

Company capital management: Safeguarding financial resilience for sustainability.

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Company capital management: Safeguarding financial resilience for sustainability

1. Executive summary

This report is about company capital management of large companies in Europe and the US and it draws upon data from the EuroStoxx 600 and S&P 500 constituent lists. These companies have been exposed to shareholder value and financialization in recent decades. These latter phenomena are about how corporate governance and the regulatory framework surrounding business have been prioritising the interests of shareholder investors and value extraction from companies. This process of financialization and shareholder value maximisation can undermine the loss-absorbing capacity of shareholder equity reserves and weaken balance sheet resilience against insolvency. Consequently, companies become financially fragile and cannot sustain their stakeholder, social and environmental commitments and obligations. This situation may then undermine corporate sustainability and corporate social responsibility.

Section 2 of this report draws upon the existing literature to frame an understanding of the financialized company submitted to the shareholder value diktat. Financialized companies are increasingly embedded in complex financial market relations that: (a) intensify the pressure to extract value for shareholder-investors and (b) inform the *modus operandi* of financial reporting and specifically the use of market value and fair value accounting (FVA). In combination, these two elements threaten balance sheet solvency because shareholder equity reserves, that provide a loss-absorbing cushion, are being hollowed out through (excess) distributions to shareholders. Distributions include dividends and share buybacks. As a consequence, net flows between companies and shareholder investors turned to be and remained negative since the eighties most of the year. The traditional role of shareholders as providers of indefinitely-lasting funds for companies has therefore been reverted.

Section 3 reviews the pattern of distributions to shareholders in the EuroStoxx 600 group of companies and US S&P 500 constituent index of companies. First, our analysis establishes the extent to which distributions are being extracted at the expense of sustaining stronger shareholder equity reserves. Second, the analysis considers the extent to which companies in Europe and the US are accumulating current asset valuation risks which, if impaired, could further overwhelm depleted shareholder equity reserves and undermine company resilience and sustainability. In particular, our analysis specifically focuses on the accumulation of goodwill which accounts for the difference between the book value of a company acquired and its acquisition value. Goodwill is therefore a by-product of business combinations, that is, mergers and acquisitions. US, EU and International accounting regulations treat goodwill as an accumulating intangible asset the value of which is periodically tested for impairment rather than amortised as an expense against earnings and hence shareholder equity reserves. Goodwill is allowed to accumulate but the risk is then

that goodwill impairments could compromise shareholder equity reserves and company resilience in a significant number of companies listed on the Eurostoxx600 and S&P 500. This situation may undermine the company capacity to cope with its stakeholder, social and environmental commitments and obligations through time, undermining corporate sustainability.

A final section of this report considers a number of company case studies which are investigated to provide a micro-level insight and a level of analytical detail that is not possible from macro datasets. These case studies reveal various ways in which shareholder equity reserves can be hollowed out and how large lump-sum goodwill impairments can suddenly undermine company balance sheet resilience and corporate sustainability.

2. The financialized company

The term ‘financialization’¹ is a broad organising concept employed to describe how shareholder-investor interests dominate the stewardship and governance of corporate resources. Shareholders are entitled to a share of the residual earnings of a company and this is paid out as a dividend, subject to company board approval, on the basis of shareholding. In addition, companies increasingly pay back share capital through share buyback programs, which reimburse previously committed share equity capital to shareholders. Financialisation - favouring distributions to shareholders - is an evident reflection of the shareholder primacy doctrine of corporate governance and financial management. This doctrine has developed in the Anglo-American law context, and ‘conquered’ EU Company Law after the UK entered the EU. When this doctrine stepped in, German influence diminished, and UK influence came to the forefront.² Under this doctrine, the maximization of shareholder value was put forward as the central purpose of the company³.

Financialization manifests as the dominance of shareholder interests and how this impacts upon asset value extraction by shareholders from the companies because ‘dividend pay-out ratios almost never fall.’⁴

¹ Financialization captures the complex relation between financial market institutions and companies: Özgür Orhangazi, *Financialization and the US Economy*, Edward Elgar Publishers, UK 2008; Greta Krippner *The financialization of the American economy*. *Socio-Economic Review* 3. 173-207, 2005; Lazonick, B *The Financialization of the U.S. Corporation: What Has Been Lost, and How It Can Be Regained*. *Seattle University Law Review*. 36, 857-909 (2013); James Perry & Andreas Nölke, *The political economy of International Accounting Standards*. *Review of International Political Economy*, 13, 559-586, 2006.

² Martin Gelter, EU Company Law Harmonization between Convergence and Varieties of Capitalism. *Research Handbook on the History of Corporation and Company Law* by Harwell Wells, ed (2018).

³ H. Hansmann & R. Kraakman (2001) ‘The end of history for corporate law,’ in Gordon, J. and Roe, M.J. (eds.) (2004) *Convergence and Persistence in Corporate Governance* (Cambridge: Cambridge University Press).

⁴ Andrew Haldane, Who owns a company? Speech given Andrew Haldane, Chief Economist, Bank of England, 2015. <https://www.bis.org/review/r150811a.pdf> (accessed 29 Jan 2020)

Shareholder-investor interests have also impacted upon financial reporting regulation reforms, which have involved a shift from historic cost accounting (HCA) to fair value accounting (FVA). This reorientation of accounting standards was justified because of the provision of decision useful information to shareholder investors. The orientation of financial reporting away from Historical Cost Accounting (HCA) towards Fair Value Accounting (FVA) was welcomed by European Commission as a way to modernise EU accounting rules (European Commission, 2001) towards promoting capital market integration. This change of accounting to FVA is not without side effects. Profits realised from normal commercial business can now be mingled together with unrealised earnings from changes to the current value of assets, inflating the funds available for distributions to shareholders⁵. Section 2.2 shall deal with this reorientation in financial reporting.

However, financialisation and shareholder value are increasingly seen as undermining a company's commitment to sustainable and socially responsible activity⁶. The emergent concern with corporate social responsibilities, corporate sustainable development and environmental protection is therefore connected to that of ensuring the company as a going concern capable to fulfilling its obligations through time and circumstances⁷. This capacity to maintain a going concern is directly connected to company capital management, including safeguarding shareholder equity reserves.

Accounting for assets to a putative current value is always going to be a speculative process because these valuations depend upon assumptions and expectations about future cash flows yet to be earned. This accounting model based upon current values (so-called fair values) permits companies to value a range of asset classes to their current market value where gains (or losses) are charged to a company's earnings and/or shareholder equity. This means that a company's equity reserves now comingle realised earnings from the sale of goods and services in the normal course of commercial business, with unrealised earnings (or losses) from changes in the speculative current value of assets. Therefore, shareholder equity - as disclosed in annual reports, and possibly available for distributions to shareholders - contains both realised and unrealised earnings. Insofar as current distributions to shareholders are concerned, these may be made out of future earnings yet to be effectively realised, increasing the risk to a company's sustainability if these earnings are eventually not realised. In fact, a company made financially fragile by such distributions may become unable to realise those future earnings in the future, since

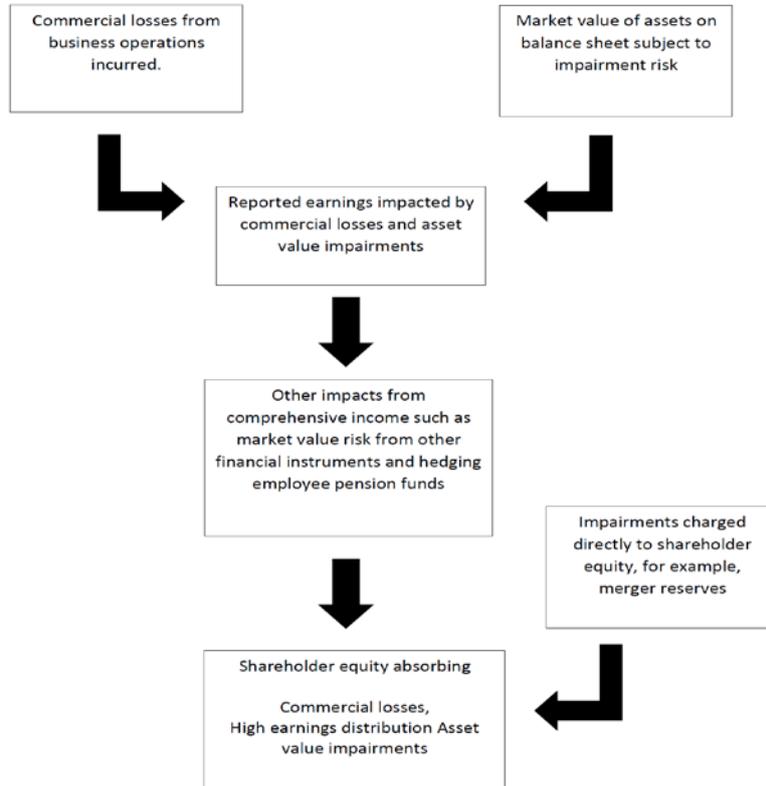
⁵ Mustafa Erdem Sakinç finds that in 2015 for 298 companies listed continuously in the S&P Europe 350 distributions to shareholders out of net income that exceeded an average of 100%. Academic-Industry Research Network working paper (accessed 29 Jan. 2020) http://www.isigrowth.eu/wp-content/uploads/2017/06/working_paper_2017_16.pdf

⁶ Beate Sjaafjell, B. & B.J. Richardson eds., *Company Law and Sustainability. Legal Barriers and Opportunities*. Cambridge University Press (2015).

