01%	34.73%	29.49%	33.73%	34.27%	49.35%	39.94%	49.14%	37.38%	50.24%	35.38%
Telecommunications	71.65%	18.51%	76.35%	79.21%	79.29%	43.25%	83.45%	52.52%	79.71%	62.54%	75.14%	61.37%
Utilities	33.26%	20.14%	30.62%	21.17%	40.91%	18.89%	39.62%	17.90%	42.24%	15.86%	36.21%	14.96%

Goodwill/Total Assets–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Basic Materials	5.87%	10.37%	8.37%	9.68%	10.30%	10.09%	10.60%	8.39%	10.11%	10.45%	9.44%	10.37%
Consumer Goods	11.75%	16.10%	12.00%	19.27%	13.06%	18.05%	14.84%	18.44%	14.11%	19.55%	14.81%	21.09%
Consumer Services	18.88%	17.39%	19.35%	17.90%	20.32%	18.92%	21.45%	17.33%	20.74%	17.18%	20.34%	16.57%
Financials	0.82%	2.32%	0.89%	2.53%	1.02%	2.63%	0.94%	2.57%	0.99%	2.61%	0.99%	2.57%
Health Care	18.21%	18.98%	20.49%	21.22%	21.71%	21.91%	22.41%	22.64%	21.50%	21.74%	24.41%	22.55%
Industrials	13.54%	15.93%	13.16%	16.67%	13.81%	16.11%	13.43%	16.46%	16.20%	15.88%	16.59%	15.92%
Oil & Gas	3.28%	5.43%	3.32%	6.62%	3.29%	6.04%	3.09%	3.48%	3.26%	3.55%	2.90%	4.22%
Technology	12.37%	13.36%	16.48%	15.55%	15.15%	17.09%	19.30%	18.34%	20.58%	18.23%	20.89%	18.09%
Telecommunications	26.45%	6.64%	26.85%	19.05%	28.24%	15.36%	27.53%	15.61%	26.44%	18.40%	26.28%	19.06%
Utilities	7.44%	4.93%	7.39%	5.62%	10.05%	5.06%	8.74%	4.53%	9.63%	4.36%	8.92%	4.17%

Source: FactSet; FactSet Fundamentals

Weighted Average – Industry Level 2

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	0.61%	0.00%	1.63%	0.00%	0.01%	22.86%	0.00%	2.31%	3.12%	0.40%	0.12%	0.00%
Banks	0.16%	0.00%	0.34%	0.00%	0.42%	0.03%	18.52%	3.14%	2.43%	1.53%	0.70%	5.43%
Basic Resources	0.23%	0.27%	6.22%	5.95%	2.01%	7.09%	13.41%	41.17%	0.16%	0.00%	0.10%	0.00%
Chemicals	0.89%	0.00%	0.26%	0.00%	0.29%	0.00%	0.23%	1.40%	1.12%	0.03%	0.03%	0.00%
Construction & Materials	0.34%	0.97%	0.39%	5.92%	0.16%	2.34%	1.01%	6.87%	1.22%	2.86%	0.34%	7.31%
Financial Services	2.41%	0.05%	0.24%	0.00%	0.47%	0.58%	3.90%	1.80%	3.72%	0.02%	1.06%	0.18%
Food & Beverage	0.68%	0.26%	0.19%	0.00%	0.27%	0.00%	0.86%	1.53%	0.17%	0.98%	0.23%	0.03%
Health Care	0.73%	0.01%	0.37%	0.18%	0.21%	0.00%	0.05%	1.54%	0.03%	0.15%	0.17%	0.82%
Industrial Goods & Services	0.86%	0.29%	0.29%	0.09%	0.39%	0.35%	1.41%	1.53%	1.13%	1.47%	0.92%	0.13%
Insurance	0.63%	0.00%	0.34%	0.00%	0.10%	0.00%	1.43%	7.22%	0.70%	1.46%	1.11%	0.48%
Media	0.28%	4.27%	0.34%	0.17%	0.64%	0.27%	5.16%	5.55%	1.88%	3.28%	0.50%	0.12%
Oil & Gas	0.28%	0.00%	0.01%	0.00%	0.01%	0.00%	0.87%	43.37%	4.78%	3.00%	1.94%	1.76%
Personal & Household Goods	0.01%	0.02%	0.17%	0.08%	0.03%	1.26%	1.04%	1.06%	0.23%	1.06%	0.72%	0.85%
Real Estate	32.52%	0.00%	21.98%	23.66%	30.81%	1.24%	13.09%	68.03%	10.00%	0.86%	2.33%	0.00%
Retail	0.52%	0.01%	0.36%	0.07%	0.75%	1.55%	2.83%	9.75%	2.22%	3.35%	0.69%	1.96%
Technology	0.33%	0.11%	0.07%	1.13%	0.04%	1.60%	9.33%	6.60%	2.77%	0.74%	0.07%	0.01%
Telecommunications	14.69%	0.00%	9.06%	0.00%	0.27%	26.51%	3.58%	1.02%	2.87%	0.00%	3.81%	0.00%
Travel & Leisure	2.18%	0.00%	2.88%	0.00%	0.43%	0.00%	1.12%	19.82%	1.70%	0.87%	0.59%	0.02%
Utilities	1.32%	2.88%	0.51%	1.76%	0.06%	0.00%	3.20%	0.22%	0.02%	1.06%	1.37%	3.26%

