Jan Vogt

# Peculiarities in Accounting: The difficulties between recording past transactions and forward looking estimates and the transmission of value through IFRS balance sheets

## Abstract

This paper discusses the relevance of accounting from the investor's perspective focusing on “value”. It first explains the key basic concepts of accounting - fair value accounting vs. historical cost - and thus frames the conflict between recording past transactions reliably vs. providing fair values based on future estimates. Based on the differences of market and book values of equity in combination with (at least in parts) inconsistent rules in accounting, challenges regarding systemic transparency on value are discussed. Accounting lost significant ground regarding the relevance of information in the context of decision-making for investors mostly because defining significant value sitting in intangibles as out of scope.

## Keywords

Accounting, Valuation, Book Value, Market Value, Fair Value

## JEL classification

M41, G30, G32

## Introduction

The earliest “commercial recordkeeping” dates back to roughly 5,000 to 7,000 years ago and can be located in the valley of Mesopotamia (Keister, 1963), while the first and most influential text on today’s double-entry bookkeeping[1] was published by the Franciscan monk and mathematician Pacioli in 1494 (Carruthers and Espeland, 1991). Therewith, accountants would fulfill the role Damodaran a.k.a. “Wallstreet’s Dean of Valuation” (CNBC, 2017) concedes them: Check transactions, record them in a consistent manner and report the results

[1] A technique to record a transaction as credit and debit developed by Italian merchants.

in a standardized form. Accordingly, financial statements should answer the following three key questions (Damodaran, 2020):

- What do you own?
- What do you owe?
- How much money did you make?

Performing financial accounting in that direction, associations of public accountants that certified "qualified" accountants were formed in the UK in the late 1800s which spread internationally (Richardson, 2017). After the first world war a distinct discipline evolved: Management accounting. Reflecting the importance of operational efficiency management accounting focuses on the decision needs of managers (Richardson, 2017).

Already in the year 1949, Coleman stated in his article regarding the role of accounting in management that "[t]he historic cost figure of an asset often bears little relation to its current value and hence is of limited use to management." (Coleman, 1949).

Accordingly, in 1962 with the publication of so called Accounting Research Study 3 (ARS3) issued by the Accounting Principles Board (APB)[2] a modern era of accounting that considers changes in the value of assets (amongst others by price level changes) was born (Emerson et al., 2010).

To deal with either "recording transactions", or reflecting changes in value and thus portraying "up-to-date information", accounting offers two fundamentally different concepts: Historical cost accounting (HCA) where the book value of an asset is determined by historical transactions and a defined depreciation mechanics, or fair value accounting (FVA) where current prices determine the book value of an asset. In case quoted prices in an active market are available those determine the book value of an asset, otherwise it is determined by substitutes like prices of inactive markets or model-based prices that take actual market information into account (Laux and Leuz, 2009). Conceptually the decision between HCA and FVA is a positioning between reliance and relevance (Laux and Leuz, 2009).

The standard setter in the US, the FASB focuses within its mission on "investors and other users of financial reports" (FASB, 2020) while the international standard setter, the IASB, defines in its conceptual framework the primary users of financial statements as 'present and potential investors, lenders and other creditors' – opposed to an earlier version that

[2] The former authoritative body of the American Institute of Certified Public Accountants (AICPA) that was replaced in 1973 by the Financial Accounting Standards Board (FASB).

additionally included customers, governments and their agencies and the public (IFRS Foundation, 2022C).

Focusing on the investing community, the path of relevance and thus, fair value accounting had been followed. Financial reporting became more future-oriented and investor focused. Thereby, assumptions underlying budgeting and operational planning have become inputs to financial accounting policies and estimates. Management accounting and financial accounting lost their borderline (Richardson, 2017).

