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Between Prudential Regulation and Shareholder Value: An Empirical Perspective on Bank Shareholder Equity (2001-2017)

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Abstract: We analyse the effects of changes in regulatory capital requirements under Basel III on the dynamic evolution of bank shareholder equity over time. Evidence from managerial and regulatory reports shows that bank shareholder equity stands between micro-prudential regulatory capital requirements and managerial pursuit of equity economising strategies. Shareholder value strategies see shareholders as the equity investment remuneration recipients. Micro-prudential regulators, in turn, address them as equity investment providers. With opposing cash streams, one orientation puts the other to a test. The article visualises this conflict by analysing the actual shareholder contribution to the bank equity position in nine case studies of European financial institutions between 2001 and 2017; our evidence-based financial analysis applies an innovative method to data directly extracted from financial statements, in order to measure this equity position evolution and assess bank equity dynamics in light of revised regulatory capital requirements and persistent assurance of shareholder value thriving in managerial reports. The choice of in-depth analysis of a sample of relevant case studies overcomes the absence of detailed data on changes in bank equity in existing databases.

Keywords: financial institutions, shareholder equity, Basel III/IV, shareholder value, regulatory capital requirements

Jel Codes: G35, G20, G30, G28

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1 Introduction

With the ongoing revision of micro-prudential bank regulation, pressure on the dynamic evolution of bank equity positions increases. While early bank corporate governance codes and Basel II capital requirements under the promotion of “safe and sound banking practice” (Basel Committee, 1999, p. 1) supported the use of shareholder value strategies in banks – through the pronouncement of returns to shareholders and the relaxation of the regulatory capital definition –, some post-crisis regulations revised their stand on shareholder value in bank strategy. For instance, recent bank corporate governance codes reintroduce the concept of public interest (Basel Committee, 2015), while new capital adequacy requirements condition the stability of the bank entity on the use of equity injections from shareholders and the minimisation of shareholder compensation (Basel Committee, 2011).

Yet, empirical evidence from managerial reports of large European banks suggests the persistence of shareholder value in bank strategy, including the focus on equity returns to shareholders documented by financial measures such as return on equity (Barclays, 2017, p. 2; Deutsche Bank, 2017).

With this persistence of shareholder value creation in managerial discourse, the recent shift in corporate governance codes and new regulatory capital

requirements create an opposing pressure over the dynamic evolution of the bank equity position. Regulatory capital adequacy requirements now centre on the maximisation of initial capital provision from shareholders and minimal subsequent returns. Shareholder value in bank strategy, in turn, keeps promoting the creation of shareholder return over minimal shareholder equity provision.

In fact, while post-crisis bank regulations concerning capital requirements and corporate governance question shareholder value, macro-prudential regulators and analysts still appear believing that bank profitability and return on bank shareholder equity go along with financial stability (Andersson, Ch., Mirza, Mór, & Mosthaf, 2018). The low profitability issue has also been highlighted by the ECB (2018) and the IMF (2018) in recent publications. For instance, Coeure (2016) states that “bank capital matters for credit provision and for financial stability, as low bank capital means high leverage”; and de Guindos (2019) argues that “the persistently weak profitability of the euro area banking sector remains a key concern for financial stability, as it constrains banks’ ability to build up buffers against negative shocks”; although Draghi (2019), the exiting President of the European Central Bank, claimed that “protect bank profits [is] not, certainly not our mandate”.

In this context, our empirical analysis of bank equity capital movements for an illustrative sample of EU financial institutions provides evidence on quite a different situation, one that highlights the tension between shareholder appropriations and the bank sustainability as a going concern. The present analysis expands upon the illustrative case study of Deutsche Bank (Biondi & Graeff, 2017).

Our article contributes to the understanding of this arising tension in bank equity dynamics by analysing actual shareholder contribution to the bank equity position in nine case studies of European financial institutions between 2001 and 2017. It applies an innovative accounting method which improves on equity classification and measurement in order to develop an evidence-based analysis of the bank equity position visualising the transactions between shareholders and the bank entity. This analysis highlights the tension between bank sustainability and shareholder appropriations which are measured directly through evidence gathered from the financial reports. Bank equity position is understood here as a cumulated series of flows depending on retained earnings but also transactions with shareholding investors and other accounting reserves provision/depletion.

Our findings split the period (2001–2017) in two phases: a phase of co-existence between shareholder value and micro-prudential regulation prior to the financial crisis, and a phase of divergence in its aftermath. The findings, however, also show that shareholder value continues to hold the upper hand on the bank equity dynamics even after the revision of regulatory capital adequacy

requirements. In other words, despite some major equity capital increases after the introduction of the new Basel III requirements, banks in the sample largely continued to pursue their past strategy by compensating shareholding investors at the detriment of the prudential role of shareholders as capital providers. This suggests a new practice of the bank equity in which banks are understood as financial investment vehicles for shareholding investors instead of going concerns; the latter being self-sustained over time and consistent with stakeholder interests and public good.

Our article contributes to the existing literature by providing an innovative conceptualisation of bank equity along with an innovative measurement method which captures and provides evidence on the actual contribution by shareholders, the bank distributions levels, and its risk-shifting behaviour. Moreover, our method decomposes regulatory capital in a way which allows for the assessment of the effectiveness of capital adequacy requirements.

Our evidence-seeking analysis is exploratory and illustrative in nature. Therefore, we limited our approach to an illustrative sample of European financial institutions. The choice of in-depth analysis of a sample of relevant case studies enables overcoming the absence of detailed data on changes in bank equity in existing databases. The article method has, hence, required making a choice for accuracy against generalisation. The sample, nevertheless, makes up 40 % of the March-2015 assets of the 25 largest banks in Europe as listed by SNL Financials. It is then illustrative although not statistically significant of current bank practice in Europe. Further research may take inspiration from our exploratory work and apply it to a statistically representative or the full sample of them.

The rest of the article is organised as follows. Section 2 sets the context and justification for our analysis by reviewing primary sources such as regulatory and managerial reports; on this basis, it establishes our framework of analysis. Section 3 introduces the technique to measure actual shareholder equity contribution. Section 4 reviews academic literature while Section 5 presents the findings of our empirical analysis. Section 6 develops implications and perspectives. Section 7 summarises and concludes.

2 Setting the scene: Empirical evidence from managerial and regulatory reports

Evidence from managerial and regulatory reports denotes the blooming of shareholder value in both European bank strategy and pre-crisis regulation (Section

2.1 and Section 2.2). Bank strategies of some of the largest European banks have been focusing on exceeding financial targets (Section 2.1.2) accomplished through tight equity capital management (Section 2.1.3). In turn, post-crisis regulations avert from their previous support of shareholder value in bank strategy and argue for the importance of shareholder capital provision for bank stability (Section 2.2). This shift in micro-prudential regulation creates pressure on the dynamics of shareholder equity which is now driven by opposing factors as presented in our framework of analysis (Section 2.3).

