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Italian Banking Sector and Value Creation

Carmelo Intrisano, Anna Paola Micheli
University of Cassino and Southern Lazio, Cassino, Italy

The firm value is the fundamental topic of corporate finance. The value creation is the aim of economic initiatives, strategies, corporate policies, and all business activities, including banking. It depends, among other things, on size, legal form, and business model. Therefore, this paper wants to demonstrate and explain the differences about the value created in the Italian banking sector, where there is much diversity regarding size, legal form, and business model. This paper estimated and compared the value of Italian listed companies from 2010 to 2012 and found the result: Banks create more value if they are big and operate in investment banking. Furthermore, it proved that legal form hasn't influenced performance and value of banks.

Keywords: value creation, joint stock banks, co-operative banks, commercial banks, investment banks, return on equity (ROE), return on asset (ROA), market/book value

Introduction

Despite the evolution from the beginning of the 1990s, Italian banking system still has some elements that affect the ability of banks to create value.

These elements are: small size of companies, strong presence of co-operative banks, and low diversification of core business. Co-operative banks have restrictions on share ownership and are subject to the rule of "one head, one vote". This determines strong dispersion of ownership and may produce high agency costs. It follows, also, a low contestability of control which, in turn, affects expected value by investors. The low diversification of revenues makes banks riskier, because it enhances the uncertainty of their cash flows. At the same time, excessive presence of traditional intermediation does not allow banks to achieve higher profitability associated with non-traditional activities.

Proof of this is provided by this survey on Italian listed banks, using different measures of performance and value.

In the light of what has been said, the paper is organized as follows: Section 1 reviews main references about the topic; section 2 focuses on the methodology; section 3 shows the results; and section 4 outlines the conclusions.

Literature and Research Hypothesis

The value is one of the main topics of economic theory, since Fisher (1930) argued the possibility of replacing the traditional goal of profit with the goal of creating value. However, shareholder value approach has

Carmelo Intrisano, professor of Corporate Finance, Department of Economy and Law, University of Cassino, Cassino, Italy.
Anna Paola Micheli, Ph.D., research fellow in Corporate Finance, University of Cassino and Southern Lazio, Cassino, Italy.
Correspondence concerning this article should be addressed to Carmelo Intrisano, Sant' Angelo Road, Cassino, Italy. E-mail: c.intrisano@eco.unicas.it.

emerged among researchers only since the 1980s, when the orientation to value grows in enterprises, because of the economic crisis and the economic recession at the end of the 1970s, that have changed approaches to economic phenomena (Rappaport, 1986).

About banks, there are several studies on the relationship between performance and size. Among researchers, there is consensus on the positive effects of size on banks profitability, when the growth takes place with capital adequacy. Short (1979), Bourke (1989), and Molyneux and Thornton (1992) provided evidence that size affects positively the capital adequacy of banks and consequently allows to achieve higher profitability. Berger (1995a, 1995b), Goddard, Molyneux, and Wilson (2004a, 2004b) confirmed these conclusions, showing the positive relation between the capitalization of banks and their performances. Similarly, Fernandez de Guevara, Maudos, and Perez (2005) and Bikker, Spierdijk, and Finnie (2006) found that smaller banks have lower market power than the larger ones. These ones have profitability advantages, because they can reduce costs and apply higher prices. Also Miller and Noulas (1997), Athanasoglou, Brissimis, and Delis (2008), Naceur and Omran (2010), and Short (1979) proved a positive and significant relationship between size and banks profitability, measured by return on assets (ROA). Eichengreen and Gibson (2001) suggested that the relationship is non-linear, with profitability initially increasing with size and then decreasing when bank became too big. It has been also demonstrated that the relationship between size and profitability of banks is non-linear, since too large size can produce inefficiencies and bureaucratic problems (Flamini, McDonald, & Schumacher, 2009). On the contrary, Kosmidou, Pasiouras, and Tsaklanganos (2006) studying Greek banks, found a negative relationship between size and profit. Kasman, Tunc, Vardar, and Okan (2010) and Hawtrey and Liang (2008) arrived to the same conclusions, showing negative effects of size on banks performance. Finally, Micco, Panizza, and Yañez (2007) and Ramadan, Kilani and Kaddumi (2011) demonstrated that there isn't a significant correlation between size of banks and their performances. In summary, most of researchers said that, although with different arguments, there is a positive relationship between size and performance. Therefore, the first idea of this research is that this relationship influences also the different capability of banks to react to the crisis. Substantially, this work wants to demonstrate that smaller banks, thanks to their higher elasticity, manage to contain negative effects of the financial crisis.