PPE Impairment/(PPE+PPE Impairment)–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	0.66%	0.00%	0.42%	0.01%	0.47%	0.00%	0.69%	15.93%	0.51%	2.21%	0.54%	0.00%
Banks	0.23%	0.10%	0.08%	0.00%	0.10%	0.73%	1.03%	0.21%	1.04%	0.08%	1.28%	0.00%
Basic Resources	0.64%	0.32%	0.72%	2.72%	0.60%	0.00%	1.49%	10.89%	3.25%	0.10%	0.68%	0.01%
Chemicals	0.66%	0.12%	1.09%	0.14%	0.73%	0.34%	0.85%	0.02%	0.68%	0.31%	0.72%	0.01%
Construction & Materials	0.12%	0.01%	0.12%	0.07%	0.12%	0.00%	0.40%	0.00%	0.69%	0.00%	1.34%	0.00%
Financial Services	1.36%	1.48%	2.33%	0.68%	0.47%	0.61%	2.47%	0.82%	0.26%	0.81%	0.11%	0.36%
Food & Beverage	1.49%	0.87%	0.56%	1.11%	0.55%	0.49%	0.65%	1.66%	1.28%	0.30%	0.64%	0.09%
Health Care	2.27%	0.53%	0.91%	0.67%	0.68%	0.81%	0.72%	2.17%	2.43%	0.48%	1.16%	0.69%
Industrial Goods & Services	0.47%	0.05%	0.52%	0.02%	0.68%	0.03%	0.46%	1.19%	0.80%	0.12%	0.55%	0.04%
Insurance	0.35%	0.45%	0.11%	0.28%	0.26%	0.16%	0.97%	1.59%	1.80%	2.42%	2.01%	1.97%
Media	0.90%	3.43%	1.46%	0.31%	0.56%	0.04%	0.73%	11.90%	1.47%	0.64%	0.31%	0.23%
Oil & Gas	0.41%	0.23%	0.26%	0.27%	0.62%	0.95%	0.90%	2.63%	1.42%	3.18%	1.28%	0.71%
Personal & Household Goods	1.10%	0.81%	0.94%	0.78%	1.14%	0.34%	0.74%	1.61%	0.92%	1.59%	0.58%	0.38%
Real Estate	0.02%	0.03%	0.02%	0.09%	0.01%	0.10%	0.26%	1.00%	0.06%	0.60%	0.00%	0.12%
Retail	0.27%	0.22%	0.34%	0.08%	0.30%	0.05%	0.72%	0.22%	0.87%	0.16%	0.66%	0.13%
Technology	0.66%	0.13%	2.65%	0.50%	2.44%	0.86%	4.26%	0.85%	0.51%	0.31%	0.29%	0.16%
Telecommunications	0.57%	0.15%	0.23%	0.03%	0.27%	0.00%	0.14%	0.01%	1.32%	0.07%	3.57%	0.10%
Travel & Leisure	0.27%	0.11%	0.10%	0.35%	0.17%	2.38%	0.52%	0.18%	0.63%	0.57%	0.42%	0.32%
Utilities	0.17%	0.09%	0.19%	0.23%	0.11%	0.21%	0.09%	0.07%	0.17%	0.23%	0.66%	0.29%