2.1 Managerial discourse and strategies: shareholder value in banks

2.1.1 Value creation objectives

Since the late 1990 at least, annual reports of banks frequently contained a proclamation of management to create and secure shareholder value. To be sure, managerial discourse has been evolving since the financial crisis of 2007–08, but it keeps focusing on shareholder interests, return on shareholder equity, and distributions to shareholders. This focus has been framing and shaping bank corporate behaviour in recent decades, assuring legitimacy in the financial investment arena. For instance, HSBC (1998, p. 18) introduced a “Managing for Value” strategy which promised to be “far more than just lip service [...]” but “[...] a clear, explicit commitment to [its] shareholders [...]”. BNP Paribas (1999, p. 3) held firmly “to its strategic commitment to building earnings and creating stockholder value” in its annual report. And, Barclays (2001, p. 3) titled its annual report “Value creation” in which it ensured “[...] that everything [it did] as an organisation [would add] to shareholder value” which was claimed to be “the single most important contribution [the bank could] make to the public good”. Also after the financial crisis, the bank emphasised that shareholders should “[...] rest assured that [the bank] will continue to strive to deliver the performance and value creation that their patience deserves” (Barclays, 2017, p. 3).

2.1.2 Competitive financial targets

Shareholder value creation was commonly measured by total shareholder return, economic profit and return on equity (ROE); of which the latter was seen as the “most important target figure” (Deutsche Bank, 2003, p. 4) and “the

financial measure that correlates most closely with shareholder value” (Barclays, 2011, p. 7).

European banks were eager to increase their return on equity. HSBC (2001, p. 131) thrived “to [double] shareholder return over [a] five-year period”. Deutsche Bank (2003) set its goal of doubling return on equity within two years. Commerzbank (2006, p. 7) applauded that it “not only reached [its] very demanding earnings targets, [but that ... it] exceeded them”. Moreover, Unicredit (2006, pp. 8,20) aimed “for ever more ambitious value creation targets” despite claiming that it had “outperformed many of [their] peers in most of the key performance areas”. Also after the financial crisis, ROE remained the main metric of profitability for many banks; some of them targeting even higher levels than previously seen (Jenkins, 2011): as Barclays (2016, p. 113) reassured in 2016: “Financial targets are set to be stretching but achievable and are aligned to enhancing shareholder value”.

2.1.3 Equity capital economising management

Financial targets were realised through focus on revenue generation and equity capital management strategies aiming to economise in shareholder equity. Deutsche Bank (2003, p. 10) denoted this latter strategy as “strict capital management”. Unicredit (2011, p. 11) explained that “greater operational efficiency, strict cost management, [...] a lower risk profile, [...] coupled with rigorous capital discipline should result in growing profits and a favourable return on equity [...]”. MPS (2004, p. 8) “undertook numerous initiatives of corporate reorganization aimed at [...] optimizing the use of capital”. BNP Paribas (2004, p. 6) thrived “to bolder the Group by energising [its] capital management”. Barclays (2008, p. 292) emphasised its continuation “to maximise shareholder value through optimising both the level and mix of capital resources”. Deutsche Bank (2000, p. 14) explained that “a bank’s growth depends on its shareholders’ willingness to provide sufficient capital” and that “shareholders, however, will only do that if they receive a return [...]”. The bank (2005, p. 21) emphasised that its “[...] dividend rise [...] underlines [the bank’s] commitment to see [its] shareholders benefit directly from [its] good results, and [its] confidence in [its] ability to maintain and increase [its] strong profitability”. Barclays (2001, p. 16) supported the principle that “if there is no suitable home for incremental capital, it should be returned to the shareholders”. The bank (2017, p. 5) reassured in 2017 that “it is [its] firm intent, over time, to return a greater proportion of [its] earnings to shareholders, both through the annual dividend and in other ways”. Also, Deutsche Bank (2017, p. IV) affirmed that it remains “[...] committed to [its] objective of delivering [...] a competitive dividend payout [...]”.

2.2 Regulatory discourse between shareholder value and public interest

Bank managerial strategies pursuing shareholder value resembled suggestions of early general corporate governance codes which emphasised that “common to all good corporate regimes [...] is a high degree of priority on the interests of shareholders, who place their trust in corporations to use their investment funds wisely and effectively” (OECD, 1999, p. 6).

Specific bank corporate governance codes, established “to foster safe and sound banking practice”, referred to the same principles by stressing that “good corporate governance should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and shareholders” (Basel Committee, 1999, p. 1). Corporate objectives included the generation of “economic returns to owners” (Basel Committee, 1999, p. 2), while bank “responsibilities to shareholders” were prioritised to those towards other stakeholders (Basel Committee, 2006, p. 4).

Post-financial crisis corporate governance codes for banks put caution to this received priority given to shareholders by clarifying that “the primary objective of corporate governance should be safeguarding stakeholders’ interest in conformity with public interest on a sustainable basis”, and that “among stakeholders, particularly with respect to retail banks, shareholders’ interest would be secondary to depositors’ interest” (Basel Committee, 2015, p. 3).

Also, micro-prudential regulation altered their stand on shareholders: revisions on Basel capital adequacy requirements show renewed interest in shareholders as capital providers (Basel Committee, 2011) (Figure 1). Under Basel, bank financial stability is measured by a regulatory capital ratio. Banks have the possibility to increase this ratio by either increasing the regulatory capital appearing as the nominator, or by decreasing its portfolio of risk-weighted assets representing the denominator of the regulatory capital ratio (Figure 2).

The latest revision of Basel capital requirements *inter-alia* alters the quality and quantity of regulatory capital. Under Basel III, high quality capital (Common/Core Tier 1) shall “predominately consist of common shares and retained earnings” which is said to be the “form of funding which helps ensure that banks remain solvent” (Basel Committee, 2011, p. 2). Other instruments, previously recognised as regulatory capital with the purpose to lower its cost, were phased out; as Basel Committee (2009, p. 14) emphasised: “[...] banks must not over-rely on non-common equity elements of capital and so the extent to which these can be included in Tier 1 capital must be limited”. In order to stabilise the degree of capital provided by shareholders, Basel III also

Figure 1: Basel regulatory capital adequacy requirements between 1988 and 2019, in proportion to risk-weighted assets.

Note: Basel III came into effect in 2013 with phase-in arrangements until 2019: Common/Core Tier 1 capital gradually increased from 2.0% under Basel II and was fully phased-in in 2015 with 4.5%. The capital conservation buffer was introduced in 2016 with 0.625 % and annually increased by 25 % of its fully 2019 phased-in level of 2.5% Common Tier 1 capital. The S-GIB surcharge, applicable to globally systemically important banks (G-SIB) and in level dependent on a bucket allocation system, was introduced in 2016 with 0.625 % (0.25 %) for banks allocated to the highest (lowest) bucket and an annual increase of 25 % of its fully 2019 phased-in level of 2.5 % (1.0%) Common Tier 1 capital. For 2018, bucket 3 (2.0%) consisted inter alia of HSBC and Deutsche Bank, bucket 2 (1.5 %) of Barclays, BNP Paribas and bucket 1 (1.0 %) of RBS, Unicredit and Société Générale (Financial Stability Board, 2017). Source: Our elaboration; see also Basel Committee (2010, 2011, 2014).

introduced a capital conservation buffer which restricts distributions to shareholders when the buffer is drawn down.