⁷ Yuri Biondi, *Better Accounting for Corporate Shareholding and Environmental Protection*. *European Company Law*, Volume 11, Issue 2 (2014). DOI: <http://dx.doi.org/10.2139/ssrn.2471519>

distributions weakened its resilience and its capacity to cope with business, stakeholder, social and environmental commitments and obligations.

Figure 1: Maintaining shareholder equity in the financialized company



Source: Authors

In figure 1 we summarise the nature of financial pressures that can operate to undermine the safeguarding function of shareholder equity. This shareholder equity reported in a company’s financial statements includes: original and additional paid in capital from shareholders; retained earnings which have not been distributed; and revaluation and merger reserves. Shareholder equity provides a loss-absorbing cushion against commercial losses from a company’s normal course of business. However, in the financialized company, shareholder equity must also provide an effective loss-absorbing cushion from impairments to current asset valuations. In summary, in the financialized company, the loss-absorbing capacity of shareholder equity is being hollowed out due to distributions. This situation reduces the capacity to absorb losses that arise from normal commercial operations but also the increasing probability of impairments to current asset values reported on corporate balance sheets.

2.2 The financialized company and fair value accounting (FVA)

The reorientation in financial reporting from HCA to FVA was justified because it would enhance transparency and improve the quality of information disclosed to investors thereby influencing capital allocation decisions and reducing the cost of capital (risk). The US Chartered Financial Analysts (CFA) institute has observed that: 'fair value measures are most relevant because they reflect the reality upon which the economic world operates: transactions take place at fair value' (CFA, 2010)⁸. The European Commission welcomed the adoption of FVA on 31 May 2001 (European Commission, 2001)⁹.

Under a pure Historical Cost Accounting, a company balance sheet contains assets that have a service potential and are progressively depreciated by their use. Under a pure Fair Value Accounting Model, assets are valued on the basis of their 'current value'. Assets valued at current values tend to be more volatile precisely because they are valued in terms of their 'liquidation' in volatile capital markets rather than prudently depreciated to recognise a progressive loss of value 'in use'.

Under Fair Value Accounting, companies are allowed or required to update accounting values of assets (and liabilities) to their current values. In this regard FVA favours the recalibration of asset values informed by on-going changes to market values or, in the absence of market values, estimations of them through models and expert evaluations.

In Europe International Financial Reporting Standard (IFRS 13) and in the United States Financial Accounting Standard (FAS 157) are the cornerstone accounting standards that outline the principles and techniques governing FVA. Both IFRS 13 and FAS157 employ a fair value hierarchy that prioritizes the inputs that should be used to construct the fair (current) value of an asset. Level one input's are based on observable market data, level two inputs are those other than quoted market data and level three valuations are where the reporting entity can employ judgements and modelling. These judgements are based on best estimates about the behaviour of market participants and how they would price the asset or liability, specifically assumptions about future cash flows and cost of capital employed to discount expected cash flows.

Level 1 inputs

Level 1 inputs are quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date. [IFRS 13:76]

⁸ https://www.cfainstitute.org/ethics/Documents/fair_value_as_measurement_basis.pdf

⁹ https://ec.europa.eu/commission/presscorner/detail/en/IP_01_770

A quoted market price in an active market provides the most reliable evidence of fair value and is used without adjustment to measure fair value whenever available, with limited exceptions. [IFRS 13:77]

Level 2 inputs

Level 2 inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. [IFRS 13:81]

Level 2 inputs include:

Quoted prices for similar assets or liabilities in active markets
quoted prices for identical or similar assets or liabilities in markets that are not active

Level 3 inputs

Level 3 inputs are unobservable inputs for the asset or liability. [IFRS 13:86]

Unobservable inputs are used to measure fair value to the extent that relevant observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. An entity develops unobservable inputs using the best information available in the circumstances, which might include the entity's own data, taking into account all information about market participant assumptions that is reasonably available. [IFRS 13:87-89]

<https://www.iasplus.com/en/standards/ifrs/ifrs13>

The overriding justification for adoption of FVA by the FASB and IASB was that of providing shareholder –investors with decision useful information which would enhance information transparency, reduce risk, promote capital market efficiency and lower the cost of capital.

The objective of general purpose financial reporting is to provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity. To meet that objective, the IASB seeks to ensure that an IFRS will meet a significant need and that the overall benefits of the resulting information justify the costs of providing it. Although the costs to implement a new standard might not be borne evenly, users of financial statements benefit from improvements in financial reporting, thereby facilitating the functioning of markets for capital and credit and the efficient allocation of resources in the economy.....

The disclosures about fair value measurements would increase transparency and improve the quality of information provided to users of financial statements.

https://library.croneri.co.uk/cch_uk/iast/ifrs13-basis-201105#toc-1

The progressive shift from HCA to FVA financial reporting employed arguments about increased information transparency for shareholder-investors and how this, in turn, would promote decision useful capital allocations and lower the cost of capital.

There are two issues arising out of the re-orientation towards FVA and these are:

- (a) Revaluation of asset values reported on balance sheet to a current value is speculative in nature because all current valuations depend upon future estimates of cash flows discounted back in time to generate a current estimation and;
- (b) Current asset valuations can become impaired and these losses will need to be absorbed by shareholder equity reserves. If these reserves are insufficient, then a company can suddenly become insolvent.

In the financialized company, the composition of assets has tilted progressively towards those valued at current values rather than at their values in use. The following section will focus on one intangible asset class: 'goodwill' that accounts for the difference between the paid consideration and the revaluated book value of acquisitions. Under incumbent accounting regulations, goodwill is accumulated rather than amortised. This heightens impairment risk because there is always a possibility that the future cash flows underwriting the valuation of goodwill today may not be eventually realised in the future.

2.3. Financialized accounts and goodwill impairment risk

International Financial reporting Standard (IFRS 3) 'Business Combinations' outlines the accounting process required when an acquiring company obtains control of another business (e.g. an acquisition or merger). These business combinations are accounted for using the 'acquisition method', which requires assets acquired and liabilities to be measured at their fair values at the acquisition date¹⁰. The difference between the consideration paid for the acquisition and this fair value of net assets acquired is termed 'goodwill' and shown as an intangible asset on the acquiring

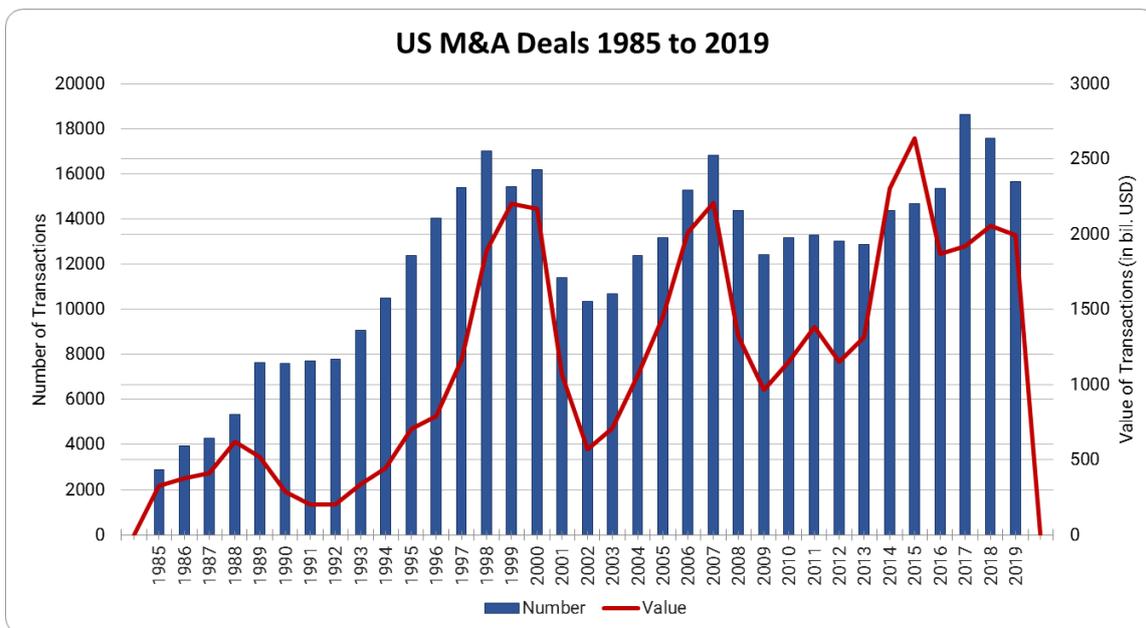
¹⁰ <https://www.iasplus.com/en/standards/ifrs/ifrs3>

company’s balance sheet. This goodwill accumulates each year, after acquisitions are made, and is subject to a periodic impairment test rather than amortised (expensed) over time as an operating expense.