Goodwill/Book Value–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	7.93%	38.53%	7.85%	146.36%	9.56%	38.07%	7.32%	-340.12%	17.72%	110.90%	8.42%	48.77%
Banks	22.65%	35.63%	22.77%	36.44%	27.81%	40.29%	26.77%	30.24%	20.68%	27.62%	19.45%	25.05%
Basic Resources	8.18%	32.20%	12.55%	25.14%	20.64%	25.24%	20.45%	20.52%	16.63%	17.98%	13.92%	16.25%
Chemicals	24.46%	26.04%	36.09%	25.56%	33.47%	26.24%	40.46%	36.71%	38.03%	48.23%	35.78%	46.03%
Construction & Materials	49.94%	54.92%	62.83%	52.23%	71.87%	67.82%	73.32%	63.29%	62.41%	56.32%	60.33%	56.11%
Financial Services	12.34%	20.56%	18.23%	27.21%	19.48%	32.84%	23.22%	28.98%	20.51%	30.61%	23.73%	29.13%
Food & Beverage	75.25%	55.17%	70.79%	58.91%	73.10%	61.14%	92.92%	68.92%	85.29%	60.66%	73.75%	64.26%
Health Care	36.60%	40.34%	39.97%	45.46%	43.29%	48.78%	45.78%	51.73%	49.64%	47.56%	55.92%	49.25%
Industrial Goods & Services	55.70%	58.15%	53.64%	61.11%	54.63%	61.68%	59.40%	74.08%	57.93%	63.48%	57.95%	60.91%
Insurance	18.27%	16.57%	18.12%	17.54%	18.34%	17.04%	22.73%	19.46%	21.05%	16.71%	19.47%	18.32%
Media	93.30%	59.78%	95.77%	62.65%	88.29%	64.97%	106.70%	72.85%	112.52%	74.29%	106.52%	72.68%
Oil & Gas	8.15%	11.73%	8.06%	14.13%	8.06%	12.66%	7.60%	7.28%	7.78%	7.41%	7.29%	8.59%
Personal & Household Goods	44.49%	63.81%	40.91%	65.69%	41.96%	60.94%	61.18%	69.81%	57.31%	74.46%	53.02%	76.20%
Real Estate	1.47%	6.36%	1.44%	4.21%	1.87%	4.08%	1.47%	0.63%	1.20%	0.54%	1.34%	0.59%
Retail	47.56%	21.99%	44.54%	26.40%	48.62%	32.78%	47.57%	31.05%	45.22%	28.39%	41.40%	27.20%
Technology	26.64%	24.01%	34.73%	29.49%	33.73%	34.27%	49.35%	39.94%	49.14%	37.38%	50.24%	35.38%
Telecommunications	71.65%	18.51%	76.35%	49.21%	79.29%	43.25%	83.45%	52.52%	79.71%	62.54%	75.41%	61.37%
Travel & Leisure	35.74%	27.97%	43.41%	29.30%	48.84%	31.72%	57.67%	29.42%	51.38%	26.29%	44.53%	24.61%
Utilities	33.26%	20.14%	30.62%	21.17%	40.91%	18.89%	39.62%	17.90%	42.24%	15.86%	36.21%	14.96%