2.3 Framework of analysis

Evidence presented in this Section 2 suggests that bank managerial discourse largely remained shareholder value driven, while bank corporate governance codes and micro-prudential regulation deviated from their previous support of shareholder value towards public interest concerns. On the one hand, shareholder value creation strategies seek to generate and assure shareholder value including by economising in shareholder equity. On the other hand, shareholder contribution requirements contained in bank regulations for corporate governance and equity capital requirements aim to make

Figure 2: Cash transfer between shareholders and bank entity under prudential regulation and shareholder value.

Note: Prudential regulation promotes cash injections from shareholders to the bank entity by setting Tier 1 capital – comprised of Common Tier 1 capital (CET 1) and Additional Tier 1 Capital (AT 1) – as the nominator of the prudential capital ratio defined as (CET1 + AT1) over Risk-Weighted Assets (RWA). In turn, shareholder value favours the distribution of cash from the bank entity to shareholders by using Return on Equity (RoE) as key shareholder value ratio which treats equity of the bank entity as the denominator.

shareholders contributing to bank equity capital cushion and overall bank stability. In fact, both orientations (micro-prudential regulation and shareholder value) retain their own distinctive focus on the role of shareholders in the bank entity. Under shareholder value strategies, shareholders are the equity investment remuneration recipients. Shareholder value strategies are programmed towards returning capital to shareholders through utilising financial targets which react favourably to distributions (Figure 2). Micro-prudential regulators, in turn, address shareholders as equity investment providers. Accordingly, contributed cash becomes part of the bank entity’s risk management to the extent that both shareholder compensation and the return of their capital provision are restricted in view to prevent financial instability of the bank entity.

The role of shareholder equity in the bank business model (Heilpern, Haslam, & Andersson, 2009; Butzbach, Rotondo, & Desiato 2018) is then understood in two distinctive ways by these two orientations. In particular, they favour different and opposing cash streams between shareholders and the bank entity. Regulatory capital adequacy requirements focus on the maximisation of shareholders' initial capital provision and its continued maintenance through time; expressed in a high capital ratio. In turn, shareholder value focuses on the maximisation of shareholder return; favouring a high return on equity ratio (Figure 2). In other words, cash injections from shareholders are set high and permanent under micro-prudential regulation, but minimised under shareholder value; while cash distributions are minimised under micro-prudential regulation, but set to its maximum under shareholder value strategies. Bank shareholder equity, consequently, stands between regulatory capital requirements and managerial pursuit of equity economising strategies under shareholder value.

3 Literature Review

This tension between micro-prudential capital maintenance and shareholder value maximisation is addressed by two fields of research: bank regulatory capital (Section 3.1) and bank pay-out policies (Section 3.2). The article analysis contributes to these research streams in various ways (Section 3.3).

3.1 Bank regulatory capital

Bank regulatory capital is seen as the core measure of financial stability of banks; the main initiative of regulators after the financial crisis was to increase the quantity and quality of bank capital (Clare, Duygun, Azzim Gulamhussen, & Pozzolo, 2016; Duffie, 2018). Studies capture the development of regulatory capital pre- and post-crisis. Acharya, Gujral, Kulkarni, and Shin (2011) show that US and European banks largely shifted to the issuance of debt-like hybrid claims over common equity paired with high distributions between 2007 and 2009. Cohen and Scatigna (2016) analyse channels of adjustments of regulatory capital, such as reducing the share of dividends, boosting profits, issuing new equity, reducing lending and exchanging riskier assets with safer ones; they find that banks in advanced economies achieved higher regulatory capital between 2009 and 2012 by cutting down on dividends and risky assets. Delis, Staikouras, and Tsoumas (2017) also find that formal enforcement actions between 2000 and

2010 resulted in lower risk-weighted assets and non-performing loans ratios but had no impact on the level of regulatory capital. The issuance of new equity shares is suggested to be the least attractive option to increase regulatory capital due to the tendency to impair the market value of old equity shares (Cohen & Scatigna, 2016; Stewart Myers & Majluf, 1984). This may spark concern considering that in the case of distributions only the initial equity capital serves as a buffer against default (Flannery & Giacomini, 2015).

3.2 Bank pay-out policy and risk-shifting

Studies also analyse the distribution behaviour of banks pre- and post-crisis. Floyd, Li, and Skinner (2015) who analyse the pay-out policies of US banks report high distributions at the onset of the financial crisis and rapid reinstitution in the aftermath; suggesting that banks may see pay-outs as more important than building capital. This concern is shared by Ashraf, Bibi, and Zheng (2016) who find that capital regulation based on common equity acts as an indirect backstop against distributions.

Recent studies highlight the importance of risk shifting as an explanation for high distributions. Risk-shifting can be defined as the pursuit of shareholder value strategies at the expense of debt holders (Financial Times, 2017). Srivastav, Armitage, and Hagendorff (2014) uses distributions as a measure of risk-shifting in banks; their figure includes distributions in form of cash dividends and share repurchases offset by cash injections from equity offerings (see also Cuny, Martin, and Puthenpurackal (2009)). In their analysis of distributions, Acharya et al. (2011) point to risk-shifting behaviour of European and US banks at the onset of the financial crisis. Also, Kanas (2013) highlights the role of dividends in exploring risk-shifting as well as risk-taking; the latter being explained as the reduction in capital base due to distributions.

3.3 Contribution of our article

Virtually all empirical analyses reviewed in the previous two sections test models or infer determinants through econometric techniques applied on data prepared by database providers. This widespread approach shows its limits by relying on secondary sources for data collection, while being unable to directly assess the financial measurements applied by regulatory bodies to determine the bank equity position at a certain point of time.

To overcome these limits, our evidence-based analysis seeks for evidence in primary sources such as managerial reports and financial reports. Our approach does still rely on public information provided by the banks themselves, but it avoids the additional potential bias involved in retrieving data from secondary sources such as commercial databases. Moreover, our evidence-seeking approach does not test a model or infer determinants through econometric techniques applied to these data. It provides a refined measurement of bank equity position through time. Indeed our measurement approach may help researchers seeking for better evidence in view to refine their modelling and definition of proxy variables for their econometric tests.

Furthermore, our approach builds upon a specific notion of bank equity to redefine its measurement. Both the notion and its measurement are then directly comparable with the ones employed by regulatory bodies. It may therefore help these bodies refining and comparatively assessing their regulatory measurements such as Tier 1 equity capital (see Section 5.3.3 below).

Our article contributes to the literature on bank regulatory capital (see Section 3.1 above) by adding to the previously reviewed studies which capture the development of regulatory capital pre- and post-crisis. In contrast to previous studies in this field, our article provides an evidence-based analysis of the stake of regulatory capital which was directly and indirectly contributed by shareholders. In light of recent changes in bank corporate governance codes and capital adequacy requirements, shareholder contribution is the main measurement for bank financial stability. Its level can be seen as an indication for the public interest thriving of banks as proclaimed by bank corporate governance codes; but also as a measurement of shareholder value in bank strategy.

