IMPACT OF BOARD STRUCTURE ON BANK PERFORMANCE AND RISK MANAGEMENT

Abstract

This study examines the impact of board structure and composition on the performance and risk management of UK banks, focusing on CEO pay, gender diversity, and board independence. Using panel data from HSBC, Barclays, and Lloyds over 2012-2023, I assess market-based performance via Tobin's Q and insolvency risk through Z-score. My findings reveal that firm size positively influences both metrics, while leverage has a negative impact. Although CEO pay and board diversity show mixed effects on performance and risk, these relationships are not statistically significant.

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1. Introduction

Throughout history, the success of organisations has been closely linked to the individuals who lead them. In today's complex financial services industry, where innovation is constantly reducing the opportunities for differentiation, the people who manage these organisations are of utmost importance. Within banks, the board of directors plays a crucial role in navigating the complexities of the financial landscape and consistently achieving success. Therefore, the composition and structure of a bank's board of directors are essential in ensuring long-term financial stability and strategic direction, ultimately demonstrating the organisation's success. Given this growing recognition of board structure's influence, it is vital to comprehend that the composition and structure of a bank's board are not just some simple factors but rather critical determinants of its risk management and financial performance.

Numerous studies have evidenced the importance of the structure and composition of the board of directors in significantly influencing a bank’s risk management and financial performance. Commercial banks face complex risk management challenges, especially those with diversified loan portfolios, large asset sizes, or high leverage ratios (Coles, Daniel and Naveen, 2008). Larger boards with a strong presence of independent directors can be particularly beneficial for such banks. These independent directors can provide crucial oversight and guidance on risk mitigation strategies (Coles, Daniel and Naveen, 2008; Mishra, 2023). Banks might also benefit from having some insiders on the board alongside independents to leverage internal knowledge of the specific business and the external perspectives of independent directors for a more comprehensive approach to risk management (Coles, Daniel and Naveen, 2008). Balsmeier, Fleming and Manso (2017) document that transitioning into independent boards fosters corporate

innovation, suggesting a positive link between improved corporate governance through board composition and a firm's innovation process.

Other avenues of research have investigated the relationship between various elements of board structure and composition, such as gender diversity, age of board members, educational qualification and board expertise on risk management practises and their impacts on overall firm performance. Gender diversity (Martin, Nishikawa and Williams, 2009; Berger and Bouwman, 2013; Faccio, Marchica and Mura, 2016; Terjesen, Couto and Francisco, 2016; Ye *et al.*, 2019; Hrazdil *et al.*, 2020; Peltomäki *et al.*, 2021) can be identified as a key factor that significantly influences board composition with current developments of woman empowerment through 'breaking the glass ceiling' taking centre stage in the involvement of women on board, considering them to be a successful driver of firm performance compared to their male counterparts (Johns, 2013). However, recent research has also evidenced many contradicting views (Faccio, Marchica and Mura, 2016; Ingersoll, Cook and Glass, 2023), suggesting that what the trend dictates cannot be taken at face value.

This essay will investigate the board structure and composition elements influencing a bank's performance and risk management practices. By exploring the relationship between board composition, diversity, and expertise, it will examine real-world bank examples and clarify how these factors contribute to a bank's capacity to manage risk, optimise performance, and achieve long-term stability within the dynamic financial environment.

2. Literature review and hypotheses development

2.1. Gender diversity, CEO behaviour and firm performance

Berger and Bouwman (2013) investigate the influence of board demographics in the German banking sector. Using a difference-in-difference approach to determine the impact of the board's composition on risk-taking behaviour over time, their findings suggest that female onboarding on a male-dominated board was likely to create hindrances to effective decision-making, thereby increasing risk, and females were more likely to be involved in the board with less risky banks by self-selection, consistent with Faccio, Marchica and Mura (2016). In contrast, Nadeem, Suleman and Ahmed (2019) argue that the involvement of women on the board improved group dynamics, enhancing decision-making. Berger and Bouwman (2013) additionally find that having more female executives on the board increases bank risk, similar to findings by Ingersoll, Cook and Glass (2023) who conclude that the involvement of female directors leads to higher corporate risk.