Several researchers analysed and studied the effects that business model produces on banks value. Nevertheless, there isn't consensus if income diversification causes effects on banks' performances. According to Chiorazzo, Milani, and Salvini (2008) and Elsas, Hackethal, and Holzhäuser (2010), revenue diversification produces a growth of margins from non-interest businesses and in this way improves banks performance. Contrariwise other researchers, such as Acharya, Hasan, and Saunders (2002), DeLong (2001), DeYoung and Rice (2004), Morgan and Katherine (2003), stated that diversification does not always achieve banks' performances, as in some conditions it can even damage profitability. Considering literature about this topic, the second hypothesis of this research affirms that during periods of financial crisis, investment banks have better performance and create more value than commercial banks. In other words, this research wants to prove that banks if, alternatively to deposits, resort to medium and long-term markets, become more flexible in their financial structure, and can mitigate effects of financial crisis, investing in other sources of revenue. Indeed, during normal periods of financial markets, a higher share of customer deposits in bank liabilities produces a growth of profitability, because deposits are cheaper and more stable than other financial alternatives (Claeys & Vander Vennet, 2008; García-Herrero, Gavilá, & Santabárbara, 2009). Conversely, during periods of financial crisis, such as that observed in this survey, banks must pay higher rates to attract deposits from competitors and

are negatively affected from squeezing of bank margins. This produces significant differences of performance and value created between investment banking and commercial banking, during periods of financial crisis.

Finally, other researchers pointed out the relationship between the value creation and legal form of bank. Altunbas, Evans, and Molyneux (2001), Iannotta, Nocera, and Sironi (2007), Ayadi, Schmidt, Carbo Valverde, Arbak, and Rodriguez Fernandez (2009) demonstrated that cooperative banks have higher performance than joint stock banks. Co-operative banks can borrow at lower costs, because their small customers are satisfied with interest rates lower than the other investors. For Italian banking, Girardone, Molyneux, and Gardener (2004), measuring cost efficiency scores, showed that cooperative banks are more efficient than joint stock ones. Profitability indicators are lower, probably because their smaller size does not allow economies of scale (Gutiérrez, 2008).

In light of the existing contributions about this subject, the third idea of this research is the irrelevance of legal structure against the effects of economic and financial crisis, considering that legal structure is able to influence the corporate value in medium and long period, while it may not affect the intensity of the short-term effects produced by the crisis on the performances of the company. Co-operative banks are characterized mainly by limits on size of single shareholdings and equal voting rights (one member one vote) (De Bonis, Pozzolo, & Stacchini, 2012). In small banks, whose customers largely coincide with their accession, these features of corporate governance would be appropriate to improve stability and, thus, to reduce their sensitivity to the financial crisis. Conversely, the same characteristics would be inappropriate and lose their effectiveness in big banks that, by operating outside their original home areas and by being listed in stock exchange, tend to become more and more similar to joint stock companies. Substantially, the aim of this paper is to demonstrate that the effects of the financial crisis are independents from legal form of banks.

Methodology

This study uses balance sheets of Italian listed banks for the period from 2010 to 2012.

The first hypothesis of the research states the relationship between size and performance to demonstrate that the panel is divided into tertiles, considering the balance-sheet assets net of loans and advances to banks, at the end of 2010. The division into tertiles allows to obtaining classes with the same number of banks. Moreover, the classification is based on the data of 2010 and does not consider its changes in 2011 and 2012, in order to have the same classes during the period from 2010 to 2012.

To demonstrate the third hypothesis, about the relationship business model-value, the banks are divided between commercial banks and investment bank, considering the business model that banks have stated: The first group consists of 14 banks (Banca Carige, Banca Intesa, Banca Monte dei Paschi di Siena, Banca Popolare dell'Emilia Romagna, Banca Popolare dell'Etruria, Banca Popolare di Milano, Banca Popolare di Sondrio, Banca Popolare di Spoleto, Banco Popolare, Banco di Desio, Credito Emiliano, Credito Valtellinese, Ubibanca, and Unicredit) and the second group consists of six banks (Banca Finnat, Banca Generali, Banca Ifis, Banca Intermobiliare, Mediobanca, and Banca Profilo). Similarly, to demonstrate the second hypothesis, concerning the relationship legal form-value, the banks are divided into co-operative (banche popolari) banks and joint stock banks, considering the classification contained in the database of Bankitalia: The first group consists of four banks (Banca Popolare dell'Emilia Romagna, Banca Popolare dell'Etruria, Banca Profilo, Banco di Desio e Credito Valtellinese) and the second group consists of 14 banks (Banca Carige, Banca Finnat, Banca Generali, Banca Ifis, Banca Intermobiliare, Banca Intesa, Banca Monte dei Paschi di Siena, Banca Popolare di Milano,

Banca Popolare di Spoleto, Banco Popolare, Credito Emiliano, Mediobanca, Ubibanca, and Unicredit).