In result, a complex accounting regime evolved that does not consistently apply certain rules for the valuation of assets or liabilities. It rather requires to put assets and liabilities in boxes for which varying accounting mechanics apply. Regarding IFRS, a mix of old Internal Accounting Standards (IAS) and new International Financial Reporting Standards (IFRS) is existent. Taking it altogether, it is at least questionable whether the respective rules and regulations fulfill the objectives that the IASB defines in its mission statement: Transparency, accountability and efficiency [10,11]. Accordingly, the IFRS foundation published on its website that "[t]he notes in financial statements sometimes include too little relevant information, too much irrelevant information and information disclosed ineffectively. Stakeholders say this typically occurs when the requirements in IFRS Standards are treated like a checklist without applying effective judgement." (IFRS Foundation, 2022).

To address those points the IASB has developed an Exposure Draft "Disclosure Requirements in IFRS Standards – A Pilot Approach" that was open for comment until 12 January, 2022. Basically, that new approach (that was tested on two standards IFRS 13 Fair Value Measurement and IAS 19 Employee Benefits) gives greater prominence to the objective of disclosure requirements and requires companies to apply judgement and provide information to meet described investor needs. The disclosure requirements of particular items is minimized to help companies to focus on material information (IFRS Foundation, 2022).

Whether that approach helps or not is to be seen. Particularly for regulators that need information foremost in critical situations, this new reporting approach might be tricky, as managers might have a tendency not to report if the situation is really bad (Gebhardt and Novotny-Farkas, 2011; Baker & Wurgler, 2013).

Given the opacity, the lacking coherence and the complexity of current accounting mechanics, the aim of the contribution is to highlight conspicuous features of IFRS rules and regulations that determine value and its transmission through accounting balance sheets when consecutive ownership structures are considered.

## 1 Systemic transparency on value

As first starting point on the topic whether accounting balances[3] reflect fair value the equity value is considered. On the one hand side, the accounting interpretation of equity value, the book value of equity, as the resulting position of assets and liabilities encompasses the measurement effects of all line items. On the other hand side, for publicly listed companies capital markets provide a reasonable benchmark, the market value of equity (market capitalization).

This approach can further be justified, as IFRS (and US-GAAP) define fair value in the following way: "Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date" represent so called "Level 1 inputs" according to IFRS 13-76, while "inputs other than quoted prices included within level 1 that are observable for the asset or liability either directly or indirectly" are labelled Level 2 inputs (IFRS 13-81), and unobservable inputs that "should reflect the assumptions that market participants would use when pricing the asset or liability […]" are named Level 3 inputs (IFRS 13-86,87). As fair value the best input following the "fair value hierarchy" – i.e. Level 1 inputs are preferred to level 2 and Level 2 are preferred to Level 3 inputs – according to IFRS 13-72 have to be used.

Comparing the market value of equity to the book value of equity (Price-to-Book ratio, a.k.a. Market-to-Book ratio) a strongly skewed distribution towards higher ratios is obtained (see Appendix), indicating that either markets significantly overestimate equity values and/or that book values – although IFRS/USGAAP strived for fair value – underestimate fair values, at least in the aggregate all-encompassing equity position.

For all publicly listed firms in Europe (20,696) an analysis by industry reveals that in January 2022 only 9 out of 96 industries reflecting 597 firms exhibit an average Price-to-Book ratio (PTB) of below 1.0 (see Appendix). The largest average industry PTB in Europe of 17.9 (based on 21 companies) is obtained for semiconductor equipment, while for the U.S. computer/peripherals reveal 26.3 as largest industry PTB. Other very high PTBs can be found in software, information services, recreation, health care, and environmental related industries.

[3] Although there have been significant efforts of the standard setters Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) towards harmonization or convergence of accounting standards between 2002 and 2011 [15,16] the gap between IFRS and USGAAP starts to grow again as stated by global audit firms.
(https://www.iasplus.com/en/projects/completed/other/iasb-fasb-convergence;
https://assets.kpmg/content/dam/kpmg/xx/pdf/2020/03/ifrs-us-gaap-2020.pdf).
Although, the key challenges addressed in this paper are prevalent to both accounting frameworks, the focus will be on IFRS.

For those industries intangible assets are key that – as it will be seen later on – might not fully be reflected in balance sheets on a fair value basis.