Faccio, Marchica and Mura, (2016) examine how CEO gender influences risk-taking behaviour and adeptness in capital allocation. Analysing the impact of female CEOs on risk-taking behaviour in firms across 18 countries, the study compared firms with male CEOs to those with newly appointed female CEOs. Their findings suggest a significant decrease in risk-taking propensity following the CEO transition, indicating a potential causal effect of executive gender on corporate risk-management strategies. This is consistent with other findings documenting that women executives are usually risk-averse (Martin, Nishikawa and Williams, 2009; Palvia, Vähämaa and Vähämaa, 2015; Hrazdil *et al.*, 2020) and hold more capital, thereby reducing default risk during crisis periods (Palvia, Vähämaa and Vähämaa, 2015). Nadeem, Suleman and Ahmed (2019), however, argue that this reduction in risk is not because of risk-averse behaviour but because of the improved board dynamics, leading to lower overall risk. On the contrary, Faccio,

Marchica and Mura (2016) suggest that female CEOs may be less effective in capital allocation due to their risk-averse behaviour, leading to underinvestment in positive NPV projects or hesitation in divesting from negative NPV projects, causing overinvestment. Concurrently, the study highlights the benefits of gender diversity on the board.

Terjesen, Couto and Francisco (2016) investigate the effects of gender diversity on the independence and efficiency of boards of directors. Using a sample of 3,876 public firms across 47 countries, they study whether having a higher ratio of independent members and female directors on board improved a firm's performance. The findings suggest that companies with more female directors demonstrated higher firm performance, as measured by market (Tobin's Q) and accounting performances (ROA). The findings further elucidate the interconnectedness of gender diversity and firm performance, revealing a positive influence on firm performance imparted by board independence is statistically significant when the board was more gender-diverse, and an imbalanced board acted as a negative signal to shareholders, which led to lower market value of the firm.

2.2. Board composition and firm performance

Earlier study by Vafeas and Theodorou (1998) explore the association between board structure and firm performance. Constructing a sample of 250 publicly traded firms in the UK, they survey the fraction of non-executive directors on the board and the presence of non-executive directors on monitoring committees on firm value, among others. The results indicate that R&D spending and current performance influence corporate performance and suggest no significant relationship exists between the composition of the board and firm performance. They recognise that firms have distinct board structures and governance needs that are shaped by their firm-specific attributes and the external environment in which they operate. Consequently, adopting a one-size-fits-all

approach to board structure is inappropriate, and tailoring the board structure should be designed to minimise agency costs, even suggesting CEO duality may not be problematic in special cases.

Garg (2007) investigated the link between board size and firm performance in a sample of 164 non-bank Indian companies and found mixed evidence of independent directors adding value to the firm, suggesting complacency and a negative attitude to fulfilling their role as this indifference to value addition. Nonetheless, they also suggest that poor performance may cause an increase in the number of independent directors, implying these appointments are in lieu of expectation of a better future performance. Building on this element of evidence of board composition, Fauver *et al.* (2017) provides empirical evidence with an investigation of the link between board reforms focus on board independence and firm value. They deduce that reforms promoting board independence are most effective in increasing firm value as measured by Tobin's Q, emphasising that increased independence allows for better oversight and potentially better decision-making, thereby increasing firm value. Additionally, they find this reform particularly beneficial in countries with weak prior governance structures.

2.3. Executive compensation and its influence on firm performance and solvency

Hubbard and Palia (1995) in their study of US banks in the 1980s support the idea of equity-based compensation as a mechanism for aligning the mission between the CEO and shareholders. They argue that highly skilled CEOs will demand higher pay in a competitive environment, resulting in a positive association between the level of pay and firm performance. Saunders, Strock and Travlos (1990) sustain this former argument in their investigation of the impact of managerial ownership on a bank's risk-taking behaviour in the early 1980s deregulation period in the US banking sector. They discuss that managerial risk-taking behaviour will depend on how closely their interests

match with those of value-maximising shareholders. This reasoning is further upheld by Fahlenbrach and Stulz (2011), who find that US bank CEOs have a sizeable wealth vested with their banks as equity and options and, therefore, their behaviour is aligned with the interest of shareholders. However, they suggest that this form of compensation led to CEOs taking on more risk compared to CEOs who have fewer incentives to maximise shareholder value.