Regarding the variables and considering that the profitability is a component of the value creation, the first step of analysis is based on ROA and return on equity (ROE). These accountant variables indicate the performance and the profitability of banks. In particular, ROA measures the operating profit over the total assets and ROE measures the net profit over the total equity. In particular, the analysis of value created observes the difference between ROE and K_e that is the difference between profitability and cost of capital. The latter is based on the CAPM (capital asset pricing model) and the beta is calculated using regression analysis of the bank's stock return against the market's return, choosing the FTSE (financial times stock exchange) MIBs (Milano Indice di Borsa) as index of Italian stock market, the five-year period as a reference period and the BTP (Buoni del Tesoro Poliennali) 10-year yield as risk-free rate, consistently with analysts' consensus. The second step considers the measure of value used by investors to determine the value of stocks that is the market to book value (MBV). This variable is only partially influenced by the profitability ratios. For instance, a firm that has a high value of ROE is also likely to have a high value of MBV, but it can't be excluded that it may have a low value of MBV. It's possible to see mismatches of MBV ratios and ROE, due to the differences between the two ratios. Firstly, unlike the ROE, the MBV isn't influenced by the earnings management and other distortions that sometimes affect the income statement and so determine errors in measuring performances. Secondly, the MBV reflects also the premium that investors give to the book value of equity. Finally, ROE only measures firm's historical results, while MBV considers also expected results.

In order to obtain information about the relationship status-performance and the information about relationship size-value, business model-value, and legal form-value, this paper employs the mean and median of the groups by size, business model, and legal form. This paper prefers the mean to the median when the statistical distribution is symmetrical. To verify this, the Shapiro-Wilk test is used.

Results

The analysis shows the destruction of value that the banks produced in the period of observation. In three years, only Banca IFIS and Banca Generali created value. All other banks destroyed value, as highlighted by the negative values assumed by the variable ROE-K_e. This is due to the financial crisis that has lowered the ROE below the market cost in the banks.

Obviously, the crisis has not had the same intensity in the three years and therefore, has not produced the same consequences. In view of this, the work analyses the distributions of variables and compares their means for the period, after ascertaining the requirement of normal distribution by Shapiro test.

In particular, with a reference to the descriptive statistic for the variables included in the dataset, the statistical test of Shapiro-Wilk indicates that the distributions are normal for some years and asymmetrical for other years.

The distribution of ROE is asymmetric for 2010, symmetric for 2011, and again asymmetric for 2012. In the light of this, the median is more robust to compare ROE during the period under observation. The median shows a decline in the three years decreasing from 4.11% in 2010 to 2.28% in 2011 and to 1.31% in 2012. As further evidence of the negative trend, the comparison of the values taken by individual banks shows the following results. In 2011, only five banks (Banca Carige, Banca Ifis, Banca Intermobiliare, Banca Popolare Etruria, and Credito Emiliano) improve the ROE and the remaining 15 (Banca Finnat, Banca Generali, Banca Intesa, Banca MPS, Banca Popolare Emilia Romagna, Banca Popolare di Milano, Banca Popolare di Sondrio,

Banca Popolare di Spoleto, Banca Profilo, Banco Desio, Banco Popolare, Credito Valtellinese, Mediobanca, Ubibanca, and Unicredit) worsen the same one. In 2012, the number of banks that detect an improvement in ROE grows to 11 (Banca Finnat, Banca Generali, Banca Ifis, Banca Intesa, Banca Popolare di Milano, Banca Profilo, Banco Popolare, Credito Emiliano, Mediobanca, Ubibanca, and Unicredit), while the number of banks that worsen it decreases to nine (Banca Carige, Banca Intermobiliare, Banca MPS, Banca Popolare Etruria, Banca Popolare Emilia Romagna, Banca Popolare di Sondrio, Banca Popolare di Spoleto, Banco Desio, and Credito Valtellinese). The banking sector as a whole, therefore, worsens its profitability between 2010 and 2011 and then stabilizes in the following year.

Similarly, the distribution of ROE-K_e is asymmetric for 2010, symmetrical for 2011, and asymmetric for 2012. Thus, even in this case, the median is more robust to estimate the trend of the variable. The median shows a worsening in the first two years, decreasing by -5.85% in 2010 to -9.55% in 2011 and improves in 2012 increasing to -8.90%. As further evidence of negative trend, the comparison shows these results. In 2011, only Banca Ifis and Banca Popolare Etruria increase ROE-K_e, while the remaining 18 banks decrease it. In 2012, the number of companies that detect an improvement in ROE-K_e grows to 13 (Banca Finnat, Banca Generali, Banca Ifis, Banca Intesa, Banca Popolare di Milano, Banca Popolare di Sondrio, Banca Profilo, Banco Desio, Banco Popolare, Credito Emiliano, Mediobanca, Ubibanca, and Unicredit), while the banks that worsen the ratio decrease to seven (Banca Carige, Banca Intermobiliare, Banca MPS, Banca Popolare Etruria, Banca Popolare Emilia Romagna, Banca Popolare di Spoleto, and Credito Valtellinese). As for ROE, the banking sector as a whole, therefore, worsens the value created and expressed by the ROE-K_e between 2010 and 2011 and then substantially improves in the next year.