A hand-selected analysis of the most valuable companies from the capital market's perspective for the selective industries technology, automotive, banks and insurance betrays similar findings (see Figure 1): "Hot companies", i.e. technology firms exhibit very large PTBs. SAP as Germany's most valuable tech company accounts for 5.1, Meta/Facebook 7.4, Alphabet/Google 8.7, Microsoft 14.3, Amazon 26.6 and Apple for 38.3. Not less remarkable Tesla with 30.0, while all other top automotive firms exhibit a bandwidth of PTBs between 0.8 and 1.3. In general, the market capitalization of financial service firms is relative to "hot companies" much closer to the book value of equity, although particularly in Insurance there are players that exhibit a PTB of 2.4 (Anthem) and 4.7 (United Health), respectively.

Interesting to note is the ratio of goodwill to equity on a book value basis. Among the selected companies, United Health shows a goodwill that is even 4% above its equity value, followed by SAP with 92%, as the firm with the second largest share of goodwill to equity. Besides Volkswagen the top automotive firms do not possess significant goodwill in their balance sheets, while the tech firms do so. However, Apple as most valuable company overall and Tesla as most valuable company in automotive do materially contain no goodwill in their balance sheets. The diverging situation of value and goodwill leads to the question what information regarding value is contained in goodwill. Particularly, since "companies are allowed only to recognize goodwill from acquisitions; internally generated goodwill may not be recognized because it is considered to be too difficult to identify and to measure [Further] Goodwill from acquisitions is an important balance sheet item; in many cases it is the single largest item on companies' balance sheets" (Boennen, 2014).

It can be summarized that it is at least somehow justifiable when Damodaran is challenging the accounting perspective on "fair value" by provokingly stating (Damodaran, 2015): "*A new world order: Accountants as the final arbiters of value!! There are some (accountants, theorists and others) who believe that it is possible to replace the current accountant balance sheet with one that reflects the true value of the company. In their vision, investors would not look at the market to assess the fair value of a company but at accounting statements.*"

He further brings up three ways of thinking about fair value accounting (Damodaran, 2015), that will be picked up and assessed in the summary of this paper:

- *The Dreamer: To make accounting value (book value) a reasonable measure of the true value of a company.*

- *The Pragmatist: If we mark assets up to fair value, investors will have a better idea of what a firm is worth and there should be therefore less uncertainty about the true value and lower variance in that value.*
- *The Marginalist: Fair value accounting, even if imperfect and noisy, will provide investors with useful additional information which they can use to estimate value in a company or assess its risk.*