On the contrary, Houston and James (1995) in their study of the US banking sector from 1980 through 1990, they state that although this theory of equity compensation promoting risk-taking behaviour might be valid, they find that US bank CEOs are compensated less in cash than CEOs in other sectors and do not find equity-based compensation significant in promoting risky behaviour. Jensen and Murphy (1990) also evidence of this compensation trend in other large firms. Based on the literature review, I formulate my hypotheses as below:

H_1: Board elements, controlled by firm elements, have a significant influence on the bank's performance.

H_2: Board elements, controlled by firm elements, have a significant influence on the bank's solvency.

3. Data and methodology

This section will be divided into three parts. Section 3.1 will detail the sample collection methods. Section 3.2 will introduce the variables, followed by establishing the regression models. Section 3.3 will highlight the procedures for the regression analysis.

3.1. Sample collection

The sample consists of panel data with 3 UK banks and 36 firm-year observations from 2012 to 2023: HSBC Holdings Plc, Barclays Plc, and Lloyds Banking Group Plc. The data for the board

elements is handpicked and compiled from the annual reports for each period for each bank. Other elements of firm performance and explanatory variables have been retrieved from FAME and Orbis databases maintained by Bureau van Dijk. Table 1 summarises the descriptive statistics for the variables. Appendix 1 lists the panel dataset used for the analysis along with a summary of the fundamental data used to compute the explanatory variables.

3.2. Selection of variables and models

3.2.1. Dependent Variables

The hypotheses outlined in the previous sections will be tested using two regression models. In the first model to measure the firm performance, *Tobin's Q* is used as a dependent variable as it is considered an appropriate measure of market-based firm performance (Lefort and Urzúa, 2008; Kim and Lim, 2010; Mollah and Zaman, 2015; Terjesen, Couto and Francisco, 2016; Fauver *et al.*, 2017). *Tobin's Q* is calculated as the sum of total assets and market value of equity, less the book value of equity, as a proportion of the total assets. In the second model to measure the insolvency risk, an accounting-based measure of insolvency risk, *Z-score,* is used as the dependent variable (Boyd, De Nicoló and Jalal, 2006; Laeven and Levine, 2009; Fang, Hasan and Marton, 2014; Li and Malone, 2016). *Z-score* is calculated as the sum of ROA plus the ratio of total equity to total assets, divided by the standard deviation of the ROA.

3.2.2. Independent and control variables

Leaning on prior literature, the board variables of interest in both models will be *CEO Pay* (Jensen and Murphy, 1990), the Proportion of women on board *PROPWOMEN* (Berger and Bouwman, 2013; Terjesen, Couto and Francisco, 2016) , calculated as the number of women on board divided by board size, and the proportion of independent directors on board *PROPIND* (Mollah and

Zaman, 2015; Terjesen, Couto and Francisco, 2016), calculated as the number of independent directors divided by board size.

Firm characteristics are included as the control variables. Equity multiplier has been used as proxy for *Leverage,* which is calculated as the ratio of total assets to total equity (Abraham, Harris and Auerbach, 2017; Arhinful and Radmehr, 2023). *FIRMSIZE* (Mollah and Zaman, 2015; Chen and Hassan, 2021) is calculated as the natural logarithm of the total assets of the banks. Similarly, the *NPL ratio* (Salas and Saurina, 2002; Ghosh, 2017; Naili and Lahrichi, 2022) is calculated by taking impaired/non-performing loans as a ratio of gross loans and advances. Firms with higher ROA are generally viewed more positively by investors, resulting in a higher Tobin's Q ratio. ROA is calculated as net income after taxes divided by average assets (Louzis, Vouldis and Metaxas, 2012; Radivojevic and Jovovic, 2017). The book-to-market ratio is relevant for predicting solvency issues as a low book-to-market ratio may suggest that the market values the firm's assets lower than their reported book value, which could indicate financial distress. The book-to-market ratio is calculated as the total shareholders fund divided by the market capitalisation (Cakici and Topyan, 2014). Based on this, ROA is included in the first model but absent in the second model, and the inclusion of the book-to-market ratio is in the second model but absent in the first model. I expect *Leverage,* and the *NPL ratio* to have negative coefficients against *Tobin's Q* and *Z-score.* Alternatively, I expect *CEO pay*, *FIRMSIZE, ROA,* and *the proportion of women and independent directors on the board* to have positive coefficients on the dependent variables. Table 1 summarises the descriptive statistics for the variables.