Goodwill/Total Assets–Industry Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Automobiles & Parts	1.64%	3.00%	1.70%	3.76%	2.40%	2.56%	1.69%	3.11%	3.12%	2.93%	2.14%	3.28%
Banks	0.84%	3.01%	0.87%	3.09%	1.03%	3.09%	0.85%	2.58%	0.92%	2.59%	0.91%	2.40%
Basic Resources	3.62%	11.82%	5.64%	9.86%	8.76%	10.09%	8.50%	6.36%	7.91%	6.41%	7.00%	6.20%
Chemicals	8.70%	9.02%	12.34%	9.51%	12.96%	10.08%	14.34%	10.63%	14.09%	14.62%	14.15%	14.64%
Construction & Materials	13.64%	23.08%	14.04%	21.40%	15.23%	28.86%	14.59%	26.23%	15.95%	25.36%	16.79%	24.27%
Financial Services	1.37%	1.26%	2.83%	1.86%	2.70%	2.36%	4.10%	3.05%	3.23%	3.38%	3.32%	3.23%
Food & Beverage	27.09%	22.35%	27.68%	23.73%	28.65%	23.89%	30.06%	23.52%	30.44%	23.20%	29.38%	24.22%
Health Care	18.21%	18.98%	20.49%	21.22%	21.71%	21.91%	22.41%	22.64%	21.50%	21.74%	24.41%	22.55%
Industrial Goods & Services	13.51%	15.79%	12.75%	16.59%	13.05%	15.84%	12.81%	16.26%	16.29%	15.68%	16.43%	15.74%
Insurance	0.73%	1.93%	0.78%	2.07%	0.84%	2.01%	1.06%	2.23%	1.08%	2.11%	1.05%	2.46%
Media	31.01%	26.66%	30.06%	26.33%	31.20%	26.78%	36.37%	25.87%	34.70%	27.43%	34.32%	26.69%
Oil & Gas	3.28%	5.43%	3.32%	6.62%	3.29%	6.04%	3.09%	3.48%	3.26%	3.55%	2.90%	4.22%
Personal & Household Goods	17.36%	23.11%	16.71%	28.19%	17.76%	25.95%	22.55%	25.77%	22.48%	27.04%	21.91%	27.68%
Real Estate	0.65%	2.27%	0.68%	1.51%	0.88%	1.40%	0.58%	0.21%	0.53%	0.21%	0.61%	0.23%
Retail	14.91%	9.68%	15.82%	11.26%	15.86%	13.38%	14.87%	12.43%	15.22%	11.91%	14.50%	11.13%
Technology	12.37%	13.36%	16.48%	15.55%	15.15%	17.09%	19.30%	18.34%	20.58%	18.23%	20.89%	18.09%
Telecommunications	26.45%	6.64%	26.85%	19.05%	28.24%	15.36%	27.53%	15.61%	26.44%	18.40%	26.28%	19.06%
Travel & Leisure	11.34%	13.92%	13.10%	14.18%	15.00%	13.58%	15.95%	11.13%	15.27%	11.04%	14.54%	10.65%
Utilities	7.44%	4.93%	7.39%	5.62%	10.05%	5.06%	8.74%	4.53%	9.63%	4.36%	8.92%	4.17%

Source: FactSet; FactSet Fundamentals

Weighted Average – Country

Goodwill Impairment/(Goodwill+Goodwill Impairment)–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	0.50%	0.68%	0.59%	0.32%	1.01%	2.44%	5.94%	5.57%	4.43%	1.25%	0.66%	1.13%
Belgium	0.10%	0.68%	0.04%	0.32%	0.06%	2.44%	0.07%	5.57%	0.97%	1.25%	0.21%	1.13%
Denmark	1.51%	0.68%	0.55%	0.32%	1.40%	2.44%	3.67%	5.57%	2.55%	1.25%	0.27%	1.13%
Finland	0.67%	0.68%	0.26%	0.32%	4.20%	2.44%	3.84%	5.57%	6.20%	1.25%	0.21%	1.13%
France	0.24%	0.68%	1.29%	0.32%	0.25%	2.44%	1.64%	5.57%	0.88%	1.25%	0.62%	1.13%
Germany	2.69%	0.68%	0.52%	0.32%	0.37%	2.44%	2.87%	5.57%	2.50%	1.25%	1.37%	1.13%
Great Britain	9.96%	0.68%	5.65%	0.32%	0.41%	2.44%	16.19%	5.57%	2.03%	1.25%	2.64%	1.13%
Greece	0.33%	0.68%	0.00%	0.32%	0.08%	2.44%	0.01%	5.57%	0.07%	1.25%	0.22%	1.13%
Italy	0.11%	0.68%	0.45%	0.32%	0.22%	2.44%	1.64%	5.57%	0.00%	1.25%	0.57%	1.13%
Netherlands	0.60%	0.68%	0.45%	0.32%	0.54%	2.44%	2.87%	5.57%	1.00%	1.25%	1.12%	1.13%
Norway	0.31%	0.68%	2.41%	0.32%	0.72%	2.44%	2.37%	5.57%	4.03%	1.25%	0.93%	1.13%
Portugal	0.00%	0.68%	0.13%	0.32%	0.00%	2.44%	0.21%	5.57%	0.00%	1.25%	2.18%	1.13%
Spain	0.02%	0.68%	0.20%	0.32%	0.77%	2.44%	0.10%	5.57%	1.32%	1.25%	0.05%	1.13%
Sweden	0.14%	0.68%	1.93%	0.32%	0.65%	2.44%	0.78%	5.57%	2.02%	1.25%	0.07%	1.13%
Switzerland	0.53%	0.68%	0.15%	0.32%	0.34%	2.44%	1.06%	5.57%	1.17%	1.25%	0.35%	1.13%