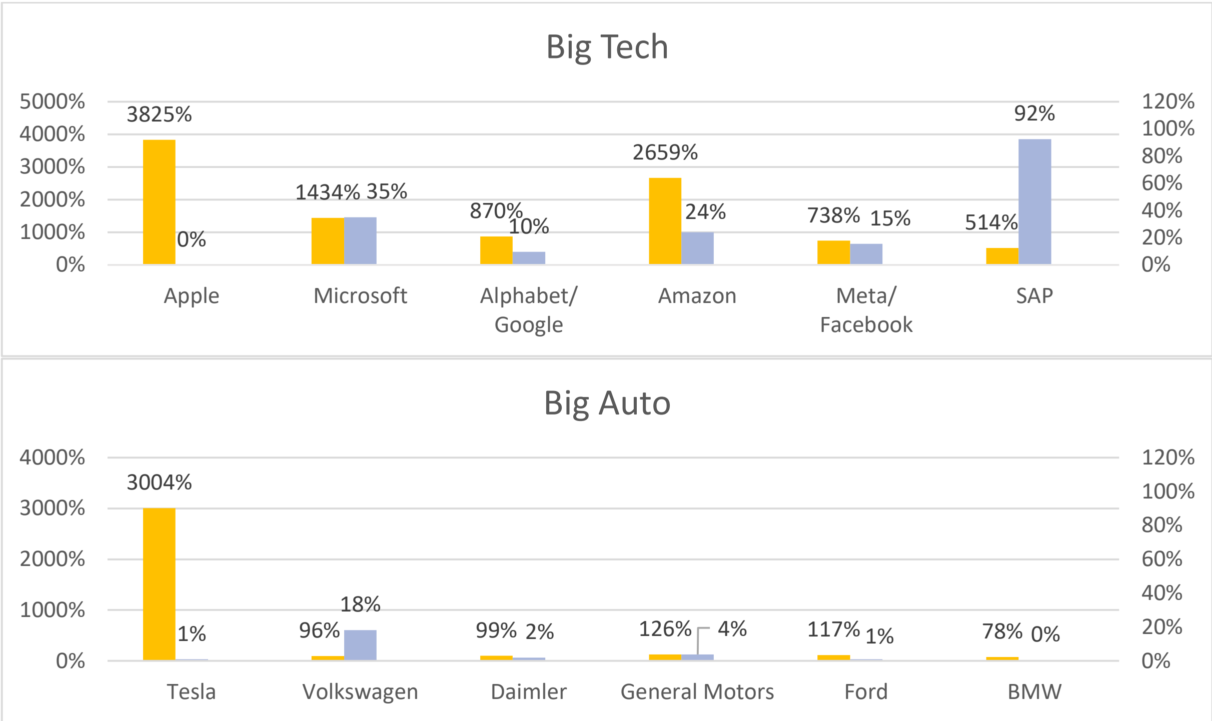
Besides the measurement of (economic) value, the diffusion process of value through balance sheets of firms within an economy is key for systematic transparency on value. Figure 2 displays how changes in economic value of a publicly listed, stylized firm (investee) affect the balance sheets of firms that are invested (investor) based on their respective business model and stake. The situation in which the investor controls the investee (IFRS 10-2,5-7) that results in consolidated financial statements (IFRS 10-1) is not regarded.[4] At the initial stage it is assumed that the book value of assets (100.0) and equity (30.0) as well as debt (70.0) are in line with the respective market values. Further it is assumed that the "true economic value" is reflected in market values. In a second stage a positive (negative) event occurs that changes the market value of total assets to 120 (80), the respective value market value of equity to 49 (25) and debt to 71(55). According to IFRS 9-4.1.4 financial assets "shall be measured at fair value through profit or loss unless […] measured at amortised cost in accordance with paragraph 4.1.2 or at fair value through other comprehensive income in accordance with paragraph 4.1.2A". Thereby, equity investments have to be measured at fair value since IFRS 9-4.1.2 excludes only financial assets with "contractual terms [that] give rise on specified dates to cash flows that are solely payments of principal and interest […]" that are "held within a business model whose objective is to hold financial assets in order to collect contractual cash flows", while IFRS 9-4.1.2A excludes also those that are "held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets". However, for equity investments in joint ventures according to IFRS 11-16 and investments in associates (IAS 28-3) as investments with significant influence assumed at "20 per cent or more of the voting power of the investee [… ]unless it can be clearly demonstrated that this is not the case." (IAS 28-5), the equity method[5] shall be applied (IAS 28-16). Thus, those investments are "recognized at cost, and the carrying amount is increased or decreased

[4] The situation in which an investor represents an "investment entity" according to IFRS 10-27 and thus "shall not consolidate its subsidiaries [but] measure an investment in a subsidiary at fair value through profit and loss […]" (IFRS 10-31) is considered. Further, discretionary options or eligible exemptions such as referenced by IFRS 4-3 for insurers are not considered.

[5] IAS 28-17 defines exemptions that are not relevant in the defined setting.