Table 1 Summary statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Tobin's Q	36	1.075	.222	.922	1.944
Z-Score	36	32.67	7.97	18.842	48.182
CEO Pay	36	5.596	2.225	1.602	11.54
PROPWOMEN	36	.306	.088	.15	.47
PROPIND	36	.81	.056	.69	.87
Firm Size	36	14.07	.36	13.589	14.712
ROA	36	.003	.002	-.001	.008
Leverage	36	16.744	2.836	12.195	23.697
NPL Ratio	36	.032	.016	.013	.088
Book-to-market ratio	36	1.557	.577	.699	3.084

3.2.3. Regression models

Based on the aforementioned variables, the regression models are established as follows:

Model 1 to check the firm performance

$$Tobin's\ Q_{it} = \alpha + \beta_1 CEO\ Pay_{it} + \beta_2 PROPWOMEN_{it} + \beta_3 PROPIND_{it} + \beta_4 FIRMSIZE_{it} + \beta_5 ROA_{it} + \beta_6 Leverage_{it} + \beta_7 NPL\ Ratio_{it} + Fixed\ effects + \epsilon_{it}$$

Model 2 to check the insolvency risk

$$Z - Score_{it} = \alpha + \beta_1 CEO\ Pay_{it} + \beta_2 PROPWOMEN_{it} + \beta_3 PROPIND_{it} + \beta_4 FIRMSIZE_{it} + \beta_5 Leverage_{it} + \beta_6 NPL\ Ratio_{it} + \beta_7 Book - to - Market\ Ratio_{it} + Fixed\ effects + \epsilon_{it}$$

3.3. Methodology

Firstly, for the data cleaning process, any outliers will be removed from the dataset. Thereafter, Variance Inflation Factor (VIF) analysis will be conducted to identify multicollinearity issues among independent variables. Finally, multivariate simple linear regression analysis will be run, which will include firm and year-fixed effects to control for unobserved heterogeneity, with firm-fixed effects capturing individual firm-specific characteristics and year-fixed effects accounting for time-specific factors affecting all firms. Integration of these fixed effects aims to enhance the model's explanatory power.

4. Results

This section will be divided into two parts. The first section will detail the multicollinearity checks on the dataset. The second section will present the regression results and the analysis.

4.1. Correlation coefficients and check for multicollinearity

To check for any multicollinearity issues, the correlation coefficients and variance inflation factor (VIF) were computed. Correlation is considered to be significant if it is higher (lower) than 0.8 (-0.8). Similarly, VIF is considered significant if is higher than 10. A general observation of these coefficients and values shows no significant signs of multicollinearity between the variables. Correlation coefficients are tabulated in Table 2, and VIF is tabulated in Table 3. Therefore, no variables are made redundant for the analysis purpose.