The distribution of MBV is asymmetric for all three years. Therefore, also in this case, the median is more robust to estimate the course of the variable. This shows a decline in the first two years, decreasing from 0.72% in 2010 to 0.49% in 2011 and then substantially stabilizes (0.42%) in 2012. This negative trend is confirmed by the comparison of banks. In 2011, only Banca Carige increases the ROE, while the remaining 19 banks decrease it. In 2012, the number of companies that improve ROE grows to eight (Banca Generali, Banca MPS, Banca Popolare di Milano, Banco Popolare, Credito Emiliano, Credito Valtellinese, Ubibanca, and Unicredit), while the banks that worsen decrease to 12 (Banca Carige, Finnat Bank, Banca Ifis, Banca Intermobiliare, Banca Intesa, Banca Popolare Etruria, Banca Popolare Emilia Romagna, Banca Popolare di Sondrio, Banca Popolare di Spoleto, Banca Profilo, Banco Desio, and Mediobanca). As for ROE, the banking sector as a whole, therefore, worsens the market value expressed by MBV between 2010 and 2011, and then stabilizes it substantially in the following year.

For ROA, its distribution is asymmetrical for 2010 and symmetrical for 2011 and 2012. Consequently, the median is more robust to estimate the performance of the variable in the period under observation. This shows a decline in the first two years, decreasing from 0.54% in 2010 to 0.19% in 2011 and a small improvement in 2012 increasing to 12.26%. As further evidence of this trend, the comparison of banks shows the following results. Banca Popolare Etruria, Banca Popolare Emilia Romagna, Banco Desio, and Credito Emiliano had a decrease in the ratio, while the other 16 (Banca Carige, Finnat Bank, Banca Generali, Banca IFIS, Banca Intesa, Banca MPS, Banca Popolare di Milano, Banca Popolare di Sondrio, Banca Popolare di Spoleto, Banca Profilo, Banco Popolare, Credito Emiliano, Credito Valtellinese, Mediobanca, Ubibanca, and Unicredit) had an improvement. Regarding the trend between 2011 and 2012, the means indicate a substantial stability going from -0.01% to 0.10%.