PPE Impairment/(PPE+PPE Impairment)–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	0.45%	0.37%	0.38%	0.31%	0.45%	0.43%	1.56%	1.99%	0.95%	1.03%	0.84%	0.39%
Belgium	0.51%	0.37%	0.40%	0.31%	0.57%	0.43%	0.25%	1.99%	0.58%	1.03%	1.38%	0.39%
Denmark	0.55%	0.37%	0.31%	0.31%	0.72%	0.43%	0.65%	1.99%	0.95%	1.03%	1.32%	0.39%
Finland	1.45%	0.37%	1.08%	0.31%	1.91%	0.43%	2.07%	1.99%	1.74%	1.03%	0.17%	0.39%
France	0.60%	0.37%	0.32%	0.31%	0.28%	0.43%	0.40%	1.99%	0.54%	1.03%	0.95%	0.39%
Germany	0.55%	0.37%	0.66%	0.31%	0.55%	0.43%	0.57%	1.99%	0.74%	1.03%	0.64%	0.39%
Great Britain	0.32%	0.37%	0.24%	0.31%	0.37%	0.43%	0.71%	1.99%	1.91%	1.03%	1.78%	0.39%
Greece	0.05%	0.37%	0.04%	0.31%	0.00%	0.43%	0.00%	1.99%	0.05%	1.03%	0.05%	0.39%
Italy	0.23%	0.37%	0.27%	0.31%	0.20%	0.43%	1.20%	1.99%	0.45%	1.03%	0.30%	0.39%
Netherlands	0.81%	0.37%	0.30%	0.31%	0.37%	0.43%	0.49%	1.99%	1.43%	1.03%	0.85%	0.39%
Norway	1.03%	0.37%	1.46%	0.31%	0.41%	0.43%	1.39%	1.99%	1.64%	1.03%	1.00%	0.39%
Portugal	0.03%	0.37%	0.00%	0.31%	0.02%	0.43%	0.00%	1.99%	0.24%	1.03%	0.36%	0.39%
Spain	0.12%	0.37%	0.04%	0.31%	0.02%	0.43%	0.18%	1.99%	0.36%	1.03%	0.72%	0.39%
Sweden	0.75%	0.37%	0.28%	0.31%	1.18%	0.43%	0.17%	1.99%	1.05%	1.03%	0.46%	0.39%
Switzerland	0.58%	0.37%	0.46%	0.31%	0.44%	0.43%	0.63%	1.99%	1.12%	1.03%	0.32%	0.39%