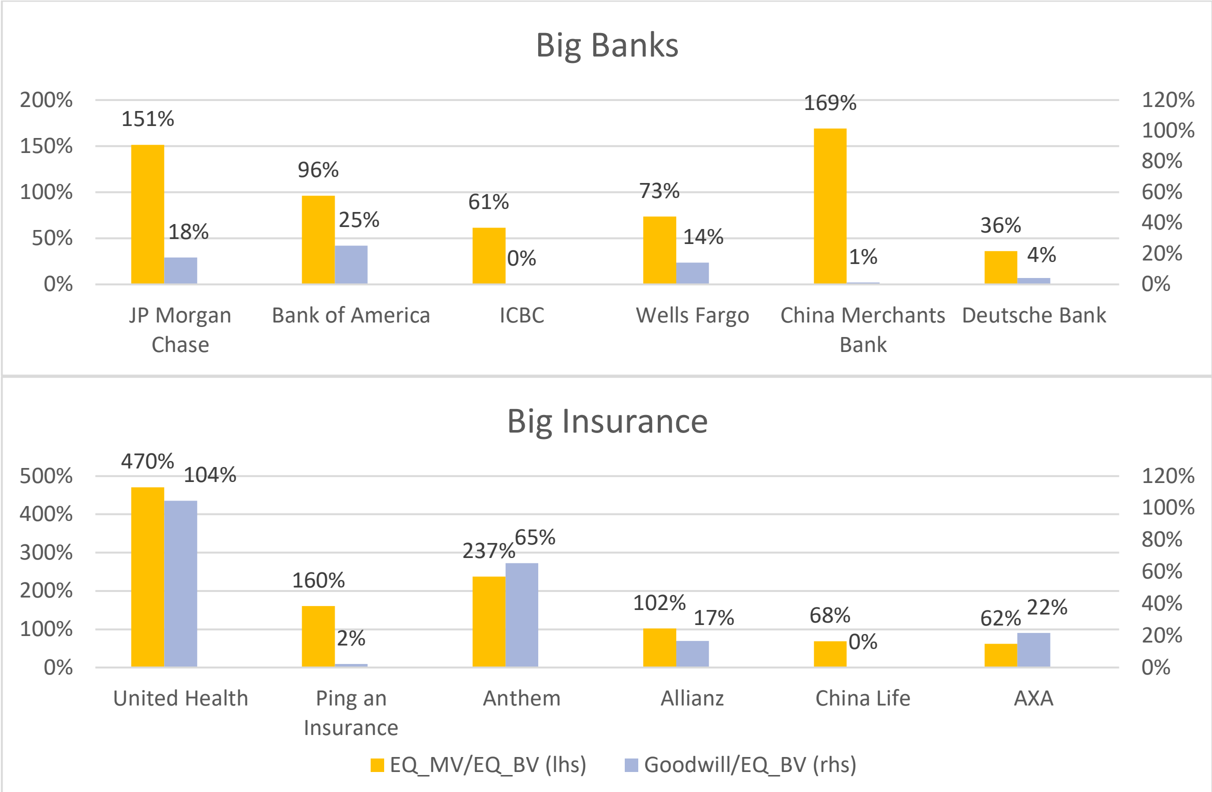
to recognize the investor's share of the profit or loss of the investee after the date of the acquisition" (IAS 28-10). Regarding fixed income investments (bonds) the above mentioned paragraphs of IFRS 9-4.1.2 and 9-4.1.2A define that those are recognized at amortized cost and fair value through other comprehensive income (OCI)[6], respectively. In result, the case of the positive event impacts the investors equity value[7] depending on its business model and share in the investee in one of the following ways: +3, +4 (thereof one setting with +1 in OCI), +19, +20 (thereof one setting with +1 in OCI).

**Figure no. 1: Goodwill and market value of equity (EQ_MV) relative to book value of equity (EQ_BV) for most valuable companies as of 05.02.2022 in selective industries**




[6] According to IAS1-106 OCI is part of shareholder's equity.

[7] For the sake of simplicity, i.e. to identify the differences in value, the book values for the different investor groups are kept at the level inline with the investees' values.




Top 5 firm selection of each industry based on www.companiesmarketcap.com; companies that do not provide audited financial statements in IFRS or US-GAAP have been excluded (Toyota, AIA and BYD) and replaced by subsequently ranked firms. This top 5 is extended by the following largest German firm of the respective industry. For the derived firms the last available annual report or 10K-form with the market value of equity (Source: www.yahoo.finance.com) as of the corresponding reporting date is being taken into account.