Table 1

Italian Banking Groups: Performance and Value Ratios During 2010-2012

	2010					2011					2012				
	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)
Banks															
Banca Carige	4.72	0.69	0.83	6.81	-2.09	5.20	0.60	0.94	9.77	-4.57	-1.96	-0.73	0.46	6.96	-8.92
Banca Finnat	2.50	1.69	1.06	11.98	-9.48	1.82	1.48	0.61	14.08	-12.26	3.14	1.17	0.56	11.48	-8.34
Banca Generali	30.53	2.43	3.67	6.92	23.60	27.56	2.13	3.10	6.87	20.69	39.99	2.86	3.74	6.38	33.61
Banca Ifis	10.28	1.25	1.38	10.08	0.20	13.17	1.25	1.09	9.09	4.08	30.90	2.04	0.96	8.73	22.17
Banca Intermorbiliare	2.59	0.52	1.63	8.73	-6.14	3.78	0.21	1.10	9.98	-6.20	-17.48	0.88	0.00	7.19	-24.68
Banca Intesa	5.09	0.50	0.48	11.06	-5.97	-16.29	-1.47	0.44	13.82	-30.10	3.32	0.45	0.43	11.43	-8.11
Banca MPS	5.74	0.57	0.28	10.38	-4.64	-34.62	-1.86	0.27	12.52	-47.14	-38.63	-1.60	0.41	9.44	-48.07
Banca Popolare Emilia R.	9.87	0.68	0.79	9.20	0.66	6.84	0.68	0.49	11.75	-4.91	-0.31	-0.01	0.44	8.58	-8.89
Banca Popolare Etruria	0.93	0.23	0.33	8.23	-7.30	4.03	0.34	0.12	9.60	-5.56	-31.02	-2.10	0.07	8.23	-39.25
Banca Popolare Milano	2.74	-0.06	0.28	11.29	-8.55	-15.64	-1.33	0.24	13.94	-29.58	-1.15	-1.15	0.37	9.92	-11.07
Banca Popolare Sondrio	7.41	0.80	1.04	7.24	0.18	4.01	0.52	1.05	9.88	-5.87	1.86	0.35	0.72	6.98	-5.12
Banca Popolare Spoleto	4.28	0.60	0.47	7.95	-3.67	-5.94	-0.33	0.28	10.18	-16.12	-17.54	0.30	0.02	6.88	-24.42
Banca Profilo	3.74	0.12	1.96	10.71	-6.96	0.11	0.08	1.55	12.88	-12.77	1.73	0.24	1.23	9.21	-7.48
Banco Desio	6.83	0.23	0.66	8.25	-1.42	5.78	0.91	0.48	10.31	-4.52	2.54	0.38	0.31	6.95	-4.42
Banco Popolare	2.67	0.16	0.19	12.64	-9.97	-21.96	-1.89	0.19	14.07	-36.04	-10.70	-0.68	0.26	10.88	-21.58
Credito Emiliano	4.27	0.60	0.85	11.36	-7.09	5.59	0.68	0.55	13.46	-7.86	6.67	0.74	0.69	10.68	-4.01
Credito Valtellinese	3.53	0.58	0.39	6.88	-3.35	2.73	0.10	0.25	9.62	-6.89	-16.77	-1.46	0.26	6.72	-23.49
Mediobanca	3.95	0.52	0.84	9.68	-5.73	0.98	0.18	0.62	12.22	-11.24	1.87	0.27	0.57	11.29	-9.42
Ubibanca	1.54	0.26	0.38	9.70	-8.16	-18.49	-1.64	0.31	12.71	-31.20	0.89	0.13	0.32	10.32	-9.44
Unicredit	2.14	0.23	0.47	8.48	-6.34	-15.91	-0.77	0.24	9.99	-25.90	2.76	-0.04	0.34	7.38	-4.62
Descriptive Statistics															
M	5.77	0.63	0.90	9.38	-3.61	-2.36	-0.01	0.70	11.34	-13.70	-1.99	0.10	0.61	8.78	-10.78
Mdn	4.11	0.54	0.72	9.44	-5.85	2.28	0.19	0.49	11.03	-9.55	1.31	0.26	0.42	8.66	-8.90
Std	6.19	0.57	0.79	1.74	6.99	13.86	1.12	0.67	2.01	15.19	17.37	1.16	0.77	1.75	17.47
CV	1.07	0.90	0.88	0.19	1.94	5.87	174.78	0.96	0.18	1.11	8.71	11.37	1.27	0.20	1.62
Sk	3.41	1.93	2.39	0.12	3.09	-0.39	-0.25	2.53	-0.22	-0.21	0.27	0.28	3.52	0.21	0.41
Shapiro-Wilk Test															
W	0.59	0.80	0.74	0.96	0.66	0.93	0.94	0.72	0.91	0.94	0.90	0.96	0.57	0.90	0.89
p-value	0.00	0.00	0.00	0.46	0.00	0.13	0.28	0.00	0.08	0.22	0.04	0.56	0.00	0.04	0.03
Alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Normal	no	no	no	yes	no	yes	yes	no	yes	yes	no	yes	no	no	no

In the whole, therefore, the analysis of variables reports that the banks worsen their value in 2011, while they stabilize it in 2012 (Table 1).

Obviously, this result is the combination of different effects produced by the financial crisis on banks, depending on their size, business model, and legal form.

The effects on performance and value creation depend primarily on the size of banks, since the size influences also the elasticity of bank. To test this, the banks have been divided into three tertiles. In particular, smaller banks have a total asset net of loans to banks up to 8,593,093 Euros, medium banks have a total assets net of loans to banks between 8,593,093 and 54,912,134, and larger banks have a total assets net of loans to banks between 54,912,134 and 859,272,103 (Table 2).

Table 2

Italian Banking Groups by Size

Small banks	Medium banks	Large banks
1st tertile	2nd tertile	3nd tertile
(0 to 8,593,093)	(8,593,093 to 54,912,134)	(54,912,134 to 859,272,103)
(n = 7)	(n = 6)	(n = 7)
Banca Finnat	Banca Popolare dell'Etruria	Banca Popolare Emilia Romagna
Banca Profilo	Banca Popolare di Sondrio	Mediobanca
Banca Ifis	Credito Valtellinese	Ubibanca
Banca Popolare Spoleto	Credito Emiliano	Banco Popolare
Banca Intermobiliare	Banca Carige	Banca MPS
Banca Generali	Banca Popolare di Milano	Banca Intesa
Banco Desio		Banca Unicredit

For each group of banks, the descriptive statistic allows to identify the characteristics of the underlying distributions.

The groups by size show higher symmetry. The asymmetry of the distributions, in fact, affects only the following variables: for small banks, ROE, ROE-K_e in 2010 and MBV in 2012; for medium banks, ROE, ROA and ROE- K_e in 2011; for large banks ROE and ROE- K_e, in 2012.