In a nutshell, when an acquisition is performed, shareholders of the acquired company are paid out for releasing control over that company. This payment is not expensed in the income statement, but it is accumulated in various way on the balance sheet of the acquiring company, especially in the form of goodwill.¹¹

The drivers of accumulating goodwill on a company’s balance sheet are (a) the volume and value of acquisitions undertaken and (b) the market to book value ratio of acquired companies.

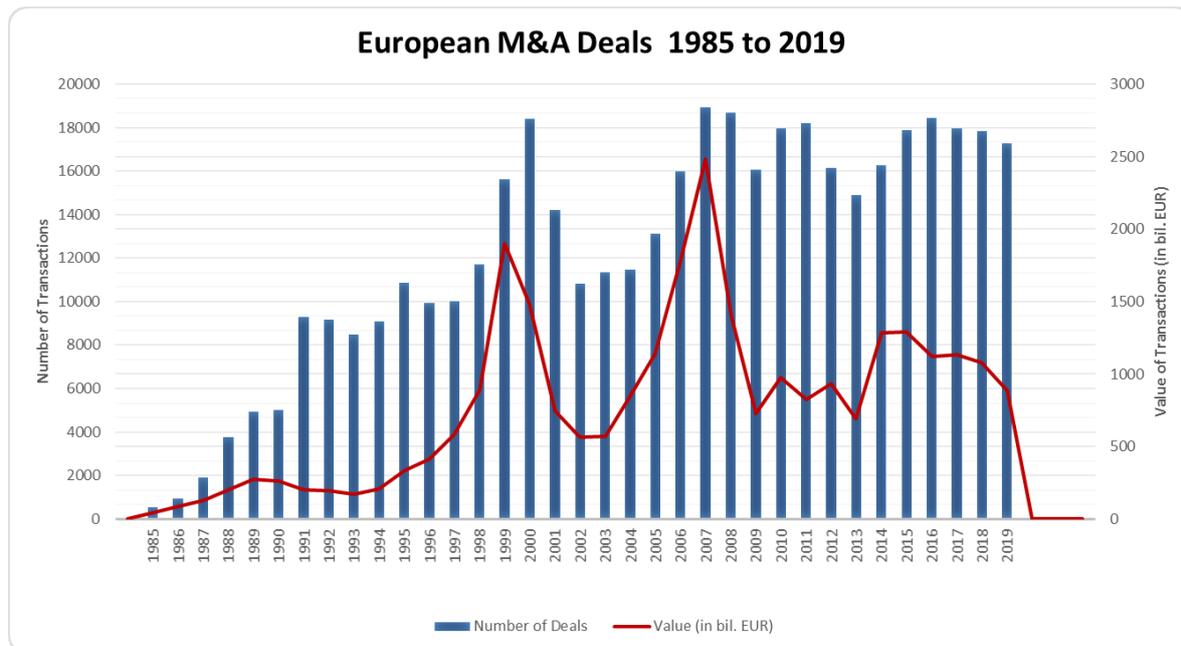
Figure 2: Mergers and acquisitions in North America 1985 to 2019



Source : <https://imaa-institute.org/mergers-and-acquisitions-statistics/>

Figure 3: Mergers and acquisitions in Europe 1985 to 2019

¹¹ For further analysis of accounting for business combinations, see Baker, Charles Richard and Biondi, Yuri and Zhang, Qiusheng, Should Merger Accounting be Reconsidered?: A Discussion Based on the Chinese Approach to Accounting for Business Combinations (November 17, 2008). Università degli Studi di Brescia Working Paper No. 91. Available at SSRN: <http://dx.doi.org/10.2139/ssrn.1303636>



Source: <https://imaa-institute.org/mergers-and-acquisitions-statistics/>

The above charts (figures 2 and 3) reveal that the volume and value of M&A deals in Europe and the US have increased, albeit cyclically, over the past three decades. In Europe M&A deals account for roughly €2.5 trillion per annum while the Eurostox 600 group of companies have now an accumulated outstanding goodwill balance of €2 trillion in 2018. This goodwill is subject to an annual impairment test and this involves establishing the extent to which the current carrying value of this goodwill is being sustained by expected future cash flows discounted back in time. Therefore the goodwill impairment test involves assessing (a) cash flow expectations and (b) the discount rate.

Cash flow projections should be based on reasonable and supportable assumptions, the most recent budgets and forecasts, and extrapolation for periods beyond budgeted projections. [IAS 36.33] IAS 36 presumes that budgets and forecasts should not go beyond five years; for periods after five years, extrapolate from the earlier budgets. [IAS 36.35] Management should assess the reasonableness of its assumptions by examining the causes of differences between past cash flow projections and actual cash flows. [IAS 36.34]

<https://www.iasplus.com/en/standards/ias/ias36>

In measuring value in use, the discount rate used should be the pre-tax rate that reflects current market assessments of the time value of money and the risks specific to the asset. [IAS 36.55]

<https://www.iasplus.com/en/standards/ias/ias36>

Assumptions about future cash flows can change and fall below levels that are expected and also the discount rate (company cost of capital) can increase if the

cost of a company's equity increases or the cost of its debt financing. Relatively small adverse changes in expected cash flows and inflated discount rates can undermine the value of goodwill recorded on company balance sheet. If goodwill is impaired, this impairment loss is charged to the income statement and then also against retained earnings in shareholder equity.

There has been considerable debate with accounting regulators (IASB and FASB) about whether to accumulate goodwill and then test for impairment or alternatively amortize the goodwill over a period of time charging the reduction in goodwill against earnings and hence shareholder equity reserves. The current position of the European Financial Reporting Advisory Group (EFRAG) is that, whilst the impairment of goodwill model should be maintained, although the process is complex and that impairment tests can be manipulated by managers (for example to smooth reported earnings and their bonuses).

In its analysis, the IASB staff concluded that neither the impairment-only model nor the amortisation approach produces a perfect answer and stakeholder preferences will depend on which arguments they give more weight to. For instance, some will argue that the impairment-only model risks mislabelling consumption as impairment losses; while others will argue that amortisation risks pre-empting impairment losses and mislabelling them as consumption. Overall, the IASB staff concluded that a desire to reduce the carrying amount of goodwill is not strong enough to reintroduce amortisation (EFRAG, 2019).¹²

In a recent call for evidence on goodwill and intangible asset accounting the FASB is considering the possibility of amortizing goodwill as an accounting option. The CFAs response to the FASBs call for evidence is emphatic:

We believe the IASB and FASB must be resolute in the need for financial statements to provide economically relevant information. Delayed recognition of impairment is, in our view, the problem that needs to be addressed. We do not believe that amortization is the best response to this problem.

<https://www.cfainstitute.org/-/media/documents/comment-letter/2020-2024/20200113.ashx>

The CFA also notes in this memo that the rush to change the rules governing accounting for goodwill has been 'heavily driven by taking the opportunity presented

¹² <https://www.cfainstitute.org/-/media/documents/comment-letter/2020-2024/20200113.ashx><https://www.efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FMeeting%20Documents%2F1807131521489945%2F10-02%20-%20Issues%20paper%20-%20Goodwill%20and%20Impairment-%20Quantitative%20test%20and%20amortisation%20of%20goodwill%20-%20EFRAG%20TEG%2019-11-05.pdf>

by ...'high-profile write downs'. The CFA letter to the FASB¹³ argues that goodwill impairments could undermine the earnings reported by companies and that this would then have a negative impact on share markets.