Goodwill/Book Value–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	15.20%	32.31%	18.79%	36.30%	20.82%	36.98%	25.59%	36.95%	22.70%	35.02%	21.25%	33.88%
Belgium	23.40%	32.31%	25.59%	36.30%	25.05%	36.98%	63.20%	36.95%	51.49%	35.02%	51.66%	33.88%
Denmark	20.15%	32.31%	12.89%	36.30%	17.76%	36.98%	22.09%	36.95%	21.02%	35.02%	22.09%	33.88%
Finland	16.91%	32.31%	17.00%	36.30%	15.24%	36.98%	23.76%	36.95%	22.91%	35.02%	22.36%	33.88%
France	47.14%	32.31%	44.26%	36.30%	44.95%	36.98%	48.11%	36.95%	45.69%	35.02%	43.44%	33.88%
Germany	30.76%	32.31%	33.10%	36.30%	34.95%	36.98%	38.41%	36.95%	39.58%	35.02%	36.46%	33.88%
Great Britain	35.16%	32.31%	32.23%	36.30%	37.55%	36.98%	38.02%	36.95%	30.61%	35.02%	27.04%	33.88%
Greece	9.13%	32.31%	18.64%	36.30%	20.17%	36.98%	20.40%	36.95%	16.63%	35.02%	14.94%	33.88%
Italy	34.95%	32.31%	38.06%	36.30%	48.90%	36.98%	48.32%	36.95%	44.37%	35.02%	41.04%	33.88%
Netherlands	29.36%	32.31%	27.32%	36.30%	26.94%	36.98%	38.75%	36.95%	36.77%	35.02%	32.85%	33.88%
Norway	12.01%	32.31%	15.36%	36.30%	14.70%	36.98%	14.45%	36.95%	13.55%	35.02%	11.21 %	33.88%
Portugal	26.11%	32.31%	24.70%	36.30%	24.42%	36.98%	29.08%	36.95%	25.64%	35.02%	18.01%	33.88%
Spain	28.03%	32.31%	36.34%	36.30%	36.63%	36.98%	32.84%	36.95%	34.38%	35.02%	36.18%	33.88%
Sweden	23.03%	32.31%	20.69%	36.30%	26.30%	36.98%	28.03%	36.95%	25.93%	35.02%	25.57%	33.88%
Switzerland	26.67%	32.31%	27.43%	36.30%	28.70%	36.98%	30.00%	36.95%	29.13%	35.02%	31.13%	33.88%

Goodwill/Total Assets–Country Breakdown												
	2005		2006		2007		2008		2009		2010	
	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500	STOXX 600	S&P 500
Austria	1.65%	6.56%	2.55%	7.40%	2.72%	7.20%	2.60%	6.86%	2.68%	7.09%	2.51%	7.12%
Belgium	1.22%	6.56%	1.57%	7.40%	1.61%	7.20%	4.21%	6.86%	4.57%	7.09%	4.80%	7.12%
Denmark	2.18%	6.56%	1.19%	7.40%	1.49%	7.20%	2.00%	6.86%	2.15%	7.09%	2.47%	7.12%
Finland	6.01%	6.56%	5.47%	7.40%	5.60%	7.20%	7.80%	6.86%	7.47%	7.09%	7.35%	7.12%
France	4.71%	6.56%	4.36%	7.40%	4.36%	7.20%	4.31%	6.86%	4.54%	7.09%	4.58%	7.12%
Germany	2.75%	6.56%	3.15%	7.40%	3.02%	7.20%	3.08%	6.86%	3.94%	7.09%	4.08%	7.12%
Great Britain	3.79%	6.56%	3.36%	7.40%	3.51%	7.20%	3.21%	6.86%	3.23%	7.09%	3.11%	7.12%
Greece	0.89%	6.56%	1.94%	7.40%	2.12%	7.20%	1.63%	6.86%	1.53%	7.09%	1.41%	7.12%
Italy	3.10%	6.56%	3.69%	7.40%	4.91%	7.20%	4.67%	6.86%	4.67%	7.09%	4.52%	7.12%
Netherlands	1.69%	6.56%	1.86%	7.40%	2.46%	7.20%	3.29%	6.86%	3.54%	7.09%	3.48%	7.12%
Norway	2.24%	6.56%	2.98%	7.40%	2.67%	7.20%	2.42%	6.86%	2.40%	7.09%	2.14 %	7.12%
Portugal	2.22%	6.56%	2.38%	7.40%	2.34%	7.20%	2.87%	6.86%	3.20%	7.09%	2.43%	7.12%
Spain	2.67%	6.56%	3.51%	7.40%	3.64%	7.20%	3.24%	6.86%	3.60%	7.09%	3.85%	7.12%
Sweden	2.90%	6.56%	2.70%	7.40%	3.13%	7.20%	2.79%	6.86%	2.91%	7.09%	3.06%	7.12%
Switzerland	2.05%	6.56%	2.19%	7.40%	2.41%	7.20%	2.59%	6.86%	3.02%	7.09%	3.39%	7.12%

Source: FactSet; FactSet Fundamentals

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