Then, the analysis on the variables that have a symmetrical distribution shows the following results for 2010 (Table 3): The medium banks have a mean ROE (3.93%) slightly lower than the large banks (4.43%); the small banks have a mean ROA (0.98%), lower than the medium banks (0.47%) which in turn have a higher mean ROA than the larger ones (0.42%); small banks have a mean MBV (1.55) better than medium banks (0.62%) and even more of large banks (0.49%); small banks have a mean ROE-K_e (-0.55%) higher than the medium ones (-4.70%) and even more than the large banks (-5.74%). In summary, in 2010 these results prove a higher capacity of the small banks to withstand the effects of the financial crisis, than the medium banks and, even more, the large banks. Similarly, for 2011, the small banks have a mean ROE (6.61%) significantly more higher than the large banks (-14.21%); small banks have a mean ROA (0.82%) higher than the large ones (-0.97%); small banks have a mean MBV (1.17%) greater than the medium banks (0.53), and even more of the large banks (0.37%); small banks have a ROE-K_e (-3.87%) better than the major banks (-26.65%). Finally, for 2012, the small banks have a mean ROE (6.18%) significantly better than the medium banks (-7.06%); the small banks have a mean ROA (1.12%) higher than the medium banks (-0.73%) and the large banks (-0.21%), the small banks have a mean MBV (0.97%) higher than the medium banks (0.43%) and even more of the large

banks (0.40%); the small banks have a ROE-K_e (-1.94%) better of medium banks (-15.31%). Even for 2012 the small banks show higher performance than the medium banks, and these, in turn, have better performances, even if only slightly, than the large ones.

Thus, the analysis based on size leads to the result that small banks have managed to contain the effects of the financial crisis more than medium and large ones. This confirms the idea of the present research that the smaller size gives the company a higher elasticity and, therefore, a greater ability to react to unfavorable market conditions.

Table 3

Italian Banking Groups by Size: Mean and Median of Performance and Value Ratios During 2010-2012

		2010					2011					2012				
		ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)
Small	*Descriptive Statistics*															
	M	8.68	0.98	1.55	9.23	-0.55	6.61	0.82	1.17	10.48	-3.87	6.18	1.12	0.97	8.12	-1.94
	Mdn	4.28	0.60	1.38	8.73	-3.67	3.78	0.91	1.09	10.18	-6.20	2.54	0.88	0.56	7.19	-7.48
	StD	9.28	0.79	0.99	1.63	10.33	10.09	0.81	0.88	2.21	11.78	20.42	0.92	1.21	1.68	20.51
	CV	1.07	0.81	0.64	0.18	18.70	1.53	0.99	0.75	0.21	3.04	3.30	0.82	1.24	0.21	10.60
	Sk	2.26	0.85	1.44	0.39	2.17	1.28	0.17	1.62	0.18	1.38	0.59	1.03	2.01	1.18	0.76
	Shapiro-Wilk Test															
	W	0.68	0.91	0.88	0.97	0.74	0.90	0.96	0.85	0.95	0.87	0.88	0.87	0.76	0.87	0.88
	p-value	0.00	0.39	0.24	0.87	0.01	0.36	0.86	0.11	0.73	0.20	0.23	0.18	0.02	0.19	0.24
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	no	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
Medum	*Descriptive Statistics*															
	M	3.93	0.47	0.62	8.63	-4.70	0.99	0.15	0.53	11.04	-10.06	-7.06	-0.73	0.43	8.25	-15.31
	Mdn	3.90	0.59	0.61	7.73	-5.22	4.02	0.43	0.40	9.82	-6.38	-1.55	-0.94	0.41	7.61	-9.99
	StD	1.98	0.30	0.29	1.96	3.15	7.49	0.69	0.36	1.89	8.79	12.89	0.99	0.23	1.55	12.45
	CV	0.50	0.63	0.48	0.23	0.67	7.59	4.51	0.68	0.17	0.87	1.83	1.37	0.54	0.19	0.81
	Sk	0.41	-1.06	0.18	0.75	0.35	-2.37	-2.07	0.52	0.98	-2.37	-1.17	0.30	-0.15	0.70	-1.35
	Shapiro-Wilk Test															
	W	0.98	0.89	0.86	0.78	0.92	0.61	0.74	0.88	0.71	0.61	0.87	0.95	0.95	0.85	0.84
	p-value	0.94	0.31	0.18	0.04	0.48	0.00	0.01	0.25	0.01	0.00	0.25	0.75	0.76	0.15	0.14
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	yes	yes	yes	no	yes	no	no	yes	no	no	yes	yes	yes	yes	yes
Large	*Descriptive Statistics*															
	M	4.43	0.42	0.49	10.16	-5.74	-14.21	-0.97	0.37	12.44	-26.65	-5.83	-0.21	0.40	9.90	-15.73
	Mdn	3.95	0.50	0.47	9.70	-5.97	-16.29	-1.47	0.31	12.52	-30.10	0.89	-0.01	0.41	10.32	-9.42
	StD	2.64	0.18	0.23	1.27	3.08	12.96	0.96	0.14	1.26	13.37	14.10	0.65	0.09	1.40	14.08
	CV	0.60	0.43	0.46	0.12	0.54	0.91	0.99	0.39	0.10	0.50	2.42	3.11	0.23	0.14	0.89
	Sk	1.23	-0.13	0.49	0.92	1.10	0.32	0.86	0.62	-0.74	0.34	-2.18	-1.53	0.48	-0.76	-2.08
	Shapiro-Wilk Test															
	W	0.90	0.91	0.92	0.95	0.91	0.93	0.85	0.94	0.94	0.96	0.67	0.84	0.97	0.92	0.70
	p-value	0.34	0.41	0.46	0.69	0.41	0.59	0.14	0.62	0.64	0.78	0.00	0.10	0.90	0.45	0.00
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	no