Table 1: Impact on earnings for Goodwill amortisation (case ii) versus goodwill impairment (case i)

	Goodwill	Goodwill amortized at 10% per annum straight line	Case (i) Earnings with no goodwill amortization	Case (ii) Earnings with goodwill amortized at 10% amortization
	€	€	€	€
Opening balance	30000			
Year 1		3000	3000	0
Year 2		3000	3500	500
Year 3		3000	4000	1000
Year 4		3000	5000	2000
Total earnings			15500	3500

Source: Authors example

Table 1 illustrates this very point. If goodwill is amortised at say 10 percent per annum this would reduce reported earnings in years 1 to 4 below levels had the goodwill be subject to an impairment test and found to be recoverable and impairments not required.

Significantly the CFA further observes:

That 112, approximately 25%, of the 444 S&P 500 companies with goodwill (\$997 billion of goodwill and \$633 billion of equity) have negative equity if goodwill is netted against equity. Twenty companies have negative equity prior to the deduction of goodwill. The total negative equity amounts to \$364 billion.

Noting also that:

In 2018, asset impairment charges for all public companies were \$158 billion – up from \$108 billion in 2017 and \$104 billion in 2016 – due significantly to the \$23 billion impairment at GE.

<https://www.cfainstitute.org/-/media/documents/comment-letter/2020-2024/20200113.ashx>

The CFA makes the point that if goodwill were to be totally impaired in this group of companies they would become technically insolvent. In the CFA report *this is* the relevant point and the analysis of large European and US companies reinforces this observation about insolvency risk from goodwill impairments. In this report we argue that large group of financialized US and European companies are hollowing-out their equity reserves and loss absorbing capacity. These equity reserves must not only absorb commercial losses but also impairments to speculative asset values recorded on balance sheet. The CFA memo to the FASB draws attention to the prospect of large goodwill impairments and how these could suddenly undermine company financial stability. The example the CFA uses is that of General Electric (GE) which has recently made substantial goodwill impairments. In the CFA memo this observation is not framed within an understanding of the process of company financialization and how this has hollowed out GE's shareholder equity reserves.

Table 2: General Electric shareholder equity and goodwill impairments

	\$ bill 2018
Revenue	113.6
Costs and Expenses	135.6
of which \$22.1bn goodwill impairment	
Net earnings	-22.8
Paid in Capital	1.1
Other paid in capital	35.8
Comprehensive losses	-15.0
Retained earnings	93.1
Treasury Stock	-84.0
Total Equity	31.0
Current goodwill balance end 2018	59.6

Source:

<https://www.sec.gov/Archives/edgar/data/40545/000004054519000014/ge10-k2018.htm>

In its 2018 annual report GE reported an impairment of \$22.1bn from a goodwill balance of \$84bn reported in 2017. This goodwill impairment forced GE into a loss making position with net earnings reported as negative \$22.8bn in 2018. This impairment to goodwill is then carried forward into the shareholder equity reducing retained earnings reserves and the outstanding balance of total shareholder equity. Before this goodwill impairment GE's equity reserves had been progressively hollowed out because GE had already made substantial distributions to its shareholders especially in the form of share buybacks for treasury stock which

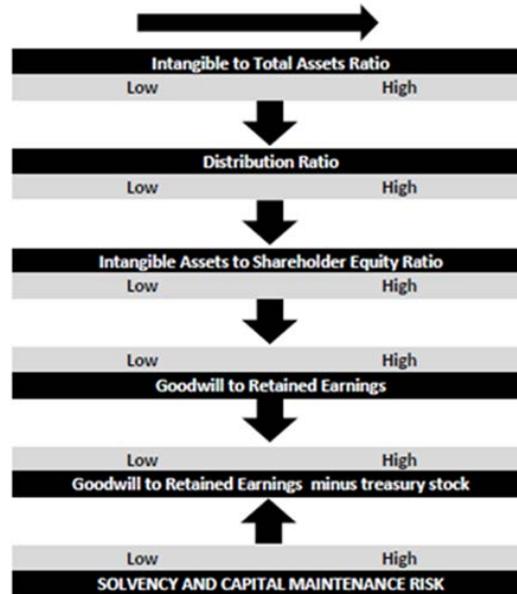
amounted to a total of \$84bn and in 2018 more or less equivalent distributing all of its retained earnings. In GE the combination of a goodwill write down and aggressive distributions to shareholders had reduced equity reserves to a level of \$31bn in 2018. In this same year the outstanding goodwill balance was roughly \$60bn and double the reserves held in shareholder equity and presenting a significant risk to financial sustainability.

3. The erosion of shareholder equity and goodwill risk exposure in European and US majors.

The analysis undertaken in this section of the report focuses on European and US major companies and draws upon evidence from the FTSE Eurostoxx 600 and S&P 500 group of constituent companies. This group of companies account for a significant share of global stock market value and so the financial stability of this group of companies is not just of importance for maintaining stock market value but also corporate financial resilience, then undermining corporate sustainability and capacity to cope with business, stakeholder, social and environmental commitments and obligations.

Our analysis employs the framework summarised in figure 4. It is our argument that the value of intangible assets (goodwill) is accumulating in total assets as acquisitions bring accumulating goodwill on balance sheet. At the same time shareholder equity reserves are being hollowed out because of aggressive distributions (dividends and share buy-backs). Within reported intangibles our focus is with the ratio of goodwill to retained earnings and shareholder equity after deducting treasury stock balances (see Table 2 above on General Electric). If goodwill balances exceed retained earnings and shareholder equity this amplifies the risk of insolvency if goodwill is partially or totally impaired.

Figure 4: Key ratios employed to review insolvency risk in the financialized company



Source: Haslam et al 2017

Definitions of data employed to construct these ratios:

Common Equity

Shareholders' Equity Data represents common shareholders' investment in a company. It includes but is not restricted to: Common stock value, Retained earnings, Capital surplus Capital stock premium and goodwill written off

Retained Earnings

Retained earnings represent the accumulated after tax earnings of the company which have not been distributed as dividends to shareholders or allocated to a reserve account.

Treasury Stock

Treasury stock represents the acquisition cost of shares held by the company. This stock is not entitled to dividends, has no voting rights and does not share in the profits in the event of liquidation.

Paid in Capital= common stock + capital surplus

Common stock represents the par or stated value of the issued common shares of the company. It includes the value of all multiple shares.

Capital surplus represents the amount received in excess of par value from the sale of common stock.

Goodwill/Cost In Excess Of Assets Purchased, Net

Goodwill represents the excess cost over the fair market value of the net assets purchased. It is included in other intangible assets.

3.1 The hollowing out of equity reserves: Dividends and share buy-backs

Bill Lazonick argues that the rise of share buy-backs coupled with high dividends distribution is putting the US corporate sector at a competitive disadvantage because

earnings are extracted rather than reinvested in product and process renewal.¹⁴ Lazonick's argument centres on the trade-off between earnings distributed and profits required to be reinvested. In this working paper we take a different point of view which is that excessive earnings distribution can hollow out the capacity of shareholder equity to maintain a strong loss absorbing buffer. An analogy can be made between the drivers of the last banking crisis and the position now within the non-financial corporate sector. In the banking sector the financial crisis of 2008 resulted from a weakening of the loss absorbing capacity of shareholder equity (regulatory capital) to absorb asset (loans) write downs.¹⁵

In the US and in Europe a large number of the non-financial companies have been hollowing out the capacity of shareholder equity funds to absorb losses. The equity reserves held on corporate balance sheets include retaining earnings. Earnings are retained when they are not distributed to shareholders through dividends and share buy-backs. In the US and in recent years, the growth in share buybacks has tended to run ahead of dividends paid after the law changed entitling companies to buy-back their share capital. Buying back shares from the open market makes sense because this reduces the number of shares in circulation and inflates a key metrics used by analysts to mark up (or down) a company's share price namely: earnings per share (EPS). Companies buying back shares are encouraged to do so in these circumstances and there is evidence to suggest that shares prices of buy-back companies tend to rise faster than those that are less prone to buying back shares (see figure 5). When a company buys back shares and then holds them on balance sheet as treasury stock, the latter may be issued as part of the payments required to perform further acquisitions.¹⁶ In this way the treasury stock reported on a company's balance sheet will oscillate up and down over time as shares are issued in part-funding of an acquisition and then augmented again as the company starts a new repurchase campaign of its own stock.

¹⁴ <https://hbr.org/2014/09/profits-without-prosperity>

¹⁵ See Biondi, Y. & Graeff, I. (2020). Between Prudential Regulation and Shareholder Value: An Empirical Perspective on Bank Shareholder Equity (2001-2017) . Accounting, Economics, and Law: A Convivium, 0(0), pp. -. Retrieved 5 Mar. 2020, from DOI: <https://doi.org/10.1515/ael-2019-0083>

¹⁶ This makes share issuance somehow similar to issuance of financial papers which resemble to currency, see Biondi, Y. (2013). Hyman Minsky's Financial Instability Hypothesis and the Accounting Structure of Economy. Banking, Finance, and the Minsky's Financial Instability Hypothesis. Accounting, Economics and Law, 3(3), pp. 141-166. Retrieved 5 Mar. 2020, from DOI: <https://doi.org/10.1515/ael-2013-0045>

Figure 5: MSCI Europe and MSCI Europe Buyback Index



<https://www.msci.com/documents/10199/7c549061-348b-48d8-80eb-591641ac3055>

Caption: MSCI Europe denotes the evolution of ... on a sample of EU companies which MSCI Europe Buyback Yield denotes the evolution of ... on a sample of EU companies which ...