Table 2 Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Tobin's Q	1									
(2) Z-Score	0.425	1								
(3) CEO Pay	0.024	0.223	1							
(4) PROPWOMEN	0.472	0.325	0.022	1						
(5) PROPIND	0.248	0.175	-0.484	0.405	1					
(6) Firm Size	0.597	0.796	0.031	0.369	0.491	1				
(7) ROA	0.162	0.502	0.417	0.501	-0.052	0.321	1			
(8) Leverage	-0.379	-0.709	-0.471	-0.314	0.316	-0.294	-0.52	1		
(9) NPL Ratio	-0.339	-0.581	-0.259	-0.4	-0.066	-0.419	-0.497	0.511	1	
(10) Book-to-market	-0.015	-0.127	-0.539	0.182	0.615	0.106	-0.134	0.554	-0.124	1

Table 3 Variance Inflation Factor (VIF)

Variables	VIF	1/VIF
Leverage	3.590	0.279
Ratio of Independent Directors on board	3.370	0.297
Book-to-market ratio	3.370	0.297
NPL Ratio	2.360	0.424
Firm Size	2.100	0.476
Ratio of Women on board	2.050	0.488
Return on Assets	1.990	0.504
CEO Pay	1.970	0.508
Mean VIF	*2.60*	

4.2. Empirical analysis

In this section, I examine the impact of board characteristics as the primary independent variables of interest and firm characteristics as control variables on market-based performance, measured by Tobin's Q, and insolvency risk, measured by Z-score. A lower Z-score means higher insolvency risk, and a higher Q value means higher value associated with the bank by the market. I use the regression models outlined in Section 3.2.3 to analyse a sample of 36 observations, incorporating both firm and year fixed effects. The regression models, thus, aim to control for unobserved heterogeneity across firms and over time.

Table 4 Regression results

	Dependent variables	
Independent variables	Tobin's Q	Z-score
CEO Pay	-0.009	0.043
	(0.022)	(0.274)
Proportion of Women on board	0.174	1.441
	(0.944)	(11.322)
Proportion of Independent directors on board	-1.15	6.695
	(1.103)	(13.342)
Control Variables		
Firm Size	0.382**	12.08***
	(0.163)	(1.972)
Leverage	-0.047*	-2.028***
	(0.027)	(0.344)

NPL Ratio	0.091	-37.135
	(4.758)	(57.38)
ROA	-58.688**	
	(25.438)	
Book-to-market ratio		5.496***
		(1.403)
Constant	-2.392	-116.811***
	(2.185)	(26.097)
Observations	36	36
Firm fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
R-squared	0.681	0.964
F-stat	3.69	58.82
Prob > F	0.013	0.000

Notes:

(1) Standard errors are given inside parentheses.

*(2) *** - Statistically significant at 1%, ** - Statistically significant at 5%,* - Statistically significant at 10%.*

The relationships between CEO pay, proportion of independent directors and measures of performance and risk management are found to be statistically insignificant. Nevertheless CEO pay appears to have contrasting effects on Q value and Z-score. A negative coefficient for the bank performance variable indicates that high CEO pay adversely impacts the bank's performance, possibly due to the use of resources that could otherwise reinvested in the bank. This finding contradicts my expectations and the findings of Doucouliagos, Haman and Askary (2007), Deysel and Kruger (2015) and Ahamed (2022). CEO pay, however, shows a positive relationship with the

Z-score as expected, indicating that higher CEO pay may motivate the CEO to be more mindful of the bank's solvency and avoid risky investments, thereby also addressing some part of agency problem (Carpenter, 2000; Fahlenbrach and Stulz, 2011).

Similarly, the proportion of independent directors appears to have a negative correlation with the Q value. The finding is negative to my expectation but could supported by the idea that a greater number of independent board members might be inefficient in conjunction with increasing the board size (Garg, 2007; Guest, 2009; Volonté, 2015). Alternatively, the benefits of independent directors might have been muffled because the corporate governance structure is already strong in the UK, and independence has been found to have a positive significant impact on firm value in countries with weak prior governance, as evidenced by Fauver *et al.* (2017). However, a positive coefficient for the proportion of independent directors in explaining the Z-score suggests that the presence of independent directors provides supervisory oversight to banks, potentially minimising insolvency risk (Beasley, 1998; Fauver *et al.*, 2017). Nevertheless, these relationships are found not to be statistically significant.