Our article also contributes to the literature on bank pay-out policy and risk-shifting (see Section 3.2 above) by adding to the previously reviewed studies which document bank distributions pre- and post-crisis. Unlike other studies, our methodology provides a refined distribution measurement which relates to the individual capital structure of the bank as well as to the level of shareholder equity injections; in line with economic thought. A widespread understanding of equity capital considers it as a stand-alone stock. Our analysis applies a more comprehensive understanding of equity capital as a cumulated series of flows depending on retained earnings but also transactions with shareholding investors and other accounting reserves.

4 Methodology

The analysis of shareholder value and capital regulatory requirements as distinctive and contrasting drivers of bank equity (especially since the financial crisis of 2007–08) requires a method which disentangles capital transactions between the bank entity and shareholders (Figure 3). An accounting conceptual framework which targets the relationship between shareholders and the business entity as a going concern is provided by Anthony (1973, 1975, 1977, 1982a, 1982b, 1988), reviewed by Biondi (2012), and revised and applied to bank entities by Biondi and Graeff (2017).

Initial split according to affiliation with shareholders at t_0 :

Bank equity		
	Bank shareholder equity	Bank entity equity
Common shares	X	
Share premium	X	
Treasury shares	X	
Other comprehensive income		X
Retained earnings		X
Goodwill	Share acquisition	Cash acquisition
Amortisation/ Impairment charges		X

Ongoing allocation of equity flows related to shareholders at $t_{0 \rightarrow 0}$:

Shareholder equity components and flows	
Shareholder invested capital (direct contribution)	Shareholder retained interest (indirect contribution)
<u>Capital inflows:</u> + Share issuance + Repurchase at gain + Sale of treasury shares	<u>Income inflows:</u> + Share dividends + Equity interest
<u>Capital outflows:</u> - Share repurchase	<u>Income outflows</u> - Share dividends - Repurchase at loss - Cash dividends - Goodwill

Figure 3: Accounting methodology to identify shareholder equity and retained interest.
Note: Bank equity split into two distinctive classes of equity: shareholder equity and entity equity. The methodology disentangles transactions within shareholder equity as either capital in- and out-flows, or income in- and out-flows. These transactions are then allocated to the following stocks: shareholder invested capital (direct contribution by shareholders to bank shareholder equity) and shareholder retained interest (indirect contribution by shareholders to bank shareholder equity). A positive sign implies an inflow into bank shareholder equity, while a negative sign implies an outflow from the bank shareholder equity.

This accounting approach denotes shareholder equity as a cash-based provision of funds which last indefinitely in the bank entity in view to maintain business operations and protect against eventual losses. To disentangle shareholder equity as a distinctive accounting element, our approach introduces a split of the bank equity position into equity relating to shareholders (bank shareholder equity) and residual equity (bank entity equity). Shareholder equity assembles transactions between the bank entity and shareholders (share issuance, repurchase, dividends, acquisitions) and allocates these flows (capital and income in- and out-flows) to the following two components of shareholder equity: (i) shareholder invested capital representing direct contributions; and (ii) shareholder retained interest representing indirect contributions (Figure 3). Shareholder invested capital presents the amount of cash which shareholders have directly contributed to the bank entity through share transactions (capital in- and out-flows). It relates to the requirements under micro-prudential regulation to increase the stake of equity investment in the bank entity, as well as it constitutes the justification for distributions to shareholders. Shareholder retained interest combines the income flows allocated to shareholders as compensation for their capital provisions (income in- and out-flows). It demonstrates the power of shareholder value thriving in banks by creating a comparable figure of distribution levels.

Our approach builds upon the assumption that shareholders are external capital providers to the bank equity. Also, IASB (2014, p. 2) emphasised that “the reporting entity is separate from its capital providers. The economic resources are the entity’s and do not belong to the capital providers”. While IASB did not issue a specific standard on shareholder equity, the Accounting Standards Board of Japan defines shareholder equity distinct from net assets. Accordingly, shareholder equity is mainly composed of transactions with shareholders and retained earnings released from risk (see in particular notes 6 and 7 of ASBJ (2006)).

Following this assumption, bank profit remains in the sphere of the bank entity. Interest on shareholder direct contribution is then identified as both the bank entity cost of external shareholder capital and the shareholder compensation for the capital provision. This shareholder equity interest is benchmarked on remuneration of bank debt and detached from the bank entity’s ability to generate profit as well as the amount of cash dividends as set by the Board. The recognition of equity interest in accounting has been long discussed (Schmalenbach, 1912/13; Scovell, 1919). Its justification arises from economic thought which asserts that economic capital, independently whether it is debt or equity, must always bear interest because invested capital loses its ability to be used for other investments (Schnutenhaus, 1927).

5 Empirical analysis

In order to empirically assess dynamics in equity positions through changes in regulatory capital requirements and distributions to shareholders, this section presents an innovative evidence-based analysis of shareholder contribution to the bank equity position in nine case studies of European financial institutions between 2001 and 2017. Prior to the presentation of the results (Section 5.3), we explain the approach (Section 5.1) and introduce the sample (Section 5.2).

5.1 The approach

Case study analysis is chosen to provide in-depth analysis of the relationship between the bank entity and its shareholders. Due to the use of a generally small sample size, the case study approach does not permit generalization of its results. This approach, however, allows to draw empirical data directly from financial statements, providing primary evidence and insights that could not be extracted by existing databases through econometric techniques (see also Rhoades (1997)).

5.2 The sample

The sample covers the following nine banks: HSBC Holdings plc (HSBC), Barclays plc (Barclays), Royal Bank of Scotland (RBS), Deutsche Bank, Commerzbank, BNP Paribas, Société Générale, Monte dei Paschi di Siena (MPS) and Unicredit. It comprises the largest banks by asset size of the four European economies which made the list of the top ten largest economies in the world by GDP in 2015: UK (HSBC), Germany (Deutsche Bank), France (BNP Paribas) and Italy (Unicredit) (Table 1). The sample covers 40 % of the March-2015 assets of the 25 largest banks in Europe as listed by SNL Financials and represents eight of the thirty banks identified as global systemically important banks (G-SIBs) and half of the G-SIBs based in Europe. The sample time window is set from 2001 to 2017. It comprises seven years prior to the financial crisis and nine years after the financial crisis, if the financial crisis is roughly set between end of 2007 and beginning of 2008. Due to limited information, we do not have data on MPS for 2001.

Table 1: Sample.

Banks	Origin	Classified as G-SIB ¹	Average asset size in bn ²	Market capitalisation in EUR €M ³	Rank by asset size within country ⁴	Rank by asset size within sample
HSBC	British	X	1,958	143,230	1st	1st
Barclays	British	X	1,099	49,901	2nd	4th
Royal Bank of Scotland	British	X	1,082	47,531	3rd	5th
Deutsche Bank	German	X	1,492	31,050	1st	3rd
Commerzbank	German	----	567	–	2nd	8th
BNP Paribas	French	X	1,555	64,990	1st	2nd
Société Générale	French	X	962	33,913	3rd	6th
Unicredit	Italian	X	711	30,661	1st	7th
Monte dei Paschi di Siena	Italian	----	179	–	4th	9th

Note:

¹ In 2015, the Financial Stability Board identified 30 banks as global systemically important banks (G-SIBs) (Financial Stability Board, 2015). G-SIBs are ‘financial institutions whose distress or disorderly failure, because of their size, complexity and systemic interconnectedness, would cause significant disruption to the wider financial system and economic activity’ (Global Financial Markets Association, 2012).