For the negative event the investor's equity values are impacted by -20 (thereof one setting with -15 in OCI) and -16 (thereof one setting with -15 in OCI).[8]

In addition to the described set of various outcomes regarding the financial position that represent the diffusion process of value, the various outcomes with respect to the impact on profit and loss are worth to note.

In summary, investors and their investments are allocated to categories for which different rules apply. Thus, the effects on book value of equity on the investor side resulting of fluctuations in market values of acquired bonds and stocks are opaque or at least complex.

[8] The depicted figures for the book values of bonds represent the amortized costs that differ from the gross carrying amounts by the expected credit loss component.

**Figure no. 2: The diffusion process of value through balance sheets based on accounting (IFRS) mechanics**

For a stylized investee with publicly listed equity and debt, the upper (lower) section of the chart describes the balance sheet and profit and loss impact on the investor side, in case the business condition change in a (un)favorable manner. According to IFRS 9-4 the impact on the investor's balance sheet and profit and loss statement is separately depicted for the various potential business models ("cash collection", "cash collection and selling of financial assets", and "other") of the investor. Holdings that require consolidation are excluded, while the particularities implied by different levels of control according to IAS 28 (indicated by the equity share as proxy for voting rights and control) including the specifics of investment entities according to IFRS 10 are reflected in separated rows. The charts represent the general rules of the relevant IFRS, i.e. discretionary options for the investor are not displayed. The numbers are arbitrarily and for illustration purpose only (e.g. for the rows with an investor share ≥20% and <50% the investor's share of profit or loss, i.e. +3 and -1 as fraction of the total economic value change in equity of +19 and -5).

## 2 Summary conclusion and outlook

"Financial accounting data are neither inherently right nor wrong. They are only more or less useful for the questions that people want answered." Having this statement of Hulten & Charles (2008) in mind, this paper tried to shed some light in the peculiarities of accounting from the perspective of an investor.

The difficulties between recording past transactions and providing forward looking information became obvious, and therewith the trade-off of accounting's two major concepts: Historical cost accounting vs. fair value accounting. Based on current market valuation of key players in addition to broad market data, it was demonstrated that market valuations significantly and systematically differ from book values of equity. It was shown that current

accounting mechanics established a complex and at least in parts inconsistent process of how "value" is processed through the balance sheets of companies with consecutive holdings ("diffusion process of value").

The current IFRS framework states that the "[g]eneral purpose financial reports are not designed to show the value of a reporting entity; but they provide information to help existing and potential investors, lenders and other creditors to estimate the value of the reporting entity" (1-7 in IFRS, 2018). Hence, the spirit of IFRS is to provide fair value information for selective items, but not for the entire company or its equity. Paragraph 13 of the previous framework[9] accordingly says: "financial statement do not provide all the information that users may need to make economic decisions since they largely portray the financial effects of past events and do not necessarily provide non-financial information." Altogether the standard setters seem to have a realistic perception regarding fair value information.[10]

However, the relevance of accounting information for investors has significantly decreased as Gu&Lev [20] demonstrate based on an extensive empirical data set. The "single most widely followed measure of firm performance", reported earnings, has lost dramatically in importance within the last 30 years (67%!) as the shift of investments from tangible to intangible assets is not reflected in the scope of accounting.

Going forward accounting will still or even further face the challenge to balance between the qualitative characteristics[11]: Understandability, relevance, reliability and comparability. May be with adapted priorities…

## Literature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[9] Approved by the IASC Board in April 1989 for publication in July 1989, and adopted by the IASB in April 2001, published by the Commission of the European Communities in November 2003.

[10] The role "pragmatist" or "marginalist" opposed to "dreamer" as mentioned by Damodaran [18] is assumed; The Dreamer: To make accounting value (book value) a reasonable measure of the true value of a company; The Pragmatist: If we mark assets up to fair value, investors will have a better idea of what a firm is worth and there should be therefore less uncertainty about the true value and lower variance in that value.; The Marginalist: Fair value accounting, even if imperfect and noisy, will provide investors with useful additional information which they can use to estimate value in a company or assess its risk.