The proportion of women on the board has a positive but statistically insignificant effect on Tobin's Q and the Z-score. This suggests that gender diversity at the board level positively influences bank performance, probably by enhancing board dynamics and introducing fresh perspectives in male-dominated boards, which is generally well-received by the market (Nadeem, Suleman and Ahmed, 2019) and aids further value addition to the bank (Owen and Temesvary, 2018). Additionally, it may help mitigate insolvency risk, possibly due to the risk-averse approach of women directors (Martin, Nishikawa and Williams, 2009; Palvia, Vähämaa and Vähämaa, 2015; Faccio, Marchica and Mura, 2016), although the impact is not explicitly evident in these measures.

Among the control variables, firm size emerges as a significant predictor. It positively affects both Tobin's Q and the Z-score, significant at the 5% and 1% levels, respectively, which implies that larger firms tend to have higher market valuations and better solvency, potentially due to economies of scale (Demsetz and Strahan, 1997; Altunbaş *et al.*, 2001), market power (Bikker, Spierdijk and Finnie, 2006), and more diversified risk (Demsetz and Strahan, 1997). This is consistent with my expectations, but contrasts the findings of (Haq and Heaney, 2012; Louzis, Vouldis and Metaxas, 2012; Köhler, 2014; Guo, Jalal and Khaksari, 2015) who suggest that insolvency risk increases with size.

Leverage, on the other hand, shows a significant negative effect on both Tobin's Q at the 10% level and on the Z-score at the 1% level, consistent with my expectations and the findings of Garg (2007) and Grove *et al.* (2011). This indicates that higher leverage is associated with lower firm value for the banks as perceived by the market and greater financial risk, which is consistent with the capital structure theory where increasing debt amplifies financial distress risks. (Cheng, Liu and Chien, 2010; Cheng and Tzeng, 2011). The Book-to-Market Ratio is found to have a positive and significant impact on the Z-score at a 1% level. A high Book-to-Market ratio could indicate that the bank's assets are undervalued by the market. Additionally, it may reflect conservative accounting practices that make the bank appear less risky to investors due to reduced information asymmetry (Wang, Hogartaigh and Zijl, 2009; Francis, Hasan and Wu, 2013; Cui *et al.*, 2021). Such banks often attract value investors, whose interest can drive up the stock price (Fama and French, 2015), possibly reducing insolvency risk.

On the contrary, ROA is found to have a negative and significant impact on the Q value at a 5% significance level. This indicates that investors may perceive high ROA in banks as a sign of excessive risk-taking, leading to concerns about sustainability and long-term stability.

Additionally, in mature markets, high profitability may be challenging to maintain due to competition and the need for innovation (Porter, 1980; Lev, 1983), which can be capital-intensive. Similarly, a high ROA might signal a bank's limited growth potential in a saturated market. This can deter investors, as future growth prospects often hold more weight in market valuation than current profitability levels.

The regression models explain a substantial portion of the variance in the dependent variables, with an R-squared of 0.681 for Tobin's Q, which indicates a moderately good fit, and 0.964 for the Z-score, indicating a very good fit. The F-statistics for both models (3.69 for Tobin's Q and 58.82 for the Z-score) are highly significant, confirming the overall relevance of the independent variables to explain the dependent variables.

5. Conclusion

This study explores how board composition affects firm performance and insolvency risk in the UK banking sector. The results show that having more women and independent directors on the board has a positive influence on bank performance and risk management, but these effects are not statistically significant. Some firm elements were found to be more signficant. These findings highlight that while board diversity and independence are beneficial, they are not the only factors influencing bank performance and stability, and a broader approach that also considers firm characteristics is necessary to get a holistic picture of the elements that contribute to bank performance and risk management. A limitation of this study can be overcome by increasing the sample size, which might contribute to a better understanding and generalizability of the variables and underlying factors, which can be helpful to other studies. Furthermore, variables like CEO pay and independent directors can be explored further to find specific components like stock options or director qualification, for example, to understand their impact.