Table 3: Dividends and share buybacks in the S&P 500 2009 to 2019

	Dividends as a share of operating income	Dividends and buybacks as a share of operating earnings
	%	%
12 Mo Sep, '19	38	98
12 Mo Sep, '18	35	91
2018	36	99
2017	39	88
2016	43	101
2015	43	108
2014	35	90
2013	33	82
2012	32	78
2011	27	74
2010	27	67
2009	39	66
Average	36	87

Source: <https://www.spindices.com/search/?query=buybacks&Search=Go&Search=Go>

Note: Data is for all companies listed in S&P 500

Over the last decade companies listed on the US S&P 500 index have distributed fifty percent more cash buying back shares outstanding compared to dividend payments. In total an average 35 percent of net operating earnings have been paid

out as dividends and an average 87 percent paid out as both dividends and share buy-backs over the period 2009 to 2019.

Table 4: Dividends and share buybacks in the EuroStoxx 600 2010 to 2018

	Dividends as a share of operating income %	Dividends and buybacks as a share of operating earnings %
2018	65	78
2017	50	54
2016	83	87
2015	92	98
2014	69	78
2013	55	57
2012	74	79
2011	55	71
2010	44	45
Average	65	72

Source: Osiris Datasets

Note: the analysis covers all companies listed in the EuroStoxx 600 with data for both dividends and share buybacks

Over the last decade the major companies listed in the EuroStoxx600 group of companies distributed an average 65 percent of net income as dividends and when we add in stock buy-backs this increases to 72 percent. There is a difference in distribution pattern between US and European companies with US companies distributing more as share buy-backs than dividends whereas in Europe the emphasis is on dividends rather than share buy-backs. In total an average of 72 percent of operating net income is distributed by European companies compared to an average 87 percent in US companies. In 2018 roughly one-quarter of European companies listed in the EuroStoxx 600 distributed a sum greater than their annual net earnings to shareholders.

Our analysis reveals that large companies listed in both the US and European stock markets distribute a high proportion of their earnings to shareholders. The European pattern is skewed to the distribution of dividends rather than share buy-backs and the background to these differences is explored by Goldman Sachs (2019)¹⁷. Our argument is that, for a significant group of large companies in Europe, aggressive earnings distribution can lead to a hollowing out of equity reserves which provide an important loss absorbing buffer and barrier against balance sheet insolvency.

¹⁷ <https://www.goldmansachs.com/insights/pages/top-of-mind/buyback-realities/report.pdf>

3.3 The hollowing out of equity reserves: Balance sheet solvency risk in European and US companies

This section focusses on goodwill impairment risk as an illustrative example of financial fragility involved by financialisation and shareholder value. We consider the extent to which goodwill accumulating on corporate balance sheets exceeds: (a) retained earnings in shareholder equity and (b) total shareholder equity in the S&P 500 and the Eurostoxx600. Our analysis only uses companies that disclose both retained earnings and goodwill and shareholder equity and goodwill. Our analysis excludes financial institutions because equity reserves are regulated relative to asset risks. In companies operating with goodwill balances that exceed retained earnings there is a risk that a write down of goodwill would erode or even wipe out paid-in capital compromising balance sheet solvency¹⁸.

Table 6: Eurostoxx and S&P 500 sample headline goodwill to retained earnings and shareholder equity ratios (2018)

	Goodwill to retained earnings	Goodwill to Shareholder Equity
	%	%
European companies	86.6	41.3
US Companies	68.6	48.0

Source: Thomson Eikon and Osiris databases.

For the Goodwill to shareholder equity ratio we employ 373 companies out of the S&P 500 and 432 European companies out of the Eurostoxx 600. For the goodwill to retained earnings ratio we use 330 companies out of the S&P 500 and 402 European companies out of the Eurostoxx 600. Remaining companies were excluded because of missing data.

For European companies listed in the Eurostoxx600 where data can be matched for goodwill, retained earnings and shareholder equity we find that the aggregate goodwill outstanding to retained earnings stands at 87 percent for US companies listed in the S&P 500 index and 69 percent for European listed on the Eurostoxx 600 group of companies in 2018. Whilst the goodwill to shareholder equity ratio stands at an average of 41 percent for European companies listed on the Eurostoxx 600 and 48 percent for major US companies listed on the S&P 500 index in 2018.

¹⁸ By balance sheet solvency, we mean that the net asset of a company are negative, that is shareholder equity after a write down of asset values such as goodwill is negative.

Table 6(a): Goodwill to retained earnings for US and European companies

Companies goodwill to retained earnings ratio % range						
	0-25	26-50	51-75	76-100	100+	Total
USA	87	53	26	24	140	330
% Share	23.3	14.2	7.0	6.4	37.5	100
Europe	99	61	48	18	176	402
% Share	22.9	14.1	11.1	4.2	40.7	100

Source: Thomson Eikon and Osiris Datasets

Notes: In the case of the S&P 500 we have 330 companies where we have matched data for goodwill and retained earnings. For the Eurostoxx 600 we have 402 companies with matched data for goodwill and retained earnings.

Table 6(b): Goodwill to shareholder equity for US and European companies

Companies goodwill to shareholder equity ratio % range						
	0-25	26-50	51-75	76-100	100+	Total
USA	96	77	47	49	104	373
% Share	25.7	20.6	12.6	13.1	27.9	100
Europe	144	88	79	61	60	432
% Share	33.3	20.4	18.3	14.1	13.9	100

Source: Thomson Eikon and Osiris Datasets

Notes: In the case of the S&P 500 we have 373 companies where we have matched data for goodwill and retained earnings. For the Eurostoxx 600 we have 432 companies with matched data for goodwill and retained earnings.

Table 6(a) reveals the share of companies that operate with low to high goodwill to retained earnings ratios. For example, in our sample of 402 European companies 23 percent operate with a goodwill to retained earnings ratio that is in the range 0-25%. Of significance is that 41 percent of the companies in our sample operate with a goodwill to retained earnings ratio that exceeds 100%, that is a complete goodwill impairment would exceed retained earnings reserves and also start to erode paid in

capital. There is a similar pattern for companies in the S&P 500 sample where roughly one-third are operating with goodwill that exceeds retained earnings.

Turning to table 6(b) this reveals the extent to which a goodwill write down would erode shareholder equity reserves. In the US company sample we find that approximately 28 percent of companies would experience a complete write down of shareholder equity reserves if goodwill were to be totally impaired. In Europe a goodwill impairment alone would write off the equity reserves of 14 percent of companies and over three quarters of total equity reserves for roughly 30 percent of all companies.

Our analysis focusses on shareholder equity reserves and the potential risk to retained earnings reserves and shareholder equity from a goodwill impairment. It is important to note that companies are also exposed to other forms of current asset value impairment risks, including real estates, licenses and brands, financial instruments, derivatives and hedging, pension schemes and biological assets. In circumstances where a range of asset classes are marked down in value this would compromise the financial viability of many large companies in Europe and the US.

3.4 The hollowing out of equity reserves: Balance sheet solvency risk in European companies by region

In this section of the report we turn to review the analysis of European companies by region and their equity capital reserve exposure to goodwill. This analysis involved classifying companies listed in the EuroStoxx 600 to their registered country. It should also be noted that not all countries in Europe are represented in the companies analysed¹⁹ from the EuroStoxx 600 because our sample required a reasonable country sample and matched financial data.

Our analysis starts by ranking companies from these countries by their goodwill to retained earnings ratios. This reveals that (in general terms) the Scandinavian headquartered companies tend to have a lower accumulation of goodwill to retained earnings and shareholder equity. France, Germany and Great Britain are clustered in the middle range with a goodwill to retained earnings ratio ranging from 70-85 percent and Ireland, Spain and Belgium companies have goodwill that exceeds reported retained earnings on average.

The relation between company goodwill to retained earnings and goodwill to shareholder equity is strong²⁰. For example in the case of German, British and French registered companies the goodwill to shareholder equity ratio is in the range

¹⁹ These countries include: Austria, Denmark, Finland, France, Germany, Great Britain, Ireland, Italy, Luxembourg, Netherlands, Norway, Spain, Sweden and Switzerland. Matched data for 468 companies out of the Eurostoxx 600.