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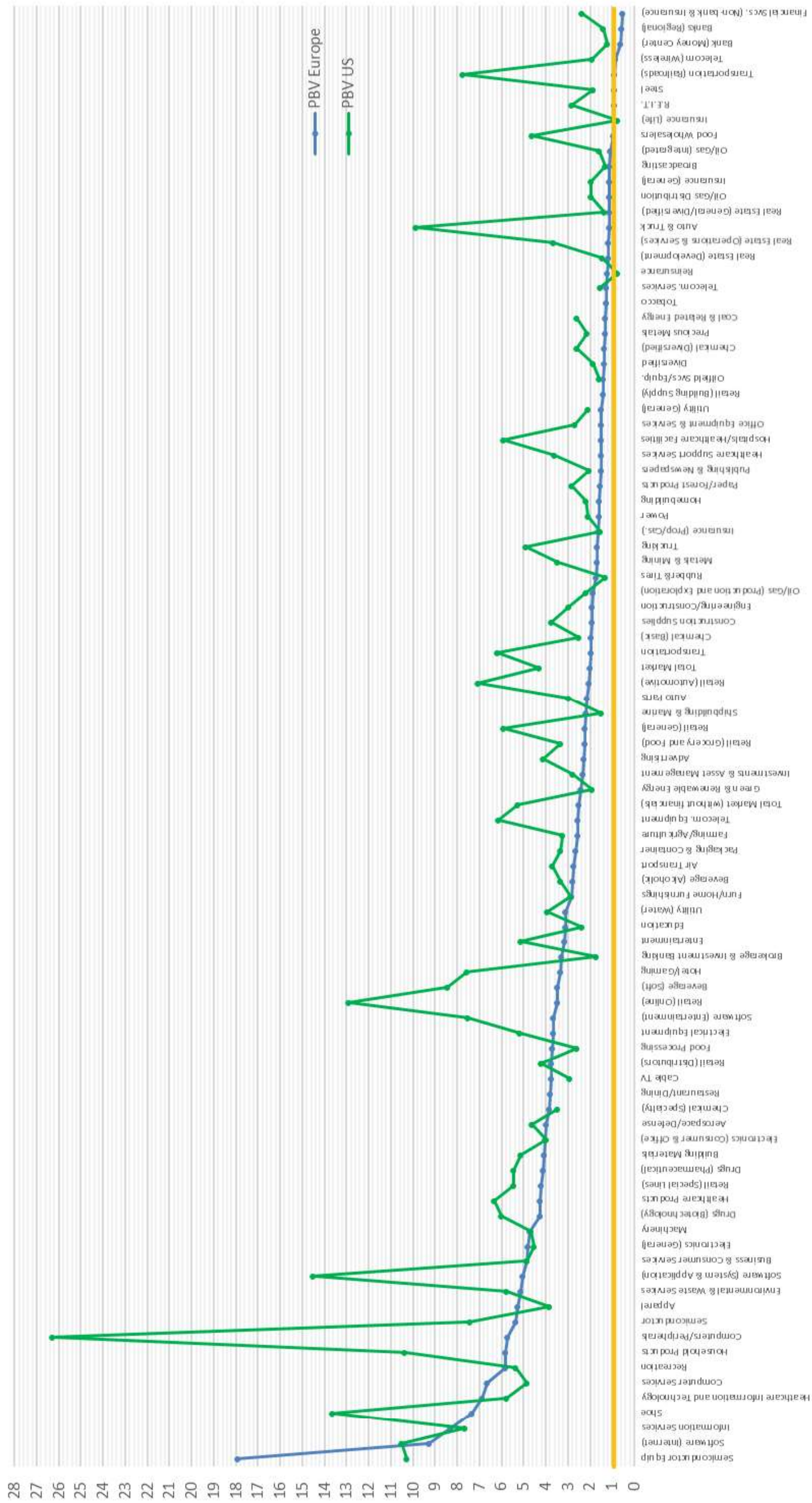
## Contact

Dipl.-Wi.-Ing. Jan Vogt, CFA
University of Finance and Administration
Estonská 500/3
10100 Praha 10
Czech Republic
38217@mail.vsfs.cz

# Appendix

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