² Total assets as found on the balance sheet over 15-year sample period (2001–2015) in national currency.

³ Source: SNL Financials, 2015: <https://www.snl.com/InteractiveX/Article.aspx?cdid=A-35109104-12854>.

⁴Source: SNL Financials, 2015: <https://www.snl.com/InteractiveX/Article.aspx?cdid=A-33361429-13866>.

5.3 The results

The rest of this section presents the results in three steps. The first step addresses the split between bank shareholder equity and bank entity equity (Section 5.3.1); the second step provides a reshaped perspective on pay-out policy (Section 5.3.2); the third one denotes regulatory capital under the premise of refined shareholder equity measurement (Section 5.3.3).

5.3.1 Equity composition and the actual contribution of shareholders to bank equity

Figure 4 shows the evolution of shareholder equity and the residual entity equity, as well as the proportion of shareholder and entity equities to total equity. Shareholder equity drastically decreased in the building up of the financial crisis. In 2007, it reached its low. In this year, shareholders, on average, had almost fully withdrawn their contribution and banks were therefore reliant on equity internally generated and attributable to the bank entity inner generation.

Figure 4: Shareholder equity to total assets and to entity equity for the whole sample.

Note: The three lines represent shareholder equity (SE), entity equity (EE) and total equity over time. The two-colours bar represents the yearly proportion of entity equity (EE) and shareholder equity (SE) in total equity (normalised at 100 %) year by year. Shareholder equity (SE) is shareholder equity to assets, entity equity (EE) is entity equity to assets; total equity is the sum of shareholder equity and entity equity to assets. Assets are adjusted by goodwill. EE (SE) to equity is Entity Equity (Shareholder Equity) divided by total equity (left axis). EE (SE) to total equity is adjusted to 0% if entity equity (shareholder equity) is negative and to 100 % if shareholder equity (entity equity) is negative. Our approach defines shareholder equity as the cumulated sum of flows which mainly depend on transactions with shareholders. It can become negative when outflows are bigger than inflows over time. See Section 4 and Figure 3 for methodological details.

Despite major increases in the aftermath of the financial crisis, shareholder equity remained behind entity equity in 2017 by two thirds. While the overall volatility of equity came out of entity equity, shareholder equity presented a consistent outflow of resources to shareholders prior to the financial crisis and likewise consistent inflow from shareholders after the financial crisis. This is also confirmed by Table 2 which shows the median and mean of shareholder equity.

In contrast to the other banks in the sample, Commerzbank and MPS were at times, and especially in the aftermath of the financial crisis, fully financed by shareholders (Table 2 and Figure 5). In the pre-crisis period, MPS followed the general trend of decreasing shareholder equity. Decrease in Commerzbank's shareholder equity commenced later and lasted until 2010 while other banks were already recapitalised.

Another outlier was HSBC which was fully funded by entity equity throughout the sample period. Similarly, concerning Unicredit, net shareholder contribution to bank equity was negative between 2005 and 2017, that is, cumulated inflows provided by them to support their bank remained below the cumulated outflows distributed to them during that period.

5.3.2 Pay-out policy

Figure 6 presents shareholder contribution policies by comparing distributions to shareholders, where distributions comprise cash dividends, losses from share repurchases and goodwill additions to shareholder equity adjusted by distributions. Material distributions in proportion to contributed capital were made prior to the financial crisis with a peak during the financial crisis. In 2007, banks made distributions to their shareholders of up to 190 % of previously made contributions by shareholders; and on average, in the amount of 55 % of shareholder contributions.

Several banks were restricted to distribute cash dividends in the aftermath of the financial crisis such as RBS, MPS and Commerzbank (Table 3). Other banks, in light of tightened regulatory capital requirements, were required to enhance their capital ratios by retaining profits and/or receiving capital from shareholders; as Deutsche Bank's CEO John Cryan explained: "I believe we can build up our capital organically, which we unfortunately didn't do over many years" (Reuters Business News, 2016).

Distributions to gross shareholder equity (Figure 6) show an even more drastic picture of shareholder return than the return on equity indicators presented in Table 4. For instance, while Deutsche Bank reported a return on equity of 19.5 % in 2007 and was indeed among the frontrunners in the ROE competition within the sample, Unicredit reported a ratio of distributions to gross shareholder equity of 190.45 % in 2007, followed by Deutsche Bank with 93.89 %. The median and mean also better capture the increase in distributions paired with lower shareholder equity in the running up to the financial crisis (Table 3).

Table 2: Shareholder equity position (shareholder equity to assets) between 2001 and 2017 for each bank, in proportion of total assets (restated for goodwill).

in %	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg
Barclays	1.00	0.48	0.12	-0.28	-0.32	-0.45	-0.48	-0.16	0.11	0.16	0.14	0.10	0.61	0.60	0.70	0.62	0.65	0.21
BNP Paribas	1.50	1.67	1.31	0.74	0.44	0.50	0.22	0.17	0.37	0.30	0.25	0.22	0.14	0.05	-0.09	-0.24	-0.43	0.42
Commerzbank	1.53	1.81	2.25	2.07	2.29	1.67	1.62	1.71	1.55	1.75	3.40	3.79	4.89	4.88	5.44	6.03	6.47	3.13
Deutsche Bank	1.32	1.22	0.84	0.29	-0.01	-0.20	-0.32	-0.30	-0.50	0.03	-0.07	-0.14	-0.11	0.31	0.21	0.21	0.73	0.21
HSBC	-0.33	-0.77	-1.91	-1.89	-2.00	-1.91	-1.74	-1.93	-1.44	-1.50	-1.63	-1.71	-1.94	-2.21	-2.66	-3.10	-3.31	-1.88
MPS	N/A	1.34	1.59	1.43	1.00	0.87	0.55	2.89	2.78	2.65	3.73	4.38	4.94	8.33	10.90	12.14	18.99	4.91
RBS	0.64	0.48	0.31	0.80	0.64	0.28	-0.09	0.35	0.51	0.62	0.63	0.80	1.08	1.12	1.53	1.63	1.82	0.77
Unitcredit	1.94	1.64	1.12	0.64	-0.84	-1.05	-1.84	-2.08	-2.03	-1.65	-1.70	-0.85	-0.98	-0.95	-0.93	-0.93	0.61	-0.58
Société Générale	0.56	0.44	0.30	0.06	-0.13	-0.02	-0.31	0.27	0.79	0.74	0.72	0.72	0.78	0.69	0.60	0.45	0.29	0.41
Average (Avg)	1.02	0.92	0.66	0.43	0.12	-0.03	-0.27	0.10	0.24	0.34	0.61	0.81	1.05	1.42	1.74	1.87	2.87	
Min	-0.33	-0.77	-1.91	-1.89	-2.00	-1.91	-1.84	-2.08	-2.03	-1.65	-1.70	-1.71	-1.94	-2.21	-2.66	-3.10	-3.31	
Max	1.94	1.81	2.25	2.07	2.29	1.67	1.62	2.89	2.78	2.65	3.73	4.38	4.94	8.33	10.90	12.14	18.99	
Median	1.16	1.22	0.84	0.64	-0.01	-0.02	-0.31	0.17	0.37	0.30	0.25	0.22	0.61	0.60	0.60	0.45	0.65	

Note: Shareholder equity to assets.