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Appendix 1

Panel Dataset

Firm	Year	Tobin's Q	Z-score	CEO Pay (£m)	PROP WOMEN	PROPIND	FIRM SIZE	ROA	Equity M.	NPL Ratio	B/M Ratio
HSBC	2012	0.943	40.407	7.532	0.250	0.813	14.320	0.006	14.706	0.040	0.943
HSBC	2013	0.922	42.652	8.033	0.235	0.765	14.293	0.007	14.025	0.036	0.922
HSBC	2014	1.097	44.568	7.619	0.235	0.765	14.340	0.006	13.175	0.030	1.097
HSBC	2015	1.268	48.182	7.340	0.444	0.778	14.305	0.006	12.195	0.025	1.268
HSBC	2016	1.134	42.871	5.675	0.375	0.750	14.470	0.001	13.004	0.021	1.134
HSBC	2017	0.954	45.663	6.086	0.294	0.824	14.439	0.005	12.739	0.016	0.954
HSBC	2018	1.175	44.787	6.969	0.294	0.824	14.511	0.006	13.175	0.013	1.175
HSBC	2019	1.208	40.681	4.899	0.429	0.857	14.532	0.003	14.085	0.013	1.208
HSBC	2020	1.944	38.765	4.154	0.400	0.867	14.597	0.002	14.556	0.018	1.944
HSBC	2021	1.677	40.955	4.895	0.429	0.857	14.597	0.005	14.306	0.018	1.677
HSBC	2022	1.573	39.203	5.562	0.385	0.846	14.712	0.006	15.129	0.021	1.573
HSBC	2023	1.235	39.203	10.641	0.467	0.867	14.685	0.008	15.773	0.020	1.235
Lloyds	2012	0.988	19.473	3.398	0.250	0.833	13.737	-0.001	19.685	0.088	1.326
Lloyds	2013	1.020	18.842	7.475	0.250	0.750	13.649	-0.001	20.534	0.064	0.699
Lloyds	2014	1.005	25.149	11.540	0.214	0.714	13.659	0.002	16.129	0.030	0.922
Lloyds	2015	1.006	24.834	8.704	0.200	0.733	13.601	0.001	16.181	0.021	0.901
Lloyds	2016	0.995	26.253	5.791	0.214	0.714	13.614	0.003	15.748	0.019	1.094
Lloyds	2017	1.000	27.120	6.434	0.231	0.692	13.607	0.004	15.528	0.017	1.003
Lloyds	2018	0.983	28.697	6.544	0.231	0.692	13.589	0.006	14.881	0.046	1.360
Lloyds	2019	0.995	25.425	4.424	0.308	0.769	13.634	0.004	16.447	0.043	1.092
Lloyds	2020	0.973	24.321	3.604	0.364	0.818	13.678	0.002	16.639	0.042	1.914
Lloyds	2021	0.978	27.790	8.786	0.400	0.800	13.695	0.007	15.674	0.038	1.566
Lloyds	2022	0.981	24.321	3.767	0.455	0.818	13.685	0.005	17.483	0.037	1.555
Lloyds	2023	0.981	24.873	3.681	0.429	0.857	13.689	0.006	17.606	0.032	1.562
Barclays	2012	0.979	24.067	2.421	0.154	0.846	14.215	0.000	23.697	0.064	1.958
Barclays	2013	0.985	28.422	1.602	0.200	0.800	14.087	0.001	20.534	0.057	1.459
Barclays	2014	0.981	28.192	5.467	0.200	0.867	14.121	0.001	20.576	0.042	1.642
Barclays	2015	0.974	33.980	3.981	0.286	0.857	13.929	0.001	17.007	0.036	1.790
Barclays	2016	0.972	35.069	4.233	0.308	0.846	14.009	0.002	17.007	0.030	1.883
Barclays	2017	0.972	32.948	3.873	0.214	0.857	13.941	-0.001	17.153	0.031	1.905
Barclays	2018	0.966	33.579	3.362	0.267	0.867	13.941	0.002	17.762	0.027	2.473
Barclays	2019	0.970	34.725	5.929	0.333	0.833	13.947	0.003	17.361	0.025	2.110
Barclays	2020	0.969	29.568	4.220	0.250	0.833	14.115	0.002	20.161	0.028	2.627
Barclays	2021	0.972	32.032	2.995	0.308	0.846	14.141	0.005	19.724	0.022	2.241
Barclays	2022	0.971	28.593	5.197	0.357	0.857	14.230	0.004	21.834	0.020	2.753
Barclays	2023	0.967	29.911	4.641	0.385	0.846	14.206	0.004	20.576	0.021	3.084