Regarding the other idea of the research, for which investment banks have more suffered than the commercial ones when the crisis was still financial, while they have registered higher performances than commercial banks when the crisis became more economic, this survey leads to the following results.

Unlike of the classification based on size, the grouping according to the business model does not lead to a greater degree of symmetry in the distributions of the variables. Accordingly, the survey has been done by comparing the means for the variables that have symmetrical distributions for both groups, and through the comparison of the medians for the other variables that do not meet this requirement.

Table 4

Italian Banking Groups by Business Model: Mean and Median of Performance and Value Ratios During 2010-2012

		2010					2011					2012				
		ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)
Investment Banks	Descriptive Statistics															
	M	8.93	1.09	1.76	9.68	-0.75	7.90	0.89	1.34	10.85	-2.95	10.03	1.24	1.18	9.05	0.98
	Mdn	3.85	0.88	1.50	9.88	-5.94	2.80	0.73	1.09	11.10	-8.72	2.50	1.02	0.76	8.97	-7.91
	StD	10.01	0.80	0.93	1.58	11.27	9.80	0.78	0.85	2.46	12.05	19.46	0.94	1.21	1.90	20.16
	CV	1.12	0.73	0.53	0.16	14.99	1.24	0.88	0.63	0.23	4.09	1.94	0.76	1.03	0.21	20.60
	Sk	2.11	0.62	1.66	-0.50	2.11	1.61	0.47	1.73	-0.38	1.46	0.43	0.75	1.91	0.01	0.69
	Shapiro-Wilk Test															
	W	0.68	0.93	0.85	0.98	0.71	0.78	0.86	0.80	0.96	0.81	0.90	0.91	0.79	0.93	0.88
	p-value	0.00	0.61	0.15	0.97	0.01	0.04	0.20	0.06	0.84	0.07	0.38	0.44	0.05	0.54	0.29
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	no	yes	Yes	yes	no	no	yes	yes	yes	yes	yes	yes	no	yes	yes
Commercial Banks	Descriptive Statistics															
	M	4.41	0.43	0.53	9.25	-4.84	-6.76	-0.39	0.42	11.54	-18.31	-7.15	-0.39	0.36	8.67	-15.81
	Mdn	4.27	0.54	0.47	8.84	-5.30	-1.61	-0.11	0.30	11.03	-11.99	-0.73	-0.02	0.35	8.40	-9.18
	StD	2.38	0.24	0.25	1.79	3.21	12.98	1.03	0.27	1.74	14.03	13.42	0.86	0.19	1.67	13.32
	CV	0.54	0.56	0.47	0.19	0.66	1.92	2.64	0.63	0.15	0.77	1.88	2.23	0.51	0.19	0.84
	Sk	0.70	-0.44	0.63	0.34	0.25	-0.65	-0.28	1.45	0.28	-0.61	-1.30	-0.64	0.15	0.29	-1.38
	Shapiro-Wilk Test															
	W	0.96	0.92	0.92	0.94	0.96	0.85	0.87	0.82	0.84	0.84	0.82	0.91	0.94	0.88	0.81
	p-value	0.77	0.22	0.25	0.43	0.73	0.03	0.04	0.01	0.01	0.02	0.01	0.15	0.47	0.05	0.01
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	yes	yes	yes	yes	yes	no	no	no	no	no	no	yes	yes	no	no

On this basis, for 2010 (Table 4) the analysis shows that investment banks have: the values of the mean ROA (1.09%), mean MBV (1.76%), higher than the corresponding values (0.43%; 0.53%) of the commercial banks; the values of median ROE (3.85%) and ROE-K_e (-5.94%), slightly lower than the corresponding values (4.27%; -5.30%) of the commercial banks. In 2011 the investment banks have values of median ROE (2.80%), ROA (0.73%), MBV (1.09%), and ROE-K_e (-8.72%) higher than the corresponding values (-1.61%; -0.11%%; 0.30%; -11.99%) of the commercial banks. In 2012, the investment banks have median values of ROE (2.50%). MBV (0.76%) and ROE-K_e (-7.91%) higher than the corresponding median values (-0.73%; -0.02%; 0:35%; -9.18%) of commercial banks.