²⁰ Correlation coefficient of 0.52

40-45 percent, that is, on average and total goodwill impairment for these companies would reduce shareholder equity by approximately fifty percent.

Table 7: EuroStoxx companies goodwill as a percent of retained earnings and shareholder equity by country of registration listing (2018)

	Goodwill to retained earnings	Goodwill to shareholder equity
	%	%
Norway	13.3	11.4
Austria	23.2	13.0
Finland	32.9	19.7
Denmark	33.0	33.2
Luxembourg	33.4	17.5
Switzerland	44.6	46.6
Sweden	49.6	37.9
Netherlands	66.4	52.5
Germany	70.3	39.3
Great Britain	80.9	42.1
France	85.7	44.5
Italy	90.4	45.2
Ireland	132.0	52.8
Spain	173.0	95.4
Belgium	339.6	137.7

Source: Osiris Datasets. Note the correlation coefficient between ranking by goodwill to retained earnings and goodwill to shareholder equity is 0.52 which is a strong relationship.

Table 8: Share of companies with goodwill to retained earnings great than 1 and goodwill to shareholder equity greater than 0.8 in 2018

	Percent of companies Goodwill above retained earnings	Percent of companies Goodwill above 80 % of shareholder equity
Norway	18.2	9.1
Austria	14.3	14.3
Finland	21.4	7.1
Denmark	37.5	43.8
Luxembourg	42.9	28.6
Switzerland	14.7	11.8
Sweden	31.4	25.7
Netherlands	53.8	26.9
Germany	46.0	17.5
Great Britain	42.3	27.9
France	53.3	24.0

Italy	47.1	23.5
Ireland	44.4	22.2
Spain	43.8	18.8
Belgium	54.5	18.2

Source: Osiris Datasets. Notes: Share of companies that have goodwill greater than retained earnings and share of companies with goodwill more than 80 percent of total shareholder equity

In the case of Denmark's Eurostoxx 600 listed companies we find that although the goodwill to shareholder equity ratio averages 33 percent (table 7), 44 percent of companies are operating with goodwill which is over 80 percent of shareholder equity reserves. In the case of Germany, France and Great Britain roughly one-quarter of companies are operating with goodwill to shareholder equity ratios over 80 percent. Austria, Finland and Norway show a relatively low risk exposure to goodwill with ten to fifteen percent of companies operating with a goodwill to shareholder equity ratio over 80 percent.

With regards to Belgium and Spain these countries have listed companies which, on average, operate with a very high goodwill to retained earnings and shareholder equity ratio. However this is accounted for by a few large companies and so only 20 percent of companies in both these countries are operating with very high goodwill to retained earnings and equity ratios.

In the following section we turn to company cases and employ these to evaluate, in more detail, how shareholder equity reserves can become eroded leaving a high level of goodwill impairment risk exposure.

4.0 Financialized companies: The erosion of shareholder equity reserves.

In this section we consider in more details the financial forces that can operate to undermine shareholder equity reserves in the financialized company. Over a period of time a company's shareholder equity can be eroded by commercial losses in the normal course of business, goodwill impairments, other changes to asset values such as hedging instruments and pension funds and charged to a company's comprehensive income statement and dividends and share buy-backs which also reduce shareholder equity reserves.

Thomas Cook Group plc a UK registered company was a global travel group and formed in 2007 out of a merger between Thomas Cook AG and the MyTravel Group. In 2007 the accounts of the consolidated group showed that it generated sales revenue of £8.5bn and in 2018 a total of £9.5bn. In table 9 we account for changes in total shareholder equity over the period 2007 to 2018 in Thomas Cook. In 2007 the company stated its shareholder equity at £2.21bn but over the period 2007 to 2018 normal commercial operating losses amounted to £0.633bn and this is deducted from shareholder equity reserves. In addition the company had incurred a series of

goodwill impairments associated with acquisitions made in an earlier period amounting to £0.722bn. Although the company incurred cumulative operating losses it was still able to finance dividend payments from borrowing and these amounted to £0.685bn. In total these changes reduced the shareholder equity balance from £2.21bn to roughly £0.3bn in 2018. In 2018 the auditors declared that the outstanding balance on goodwill amounting to £1.1bn should be fully impaired and charged to shareholder equity turning a surplus of reserves of £0.3bn into a shareholder equity deficit of £0.8bn and a declaration of company insolvency.

Table 9: Thomas Cook changes in shareholder equity 2007 to 2018

Thomas Cook Ltd changes in shareholder equity, 2007 to 2018 (GBP bill)		
Shareholder Equity Balance in 2007	2.21	
Net income before goodwill impairments	-0.633	Earnings from commercial activities
Goodwill impairments	-0.722	Fair value impairments to goodwill
Dividends and Share Buy-Backs	-0.685	Distribution of earnings
Comprehensive income adjustment	0.078	Fair value impairments to other assets
Residual changes to equity	0.043	Residual charges to equity
Total change in shareholder equity (2007-2018)	-1.919	
Shareholder Equity Balance in 2018	0.291	
Final Goodwill impairment	1.1	Charged in 2019

Source: Company annual report and accounts, Companies House London

<https://beta.companieshouse.gov.uk/company/06091951/filing-history>

Anheuser-Busch InBev headquartered in Belgium was formed through a series of mergers and acquisitions, for example, InBev was the result of a merger between Interbrew from Belgium and AmBev from Brazil. In 2015 InBev made an all-cash bid to acquire multinational competitor SABMiller for US\$107 billion. The AB InBev company has approximately 500 beer brands in over 100 countries. In table 10 we track changes to the shareholder equity balances over the period 2010 to 2018

Table 10: Anheuser - Busch IN BEV changes in shareholder equity 2010 to 2018

Anheuser - Busch IN BEV changes in shareholder equity 2010 to 2018 (\$bn.)		
Shareholder Equity in 2010	20.6	
Net income before comprehensive income changes	43.4	Earnings from commercial activities
Comprehensive income loss	-16.9	Fair value adjustments to other assets
Dividends and share buy-backs	-49.9	Distribution of earnings
Contribution to shareholder equity	-2.8	Contribution to shareholder equity

Residual changes to equity	74.7	Share premiums and reserve adjustments
Shareholder Equity Balance in 2018	71.9	Resulting from mergers and share premium
Goodwill Balance in 2018	133.3	Resulting from acquisitions

Source: <https://www.ab-inbev.com/investors.html>

In 2010 the opening balance reported in shareholder equity amounted to \$20.6bn and during the period 2010 to 2018 the net income from commercial operations amounted to \$43.3bn. Over the same period \$49.9bn of income was distributed as dividends and share buy-backs and in addition further comprehensive income losses (pension adjustments and currency hedges) amounted to \$16.9bn. In total these line items would have reduced reported shareholder equity by \$2.8bn over the period. However, at the year-end 2018 shareholder equity reserves had inflated to \$71.9bn which was the result of issuing new shares at a premium to help fund company acquisitions. These acquisitions also inflated goodwill (the difference between the acquisition price and the revaluated book value of acquired net assets), particularly with the purchase of SABMiller.

The announced acquisition price of US\$107 billion paid by AB InBev for SABMiller implies a colossal value of US\$120 billion when debt is accounted for. Just US\$13 billion of this is made up of tangible assets such as property, plant, machinery. The remaining \$107 billion is composed entirely of intangible assets (formulas, recipes, customer relationships, Goodwill and brands) which constitute 89% of the value.

<https://brandfinance.com/news/press-releases/ab-inbevs-71-billion-hangover/>

The challenge facing the company after these deals will be with maintaining cash earnings (EBITDA) because these are employed to evaluate the extent to which goodwill balances are sustainable. In recent years AB InBev's EBITDA has remained flat at roughly \$22bn and if this performance continues it could call into question the value of reported goodwill.

Hewlett Packard Inc. 2010 to 2019 \$bn		
Shareholder Equity in 2010	40.7	
Net income before comprehensive income changes	31.4	Earnings from commercial activities
Comprehensive income loss	-2.6	Fair value adjustments to other assets
Dividends and share buy-backs	-47.3	Distribution of earnings
Goodwill reduction on transfer of assets	-27.3	Charged to shareholder equity
Contribution to shareholder equity	-45.8	Contribution to shareholder equity
Residual changes to equity	3.9	Small changes in reserves

	-41.9	
Shareholder Equity Balance in 2018	-1.2	
Goodwill Balance in 2018	6.4	Resulting from acquisitions

Source: SEC Edgar Annual 10K accounting

[https://www.sec.gov/cgi-bin/browse-](https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0000047217&owner=exclude&count=40&hidefilings=0)

[edgar?action=getcompany&CIK=0000047217&owner=exclude&count=40&hidefilings=0](https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0000047217&owner=exclude&count=40&hidefilings=0)

Hewlett Packard a US listed company has made a few modest acquisitions over a period of time and this resulted in a goodwill accumulation of approximately \$33bn. This goodwill was reduced when Hewlett Packard sold off its enterprise business segment and wrote down a total of \$27.3bn of goodwill. So over the period 2010 to 2019 shareholder equity balances were supported by positive net earnings of \$31.4bn but this was then offset by the payment of \$47.3bn of dividends and share buy-backs and the goodwill write down on asset transfer of \$27.3bn. These changes reduced shareholder equity reserves by \$41.9bn and when set against the opening balance of \$40.7bn this explains the negative balance on shareholder equity of \$1.2bn in 2019. In this same year the value of outstanding goodwill stood at \$6.4bn.