Figure 5: Sample evolution and outliers for the ratio of shareholder equity to total bank equity (in %) between 2001 and 2017.

Note: The grey area represents the interquartile range between the first and the third quartile, while the dark-grey line crossing that grey area represents the median value over time. Composition of equity is shareholder equity divided by total equity. The ratio is adjusted to 0 % in case shareholder equity is negative; in case entity equity is negative, the ratio is adjusted to 100 %. The interquartile range includes Deutsche Bank, BNP Paribas, RBS, Société Générale, Unicredit and Barclays.

Figure 6: Pay-out policy on gross shareholder equity between 2001 and 2017.

Note: Distributions include cash dividends, losses from share repurchases and goodwill additions. Shareholder equity excludes distributions and is capped at total equity when entity equity is negative (this is the case for MPS, RBS and Commerzbank). See Section 4 and Figure 3 for methodological details.

Table 3: Ratio of yearly distributions to gross shareholder equity at the end of the year between 2001 and 2017 for each bank.

in %	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg
Barclays	15.84	18.20	20.33	23.64	25.84	27.91	29.70	19.43	0.67	2.92	3.54	3.90	3.27	3.88	3.85	2.66	1.77	12.20
BNP Paribas	7.79	7.52	9.64	13.76	17.36	16.50	18.38	6.01	7.75	10.21	5.72	7.25	7.34	7.36	10.79	12.27	13.61	10.55
Commerzbank	6.60	2.82	0.67	0.00	1.35	2.88	4.21	5.02	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00	1.55
Deutsche Bank	6.86	8.48	12.23	13.38	18.88	52.93	93.89	50.94	7.57	3.14	5.38	5.34	5.49	3.42	4.75	0.03	1.33	17.30
HSBC	50.66	48.22	124.46	46.30	45.50	42.79	40.81	39.44	11.30	11.70	12.96	13.31	14.94	14.82	14.59	14.73	15.13	33.04
MPS	N/A	29.36	8.92	6.74	10.77	10.85	20.20	8.40	1.61	0.16	2.32	0.00	0.00	0.28	0.00	0.00	0.00	6.23
RBS	10.16	10.96	11.97	10.71	11.87	12.67	60.60	6.85	0.00	0.00	0.00	0.54	0.05	0.02	0.00	0.00	0.00	8.02
Société Générale	20.29	22.54	21.07	26.65	36.17	29.22	40.31	3.32	4.21	1.85	6.84	0.86	2.56	3.73	7.18	9.86	10.74	14.55
Unicredit	13.63	14.72	19.75	21.08	164.14	44.52	190.45	59.00	12.33	4.02	18.34	0.01	23.63	0.57	0.55	0.50	0.00	34.54
Average (Avg)	16.48	18.09	25.45	18.03	36.88	26.70	55.39	22.05	5.26	3.78	6.12	3.47	6.36	3.79	4.64	4.56	4.73	
Min	6.60	2.82	0.67	0.00	1.35	2.88	4.21	3.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Max	50.66	48.22	124.46	46.30	164.14	52.93	190.45	59.00	12.33	11.70	18.34	13.31	23.63	14.82	14.59	14.73	15.13	
Median	11.89	14.72	12.23	13.76	18.88	27.91	40.31	8.40	4.21	2.92	5.38	0.86	3.27	3.42	3.85	0.98	1.33	

Note: Distributions are measured according to our method and include cash dividends, losses from share repurchase and goodwill additions.

Shareholder equity is measured according to our method, it excludes distributions and is capped at total equity when entity equity is negative (this is the case for MPS, RBS and Commerzbank).

Table 4: Return on equity (our computation on data extracted from financial statements).

in %	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg
MPS	N/A	8.5	7.8	8.1	12.3	12.5	18.5	10.6	1.4	6.2	-27.3	-31.7	-22.6	-87.7	6.7	-33.77	-54.51	-10.31
Commerzbank	0	-2.5	-26.3	3.9	3.3	12.7	13.4	0	-23.6	5.5	2.2	-0.1	0.3	1	0	0.95	0.55	-0.51
RBS	8.1	7.3	8.3	18.6	15.9	17.5	18.1	-45.8	-6.1	-1.4	-2.8	-8	-13	-5.9	-3.5	-13.02	1.55	-0.25
BNP Paribas	19.4	13.3	14.2	17.4	18.1	17.9	15.8	5.6	10.9	11.2	8.1	8.7	5.6	0.1	7.4	8.00	7.71	11.14
Deutsche Bank	0.4	0.9	4.5	8.7	13.6	20.2	19.5	-10.1	16.2	6.2	8.4	0.5	1.2	3	-9.9	-2.16	-1.23	4.70
Barclays	18.5	15.4	18	19.8	21.7	26.2	22.3	18.8	25.6	7.5	5.9	-1.1	1	-0.3	-0.6	2.71	-2.96	11.67
Unicredit	16.8	16.2	15.9	16.3	17.6	15.4	15.3	6.9	2.4	2.2	-14.3	1.6	-22.6	4.3	3.4	-23.54	13.91	5.16
HSBC	10.9	13.6	16.9	17.3	17.6	16.9	17.5	4.3	5.9	9.9	10.9	8.4	8.9	7.2	6.6	1.83	6.77	10.67
Société Générale	15.7	8.8	15.8	19.4	23.8	22.6	3.2	7.3	1.8	9.2	5.1	1.6	4.1	5.2	7.2	6.56	4.53	9.52
Average (Avg)	11.23	9.06	8.34	14.39	15.99	17.99	15.96	-0.27	3.83	6.28	-0.42	-2.23	-4.12	-8.12	1.92	-5.83	-2.63	
Min	0.00	-2.50	-26.30	3.90	3.30	12.50	3.20	-45.80	-23.60	-1.40	-27.30	-31.70	-22.60	-87.70	-9.90	-33.77	-54.51	
Max	19.40	16.20	18.00	19.80	23.80	26.20	22.30	18.80	25.60	11.20	10.90	8.70	8.90	7.20	7.40	8.00	13.91	
Median	13.30	8.80	14.20	17.30	17.60	17.50	17.50	5.60	2.40	6.20	5.10	0.50	1.00	1.00	3.40	0.95	1.55	

Note: Return on equity is calculated by dividing net income by bank equity of the previous year.

Figure 7 indicates the point in time in which shareholders would have their initial investments paid back by distributions had they participated in subsequent transactions with shareholders. The yearly average amount is calculated by dividing accumulated distributions by average invested capital until that year. The bars show that most of the banks fully returned initial cash received from shareholders within nine years (on average). In 2007, accumulated distributions for the sample until 2007 exceeded the sample average invested capital already by 1.17 times.

Figure 7: Point in time of initial equity injection pay-back.
Note: Bars represent the point in time in which shareholders would have their initial investments paid back by distributions if they participated in subsequent transactions with shareholders. The yearly average amount is computed by comparing accumulated distributions with average invested capital until that year. Average value summarises the figure for the sample in each year. Goodwill attributable to shareholders prior to 2001 is allocated to distributions of 2001. See Section 4 and Figure 3 for methodological details.