Fundamentals

Firm	Year	Equity/Total Assets	Total Assets (£m)	BV Equity (£m)	MV Equity (£m)	Women on Board	Independent Directors	Board Size	CEO Pay (£m)
HSBC	2012	0.068	16,56,437	1,12,660	1,19,520	4	13	16	7.532
HSBC	2013	0.071	16,12,823	1,14,991	1,24,729	4	13	17	8.033
HSBC	2014	0.076	16,89,309	1,28,249	1,16,950	4	13	17	7.619
HSBC	2015	0.082	16,32,227	1,33,793	1,05,550	8	14	18	7.340
HSBC	2016	0.077	19,24,936	1,47,980	1,30,498	6	12	16	5.675
HSBC	2017	0.079	18,64,939	1,46,333	1,53,345	5	14	17	6.086
HSBC	2018	0.076	20,04,799	1,52,233	1,29,610	5	14	17	6.969
HSBC	2019	0.071	20,46,391	1,45,213	1,20,234	6	12	14	4.899
HSBC	2020	0.069	21,84,120	1,50,037	77,165	6	13	15	4.154
HSBC	2021	0.070	21,85,239	1,52,761	91,085	6	12	14	4.895
HSBC	2022	0.066	24,51,374	1,61,987	1,02,977	5	11	13	5.562
HSBC	2023	0.063	23,85,147	1,51,185	1,22,380	7	13	15	10.641
Lloyds	2012	0.051	9,24,552	44,684	33,705	3	10	12	3.398
Lloyds	2013	0.049	8,47,030	39,336	56,295	3	9	12	7.475
Lloyds	2014	0.062	8,54,896	49,903	54,116	3	10	14	11.540
Lloyds	2015	0.062	8,06,688	46,980	52,153	3	11	15	8.704
Lloyds	2016	0.064	8,17,793	48,815	44,616	3	10	14	5.791
Lloyds	2017	0.064	8,12,109	49,143	48,985	3	9	13	6.434
Lloyds	2018	0.067	7,97,598	50,199	36,898	3	9	13	6.544
Lloyds	2019	0.061	8,33,893	47,806	43,783	4	10	13	4.424
Lloyds	2020	0.060	8,71,269	49,413	25,814	4	9	11	3.604
Lloyds	2021	0.064	8,86,525	53,152	33,949	4	8	10	8.786
Lloyds	2022	0.057	8,77,829	47,521	30,551	5	9	11	3.767
Lloyds	2023	0.057	8,81,453	47,365	30,329	6	12	14	3.681
Barclays	2012	0.042	14,90,747	62,894	32,125	2	11	13	2.421
Barclays	2013	0.049	13,12,267	63,949	43,820	3	12	15	1.602
Barclays	2014	0.049	13,57,906	65,958	40,173	3	13	15	5.467
Barclays	2015	0.059	11,20,012	65,864	36,785	4	12	14	3.981
Barclays	2016	0.059	12,13,126	71,365	37,904	4	11	13	4.233
Barclays	2017	0.058	11,33,248	66,016	34,650	3	12	14	3.873
Barclays	2018	0.056	11,33,283	63,779	25,788	4	13	15	3.362
Barclays	2019	0.058	11,40,229	65,660	31,117	4	10	12	5.929
Barclays	2020	0.050	13,49,514	66,882	25,463	3	10	12	4.220
Barclays	2021	0.051	13,84,285	70,211	31,324	4	11	13	2.995
Barclays	2022	0.046	15,13,699	69,260	25,159	5	12	14	5.197
Barclays	2023	0.049	14,77,487	71,864	23,305	5	11	13	4.641