All these cases serve to illustrate the pressure exerted on shareholder equity reserves in the financialized company. Shareholder equity reserves can be undermined by a combination of: commercial losses, aggressive dividend and share buy-backs and impairments to the current value of assets held on balance sheet such as goodwill but also other asset classes: currency hedges and derivatives, financial instruments, pension funds, property, goodwill and other intangible assets.

5.0 Summary and discussions

In this report our focus has been with company capital management, especially shareholder equity reserves. These reserves are critical to safeguard financial resilience for corporate sustainability. As for shareholder equity reserves constitute a loss-absorbing buffer when companies incur losses from normal commercial operations. In the financialized company submitted to the shareholder value dictat, a range of other financial forces are operating to reduce the capacity of shareholder equity reserves to maintain balance sheet solvency. This may make companies financially fragile and therefore unable to cope with their business, stakeholder, social and environmental commitments and obligations.

On the one hand shareholder equity reserves are being hollowed-out by aggressive dividends and share buybacks that return asset value to shareholders and this can weaken the loss absorbing capacity of shareholder equity. Furthermore, the adoption of fair value accounting (FVA) adds to the financial pressure on shareholder equity reserves. FVA adjusts assets to current market valuations but these can become impaired, for example, goodwill arising from acquisitions. These speculative asset

value impairments have the potential to further undermine the loss absorbing capacity of shareholder equity reserves.

Our analysis reveals that, for a relatively significant 15-20% of European and US companies listed in the Eurostoxx 600 and S&P 500 shareholder equity is not sufficient to cover even a goodwill write down. Goodwill is just one asset class that is marked to market value others include: property, financial and hedging instruments, brands, patents and licenses, biological assets and net assets held on pension fund accounts.

Our case studies are employed to reveal, in more detail, the financial transmissions operating in financialized companies and which have the potential to undermine the capacity of shareholder equity reserves to safeguard financial resilience. In the three company cases we illustrate how shareholder equity reserves can be compromised by: (a) deteriorating commercial market conditions, (b) high levels of earnings distribution from dividends and share buy-backs, (c) impairments to current asset valuations, including goodwill (d) other asset value impairments reported in comprehensive income and arising from pension fund deficits and adverse changes to hedging instruments and derivatives.

Evidence provided by this report challenges the regulators to reconsider the need for a prudential management of shareholder equity reserves as a means to safeguard financial resilience and sustain going concerns. EU company law on maintaining shareholder equity reserves as an effective loss absorbing cushion may be reaffirmed as part of the broader corporate obligations attached to the granting of limited liability. Maintaining an effective shareholder equity loss absorbing buffer serves to not only maintain solvency but protects the interests of all stakeholders that have vested interests in preserving companies as going concerns. Invoking and strengthening obligations attached to the social license granted by limited liability also opens up a possibility to rebalance the intention of company law with accounting regulatory arrangements that are concerned with *a priori* preventing balance sheet insolvency and securing going concerns for all stakeholders.²¹

²¹ Alexia Autenne et al. *The Current Challenges for EU Company and Financial Law and Regulation*. Accounting, Economics, and Law: A Convivium, 8 (3). 2018.

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Appendix 1 (a)

US Companies in sample with goodwill greater than shareholder equity

Company Name	Total Shareholder Equity th USD	Goodwill th USD	Goodwill to total equity Ratio
WESTERN UNION CO	-39,500,000	2,566,600,000	-6497.7
LAMB WESTON HOLDINGS INC	-4,600,000	205,900,000	-4476.1
AMERICAN AIRLINES GROUP INC	-118,000,000	4,091,000,000	-3466.9
HCA HEALTHCARE INC	-565,000,000	8,269,000,000	-1463.5
AUTODESK INC	-210,900,000	2,450,800,000	-1162.1
SEALED AIR CORP	-196,200,000	2,216,900,000	-1129.9
HILTON WORLDWIDE HOLDINGS INC	-482,000,000	5,159,000,000	-1070.3
MASCO CORP	-56,000,000	509,000,000	-908.9
HP INC	-1,193,000,000	6,372,000,000	-534.1
MOTOROLA SOLUTIONS INC	-683,000,000	2,067,000,000	-302.6
TRANSDIGM GROUP INC	-2,885,083,000	7,820,103,000	-271.1
WATERS CORP	-216,281,000	356,128,000	-164.7
L BRANDS INC	-865,000,000	1,348,000,000	-155.8
HOME DEPOT INC	-1,878,000,000	2,252,000,000	-119.9
BOEING CO	-8,300,000,000	8,060,000,000	-97.1
PHILIP MORRIS INTERNATIONAL INC	-9,599,000,000	5,858,000,000	-61.0
STARBUCKS CORP	-6,231,000,000	3,490,800,000	-56.0
NRG ENERGY INC	-1,215,000,000	573,000,000	-47.2
AUTOZONE INC	-1,713,851,000	302,645,000	-17.7
YUM! BRANDS INC	-8,016,000,000	530,000,000	-6.6
VERISIGN INC	-1,490,100,000	52,527,000	-3.5
CISCO SYSTEMS INC	33,571,000,000	33,529,000,000	99.9
HANESBRANDS INC	1,236,595,000	1,235,711,000	99.9
WESTERN DIGITAL CORP	9,967,000,000	10,076,000,000	101.1
ADOBE INC	10,530,155,000	10,691,199,000	101.5
FISERV INC	34,595,000,000	36,038,000,000	104.2
PEPSICO INC	14,868,000,000	15,501,000,000	104.3
ANALOG DEVICES INC	11,709,188,000	12,256,880,000	104.7
LABORATORY CORPORATION OF AMERICA	6,971,400,000	7,360,300,000	105.6
FIDELITY NATIONAL INFORMATION SERVICE	49,456,000,000	52,242,000,000	105.6
AMPHENOL CORP	4,596,200,000	4,867,100,000	105.9
HEWLETT PACKARD ENTERPRISE CO	17,149,000,000	18,306,000,000	106.7
LEGGETT & PLATT INC	1,312,500,000	1,406,300,000	107.1
ARTHUR J GALLAGHER & CO	5,215,500,000	5,618,500,000	107.7
WILLIS TOWERS WATSON PLC	10,369,000,000	11,194,000,000	108.0
UNITED TECHNOLOGIES CORP	44,231,000,000	48,063,000,000	108.7
COTY INC	4,593,400,000	5,073,800,000	110.5
PERKINELMER INC	2,813,824,000	3,111,227,000	110.6
BECTON DICKINSON AND CO	21,081,000,000	23,376,000,000	110.9
NASDAQ INC	5,639,000,000	6,366,000,000	112.9
MCKESSON CORP	8,287,000,000	9,358,000,000	112.9
FORTIVE CORP	7,400,200,000	8,399,300,000	113.5
HERSHEY CO	1,744,994,000	1,985,955,000	113.8
ROPER TECHNOLOGIES INC	9,491,900,000	10,815,400,000	113.9
PENTAIR PLC	1,953,900,000	2,258,300,000	115.6
QUEST DIAGNOSTICS INC	5,687,000,000	6,619,000,000	116.4
IHS MARKIT LTD	8,415,800,000	9,836,300,000	116.9
HOLOGIC INC	2,115,700,000	2,563,700,000	121.2
RAYTHEON CO	12,223,000,000	14,882,000,000	121.8
CVS HEALTH CORP	64,170,000,000	79,749,000,000	124.3
DOVER CORP	3,032,660,000	3,783,347,000	124.8
GENERAL ELECTRIC CO	29,800,000,000	37,400,000,000	125.5
MICROCHIP TECHNOLOGY INC	5,287,500,000	6,663,900,000	126.0
METTLER-TOLEDO INTERNATIONAL INC	420,780,000	535,979,000	127.4
QUALCOMM INC	4,909,000,000	6,282,000,000	128.0
DISCOVERY INC	10,102,000,000	13,006,000,000	128.7
DISCOVERY INC	10,102,000,000	13,006,000,000	128.7
FLEETCOR TECHNOLOGIES INC	3,711,616,000	4,833,047,000	130.2
MCCORMICK & COMPANY INC	3,456,700,000	4,505,200,000	130.3
CARDINAL HEALTH INC	6,330,000,000	8,378,000,000	132.4
3M CO	10,126,000,000	13,444,000,000	132.8
BROADRIDGE FINANCIAL SOLUTIONS INC	1,127,500,000	1,500,000,000	133.0
INTERNATIONAL FLAVORS & FRAGRANCES	6,229,548,000	8,349,531,000	134.0
UNITED RENTALS INC	3,830,000,000	5,154,000,000	134.6
ALLEGION PLC	654,000,000	883,000,000	135.0
LIVE NATION ENTERTAINMENT INC	1,342,743,000	1,822,943,000	135.8
ZEBRA TECHNOLOGIES CORP	1,839,000,000	2,622,000,000	142.6
EXPEDIA GROUP INC	5,651,000,000	8,120,000,000	143.7
REPUBLIC SERVICES INC	7,929,500,000	11,400,100,000	143.8
GENERAL DYNAMICS CORP	13,577,000,000	19,677,000,000	144.9
BALL CORP	3,019,000,000	4,419,000,000	146.4
LEIDOS HOLDINGS INC	3,311,000,000	4,860,000,000	146.8
NORTONLIFELOCK INC	5,738,000,000	8,450,000,000	147.3
ILLINOIS TOOL WORKS INC	3,030,000,000	4,492,000,000	148.3
AMGEN INC	9,673,000,000	14,703,000,000	152.0
CONAGRA BRANDS INC	7,463,700,000	11,499,600,000	154.1
SYSCO CORP	2,502,603,000	3,896,226,000	155.7
L3HARRIS TECHNOLOGIES INC	3,363,000,000	5,340,000,000	158.8
NETAPP INC	1,090,000,000	1,735,000,000	159.2
CENTURYLINK INC	13,470,000,000	21,534,000,000	159.9
VERISK ANALYTICS INC	2,070,600,000	3,361,500,000	162.3
EQUIFAX INC	2,622,900,000	4,308,300,000	164.3
VIACOMCBS INC	2,804,000,000	4,920,000,000	175.5
KELLOGG CO	3,314,000,000	5,861,000,000	176.9
EBAY INC	2,870,000,000	5,153,000,000	179.5
GENERAL MILLS INC	7,367,700,000	13,995,800,000	190.0
IQVIA HOLDINGS INC	6,263,000,000	12,159,000,000	194.1
ORACLE CORP	22,363,000,000	43,779,000,000	195.8
NORTHROP GRUMMAN CORP	8,819,000,000	18,708,000,000	212.1
CITRIX SYSTEMS INC	837,656,000	1,798,408,000	214.7
AMERISOURCEBERGEN CORP	2,993,206,000	6,705,507,000	224.0
NIelsen HOLDINGS PLC	3,043,000,000	6,987,000,000	229.6
IRON MOUNTAIN INC	1,885,589,000	4,441,030,000	235.5
O'REILLY AUTOMOTIVE INC	397,340,000	936,814,000	235.8
AON PLC	3,449,000,000	8,165,000,000	236.7
ROCKWELL AUTOMATION INC	404,200,000	1,071,100,000	265.0
CDW CORP	960,300,000	2,553,000,000	265.9
OMNICOM GROUP INC	3,373,700,000	9,440,500,000	279.8
CLOROX CO	559,000,000	1,591,000,000	284.6
DAVITA INC	2,319,242,000	6,787,635,000	292.7
LOCKHEED MARTIN CORP	3,171,000,000	10,604,000,000	334.4
CAMPBELL SOUP CO	1,112,000,000	4,017,000,000	361.2
MARRIOTT INTERNATIONAL INC	2,225,000,000	9,039,000,000	406.2
COLGATE-PALMOLIVE CO	558,000,000	3,508,000,000	628.7
S&P GLOBAL INC	536,000,000	3,575,000,000	667.0
KIMBERLY-CLARK CORP	194,000,000	1,467,000,000	756.2