Figure 8 illustrates how long invested capital lasts in the banks between 2001 and 2017, measured in days. It is calculated by yearly invested capital stock (multiplied by 360) over yearly accumulated distributions. Time invested capital lasting in the bank entity shows a clear down curve before the financial crisis in almost all banks of the sample. In the aftermath, invested capital largely lasted longer in the bank entity. But only the three banks – all rescued by their respective governments, namely RBS, MPS and Commerzbank – reached lasting periods somewhat similar to the pre-crisis. According to our analysis, bank shareholder equity lasts on average (median) 868 (399) days, that is around 2.5 (1.15) years. Lowest holding period was reported by HSBC of 36 days in 2008.

Figure 8: Time invested capital lasting in the bank entity (in days).
Note: Bars represent the yearly value of the indicator for each bank from 2001 to 2017. Time invested capital lasting in the bank entity (the indicator) is calculated by dividing invested capital (multiplied by 360) by accumulated distributions. See Section 4 and Figure 3 for methodological details.

Figure 9 (by year) and Figure 10 (by bank) compare cash dividends to equity interest. This ratio represents the multiple of cash dividends relative to equity interest, which is the estimated return benchmark for shareholder invested capital based on bank debt cost. The comparison shows that banks compensated shareholders for their capital contribution on average 9 times more than what average debtholder would have received on their debt investment. The cash distributions in relation to equity interest peaked in 2008 when Deutsche Bank distributed cash in the amount which was 57 times higher than what its average debtholder received on their investment (Figure 9).

Figure 9: Cash dividends to equity interest between 2001–2015.
Note: The number represents the multiple of cash dividends relative to equity interest (estimated reference return for shareholder invested capital). See Section 4 and Figure 3 for methodological details.

Figure 10: Cash dividends to equity interest of each bank.
Note: The number represents the multiple of cash dividends relative to equity interest (estimated reference return for shareholder invested capital). See Section 4 and Figure 3 for methodological details.

5.3.3 Regulatory capital management

Figure 11 compares Tier 1 capital ratio (Tier 1 ratio) as set by Basel III with the shareholder equity capital ratio (SE ratio) which is shareholder equity divided by risk-weighted assets. The comparison shows that while the Tier 1 ratio remained on average largely constant in the pre-crisis period, the shareholder equity capital ratio – computed according to our methodology – continuously decreased. The latter finds its low in 2007 with -0.66% in contrast to a Tier 1 capital ratio of 6.85% . The difference is provided by the entity itself as well as other hybrid instrument holders (stripped area). Shareholder contribution to regulatory capital increased but remained somewhat low in 2017 despite pay-out cutbacks (Figure 6) and major share issuances. The share of regulatory capital provided by shareholders recovered in 2017 with 37% in comparison to 32% in 2001. Outliers are Commerzbank and RBS as well as Unicredit and HSBC (Table 5).

Figure 11: Prudential ratios compared with our shareholder equity ratio (SE ratio).

Note: Lines represent Tier 1 ratio and Shareholder Equity ratio in % (left axis). Bars represent the proportion of shareholder equity (SE) in total bank equity normalised to 100 % (in %). SE ratio is shareholder equity divided by risk-weighted assets (left axis). Tier 1 capital ratio is Tier 1 capital divided by risk-weighted assets under Basel III (left axis). SE to Tier 1 is shareholder equity to Tier 1 capital. SE to Tier 1 has been adjusted to 0 % if shareholder equity is negative. Shareholder equity is total equity in case of negative entity equity (Commerzbank, RBS, MPS). SE ratio can become negative because shareholder equity was negative. Our approach defines shareholder equity as the cumulated sum of flows which depend on transactions with shareholders, among other factors. It can become negative when outflows are bigger than inflows over time. See Section 4 and Figure 3 for methodological details.

Table 5: Shareholder Equity (SE) ratio; shareholder equity (according to our method) divided by risk-weighted assets.

in %	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg
Barclays	2.21	1.11	0.29	-0.68	-1.09	-1.50	-1.66	-0.73	0.39	0.58	0.54	0.40	1.84	2.01	2.19	2.04	2.32	0.60
BNP Paribas	4.08	4.13	3.71	2.28	1.45	1.56	0.67	0.68	1.22	0.99	0.79	0.77	0.42	0.16	-0.28	-0.77	-1.30	1.21
Commerzbank	3.92	4.87	5.92	6.50	6.97	4.44	4.23	5.13	5.51	4.93	8.94	10.77	12.08	10.82	13.40	13.48	15.14	8.06
Deutsche Bank	3.95	3.85	3.08	1.09	-0.04	-1.15	-1.87	-2.13	-2.72	0.15	-0.42	-0.85	-0.58	1.33	0.87	0.98	3.13	0.51
HSBC	-0.57	-1.33	-3.11	-3.13	-3.57	-3.72	-3.48	-4.22	-2.99	-3.32	-3.42	-4.06	-4.72	-4.74	-5.78	-8.53	-9.54	-4.13
MPS	N/A	2.02	2.31	2.07	1.65	1.37	0.78	4.53	5.02	5.65	6.98	5.63	6.03	6.99	12.93	9.14	16.50	5.60
RBS	1.09	0.81	0.52	1.41	1.31	0.59	-0.28	1.19	1.58	1.57	1.85	2.26	2.86	3.28	5.08	5.63	6.59	2.20
Unicredit	2.87	2.59	1.82	1.13	-1.57	-2.02	-3.30	-4.17	-4.09	-3.30	-3.34	-1.83	-1.90	-1.96	-2.05	-2.07	1.43	-1.28
Société Générale	1.56	1.18	0.81	0.12	-0.44	-0.11	-1.05	0.85	2.44	2.46	2.40	2.74	2.73	2.51	2.22	1.67	1.00	1.36
Min	-0.57	-1.33	-3.11	-3.13	-3.57	-3.72	-3.48	-4.22	-4.09	-3.32	-3.42	-4.06	-4.72	-4.74	-5.78	-8.53	-9.54	
Max	4.08	4.87	5.92	6.50	6.97	4.44	4.23	5.13	5.51	5.65	8.94	10.77	12.08	10.82	13.40	13.48	16.50	
SE ratio	2.39	2.14	1.70	1.20	0.52	-0.06	-0.66	0.12	0.71	1.08	1.59	1.76	2.08	2.27	3.18	2.40	3.92	

Note: SE ratio is shareholder equity (measured according to our method) divided by risk-weighted assets. Shareholder equity is total equity in case of negative entity equity (Commerzbank, RBS, MPS).

6 Implications and Perspectives

Our evidence-based analysis of shareholder contribution to nine European bank equities between 2001 and 2017 supports the assertion that bank equity dynamics is shaped by both regulatory capital requirements and managerial pursuit of economising strategies; the latter being a consequence of shareholder value in bank strategy (see Section 2 above). While managerial discourse remained shareholder value driven, post-crisis micro-prudential regulation altered its view on shareholders in bank corporate governance codes and regulatory capital adequacy requirements. With the pursuit of safeguarding public interest, regulatory capital adequacy requirements argued for shareholders as providers of high-quality equity capital.