Appendix 1 (b)

European Companies in sample with goodwill greater than shareholder equity

Company Name	Shareholders Equity in th USD	Goodwill th USD	Goodwill to Shareholder Equity Ratio
ALTICE EUROPE N.V.	-3,325,883	18,042,118	-542.48
TELENET GROUP HOLDING NV	-1,861,205	2,095,558	-112.59
ROLLS-ROYCE HOLDINGS PLC	-1,335,566	1,326,679	-99.33
EDENRED	-1,661,396	1,117,521	-67.26
LUNDIN PETROLEUM AB	-384,000	128,100	-33.36
SWEDISH MATCH AB	-624,707	183,448	-29.37
INTERCONTINENTAL HOTELS GROUP PLC	-1,077,000	313,000	-29.06
CAPGEMINI SE	8,563,459	8,508,499	99.36
WENDEL	3,785,830	3,824,187	101.01
DEMANT AS	1,082,768	1,106,083	102.15
FRESENIUS SE & CO. KGAA	28,634,174	29,441,400	102.82
ASSA ABLOY AB	5,794,868	5,963,802	102.92
INFORMA PLC	7,693,724	7,958,425	103.44
TELEPERFORMANCE SE	2,547,626	2,638,081	103.55
KION GROUP AG	3,784,341	3,921,398	103.62
NMC HEALTH PLC	1,356,763	1,440,291	106.16
CARLSBERG A/S	7,345,615	7,811,915	106.35
DSV A/S	2,229,040	2,378,747	106.72
DANONE S.A.	18,863,885	20,279,105	107.50
FREENET AG	1,466,463	1,580,165	107.75
ATOS SE	9,275,650	10,149,285	109.42
GRIFOLS, S.A.	5,377,614	5,964,571	110.91
AMADEUS IT GROUP, S.A.	3,654,498	4,119,712	112.73
JOHN WOOD GROUP P.L.C.	4,609,800	5,398,500	117.11
THYSSENKRUPP AG	3,707,794	4,401,196	118.70
SECURITAS AB	1,971,439	2,351,589	119.28
TELECOM ITALIA S.P.A.	24,900,328	30,650,520	123.09
EUROFINS SCIENTIFIC SE	3,116,900	3,913,986	125.57
PUBLICIS GROUPE SA	7,846,689	10,019,900	127.70
SOPRA STERIA GROUP	1,521,935	1,956,233	128.54
ATLANTIA S.P.A.	18,699,860	24,414,300	130.56
ELIS S.A.	3,284,091	4,287,913	130.57
AIRBUS SE	11,128,261	14,929,663	134.16
INGENICO GROUP SA	2,118,455	2,851,615	134.61
WPP PLC	12,449,964	16,761,608	134.63
NETWORK INTERNATIONAL HOLDINGS PLC	191,696	262,307	136.83
RENTOKIL INITIAL PLC	1,057,027	1,468,615	138.94
ALTRAN TECHNOLOGIES SA	1,937,864	2,705,840	139.63
SSP GROUP PLC	597,669	842,971	141.04
UNILEVER PLC	14,074,347	19,855,455	141.08
ITV PLC	1,077,848	1,586,937	147.23
THE SAGE GROUP PLC.	1,730,542	2,618,634	151.32
CINEWORLD GROUP PLC	3,420,300	5,482,400	160.29
COMPASS GROUP PLC	3,478,036	5,595,896	160.89
GLAXOSMITHKLINE PLC	4,661,786	7,532,237	161.57
ISS A/S	1,913,060	3,207,504	167.66
EXPERIAN PLC	2,494,000	4,324,000	173.38
WOLTERS KLUWER NV	2,595,716	4,517,027	174.02
BAE SYSTEMS PLC	7,132,329	12,998,917	182.25
PROSIEBENSAT.1 MEDIA SE	1,225,151	2,246,491	183.36
ANHEUSER-BUSCH INBEV SA/NV	71,904,000	133,311,000	185.40
IMPERIAL BRANDS PLC	8,404,929	16,253,006	193.37
BUREAU VERITAS SA	1,153,703	2,303,283	199.64
SPIE SA	1,690,027	3,552,581	210.21
TEMENOS GROUP AG	298,771	628,581	210.39
AMPLIFON S.P.A.	682,881	1,441,382	211.07
AVAST PLC	900,400	1,993,700	221.42
G4S PLC	994,057	2,461,656	247.64
RELX PLC	2,994,867	8,758,622	292.45
AUTO TRADER GROUP PLC	77,322	410,596	531.02
CAPITA PLC	131,144	1,598,363	1,218.78