The change in focus in regulatory capital adequacy requirements is well illustrated in the findings which divide the sample period in two clear phases: A period of co-existence characterised by shareholder value extraction, before and during the global financial crisis; and, a period of divergence in which equity capital contribution dominates, in the aftermath of the global financial crisis (Section 6.1).

6.1 The global financial crisis divide: Two distinctive time periods

The pre-crisis period (2001–2007) is distinctive to the era of shareholder value. Shareholder contribution – this is direct contribution through share transactions and indirect contribution through retention of equity interest – drastically shrunk for all banks in the sample. Lowest point was reached in 2007 with bank equity fully consisting of equity internally generated by the entity (Figure 4). Most banks fully returned initial capital contributions received from shareholders during the 7 years prior to the financial crisis (Figure 7). Lowest lasting period was reported by HSBC of 36 days in 2008 (Figure 8). At that time, shareholders were not acting as capital providers to the bank entity, while the entity remained reliant on its own capacity to generate sufficient capital to sustain itself against adverse scenarios as well as to perform shareholder payout policies.

The post-crisis period (2009–2017) shows the change regulatory capital brought to the dynamics of bank entity. Shareholders were fostered to act as capital providers under micro-prudential regulation; resulting in some major capital increases (Figure 4). Despite these capital increases, distributions in

some banks remained relatively high: Unicredit for instance distributed 18 % of its shareholder contribution in 2011 and then again 23 % in 2013; BNP Paribas only slowed down its distributions in later years, while prior consistently returned on average 7 % of initial contributions to shareholders (Table 3). Evidence from managerial reports confirm the continued focus on distributions to shareholders; for instance, Barclays (2017, p. 2) reassures that “it is our firm intent, over time, to return a greater proportion of our earnings to shareholders, both through the annual dividend and in other ways”.

6.2 Bank risk-shifting

Findings also show a phenomenon described in the literature as risk-shifting, that is the pursuit of shareholder value strategies at the expense of debt-holders (Financial Times, 2017). The highest magnitude of the distributions took place in 2007. At the onset of the financial crisis, shareholders received on average more than half of their past contribution as distributions (Figure 6); bank entities were then mainly reliant on retained earnings generation and without material outside capital provision at the beginning of the financial crisis (Figure 4). The duration of invested capital staying in the bank entity became measurable in days; with lowest of 36 days (HSBC) and highest 4.4 years (Commerzbank) (Figure 8).

Distributions which shareholders received prior to the financial crisis proved to be highly needed in the aftermath of the financial crisis. Taxpayers suffered from losses due to high demand of governmental support for those banks which were struck hardest during the financial crisis (Biondi, 2016; European Central Bank, 2015). Other banks struggled to find shareholders willing to refill their torn capital buffers (Boland, 2010; Reuters Business News, 2009). Shareholder equity decreased by 100 % and went up again by 100 % just within 13 years (Figure 4).

6.3 Confronting orientations on shareholder contribution to bank equity

Despite revised capital requirements, the actual contribution by shareholders barely followed up with the increase in Tier 1 capital. In 2017, despite major capital increases and Basel III/IV emphasis on shareholders, contributions by shareholders only made 29 % of the regulatory capital ratio (Figure 11).

Concern remains whether banks provide themselves with sufficient high-quality capital buffers in presence of bank equity economising strategies which seem to remain dominant in bank corporate strategies (Barclays, 2017; Deutsche Bank, 2017).

Banks are also well aware of the conflict between shareholder value and micro-prudential regulation on bank equity. HSBC (2001, p. 119) early acknowledged the trade-off “between the advantages and flexibility afforded by a strong capital position and the higher returns on equity possible with greater leverage”. In light of revised Basel requirements, Deutsche Bank (2014, p. 50) reported that its “[...] return on equity was impacted by [...] the strengthening of [...] the] capital base”; that its “progress towards [...] its] revised target of an adjusted post-tax return on [...] equity target [...] will continue to be impacted by regulatory induced costs [...]”; and, that it “[...] will continue to work towards [...] its] target but progress will be difficult with the current headwinds”. Also, HSBC (2016, p. 5) stated: “Beyond supporting the maintenance of our dividend, in 2016 management’s efforts created the capacity to return capital to shareholders by way of a share buy-back and demonstrated justification for a reduction in the additional capital buffer applied to HSBC as a G-SIB”.

Nevertheless, some of the banks present a differing picture in the aftermath of the financial crisis. These are foremost those banks which required state aid during the financial crisis, clearly seen in Figure 8. MPS, RBS and Commerzbank report much higher shareholder equity than their peers. This however may rather find its ground in low earnings power which requires uplifting by shareholders paired with governmental restrictions on distributions.

6.4 New practice of the bank entity

The extensive use of equity economising strategies as a consequence of shareholder value in bank strategy may suggest a rethinking of the business model of the bank entity itself. Evidence suggests that banks in the sample regarded shareholders primarily as equity investment remuneration recipients, rather than prudential equity investment providers as promoted by micro-prudential regulation. Moreover, banks in the sample justified their extensive pay-out policy – and consequent risk-shifting – as a compensation for shareholders’ initial equity injection, which, however, lasted only short-term in the bank entity (Figure 7). In consequence, banks in the sample at times were fully reliant on their own capacity to generate sufficient capital to sustain itself without any material contribution from shareholders; nevertheless, high pay-out policies

were maintained. This shows the relevant tension between the concept of banks as foremost going concerns, which are self-sustained over time and consistent with stakeholder interests and public good, and their actual overwhelming practice as financial investment vehicles for shareholding investors, which prioritise shareholder remuneration over bank entity financial sustainability through time. In this light, it is not surprising that recent capital adequacy requirements are seen as a hurdle for banks in their capital management.

7 Concluding remarks

The paper explores whether old and new regulatory capital requirements pass the test against economising in equity positions which is a consequence of shareholder value strategies. With the introduction of public interest in bank corporate governance codes and regulatory capital requirements, the two main drivers of bank equity have evolved to be opposing in nature. Managerial discourse in the sample largely maintained their focus on compensating shareholders, while regulatory capital requirements under Basel III celebrate shareholders as equity investment providers in the pursuit of financial stability.

Our approach to the role of shareholders in bank equity management introduces a new conceptualisation of bank equity capital accompanied with a new methodology to measure its composition. On this basis, our evidence-based analysis visualises the conflicting forces which drive bank shareholder equity position by providing evidence on the actual shareholder contribution to this position in nine case studies of European financial institutions between 2001 and 2017.

Our findings cut the sample period in two clear phases: A period of co-existence prior and during the financial crisis; and a period of divergence after the financial crisis. Regulatory capital requirements allowed substantial distributions to shareholders prior and during the financial crisis; supporting the assertion of risk-shifting in banks. In the aftermath of the financial crisis, shareholder contributions increased but only with limited effect on their outstanding stake in regulatory capital. It appears that, despite major revision in regulatory capital adequacy, the clothes of a public interest servant remain unfitted for shareholders. Moreover, a new concept of the bank entity may have been crystallised: the bank entity as a financial investment vehicle.

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