Concluding, in the first year observed, there are no significant differences between the two groups. Differently, in the two following years, investment banks have higher performance than the commercial banks. This confirms the idea of this research, for which, the financial crisis has affected mainly the value of the commercial banks.

Regarding the third idea of the research, for which the economic and financial crisis affects equally the banks regardless of legal form, this survey leads to the following results.

Table 5
Italian Banking Groups by Legal Form: Mean and Median of Performance and Value Ratios During 2010-2012

		2010					2011					2012				
		ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)	ROE (%)	ROA (%)	MBV	K_e (%)	ROE-K_e (%)
Joint stock banks	Descriptive Statistics															
	M	6.67	0.76	1.12	9.41	-2.75	-0.67	0.24	0.87	11.17	-11.84	1.33	0.54	0.75	8.77	-7.44
	Mdn	4.28	0.57	0.84	9.68	-5.73	1.82	0.21	0.61	10.31	-11.24	2.54	0.38	0.46	8.73	-8.11
	Std	7.19	0.63	0.88	1.62	8.02	14.65	1.10	0.74	2.07	15.84	19.07	1.07	0.92	1.87	19.28
	CV	1.08	0.82	0.78	0.17	2.92	21.73	4.62	0.86	0.19	1.34	14.32	2.00	1.23	0.21	2.59
	sk	3.13	1.71	2.05	-0.14	3.00	-0.57	-0.35	2.25	-0.31	-0.30	0.08	0.31	2.88	0.31	0.22
	Shapiro-Wilk Test															
	W	0.56	0.79	0.78	0.95	0.61	0.93	0.98	0.75	0.93	0.95	0.90	0.95	0.63	0.87	0.89
	p-value	0.00	0.01	0.00	0.65	0.00	0.38	0.96	0.00	0.34	0.67	0.13	0.60	0.00	0.05	0.10
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	no	No	no	yes	no	yes	yes	no	yes	yes	yes	yes	no	no	yes
Co-operative Banks	Descriptive Statistics															
	M	4.10	0.38	0.49	9.31	-5.21	-5.50	-0.46	0.38	11.65	-17.15	-8.17	-0.70	0.35	8.81	-16.98
	Mdn	2.74	0.26	0.38	9.20	-7.30	2.73	0.10	0.25	11.75	-6.89	-1.15	-0.68	0.32	8.58	-11.07
	Std	3.05	0.29	0.28	1.95	4.03	11.61	1.03	0.29	1.84	13.23	11.31	0.85	0.19	1.51	11.07
	CV	0.74	0.76	0.59	0.21	0.77	2.11	2.24	0.77	0.16	0.77	1.38	1.20	0.54	0.17	0.65
	sk	1.14	0.05	1.24	0.50	0.53	-0.42	-0.36	2.00	0.14	-0.44	-1.28	-0.37	0.85	-0.08	-1.17
	Shapiro-Wilk Test															
	W	0.86	0.94	0.84	0.95	0.87	0.80	0.84	0.76	0.85	0.76	0.83	0.94	0.94	0.93	0.88
	p-value	0.15	0.67	0.09	0.74	0.18	0.04	0.09	0.02	0.13	0.02	0.08	0.63	0.62	0.53	0.21
	alpha	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	normal	yes	yes	yes	yes	yes	no	yes	no	yes	no	yes	yes	yes	yes	yes

Also in this case, the analysis is carried out through the comparison of means for the variables that are distributed symmetrically for both groups and through the comparison of medians for the other variables that do not meet this requirement. On this basis, in 2010 (Table 5) the joint stock banks have median value for ROE (4.28%), ROA (12.57%), MBV (0.84), and ROE-K_e (-5.73%) higher than the corresponding values (2.74%; 0.26%; 0.38%; -7.30%) of the co-operative banks. In 2011, the joint stock banks have values of median ROE (1.82%), ROE-K_e (-11.24%) worse than the corresponding values (2.73%; -6.89%) of the co-operatives, and have values of the median ROA (0.21%), median MBV (0.61%) better than the corresponding value (0.25%; 0.10%) of co-operatives ones. In 2012, the joint stock banks have a median value of MBV (0.46%) greater than the median MBV (0.32%) of co-operative banks and values of median ROE (2.54%), ROA (0.38%), ROE-K_e (-8.11%) higher than the corresponding values (-1.15%; -0.68%; -11.07%) of co-operative banks.

In brief, the results of this work confirm that none of two groups has better performances in the three years of observation: The performances of co-operative banks are better in 2010, but they become lower during the next year and, finally, higher in 2012.

Conclusions

On the basis of the literature that have showed that size and business model affect performance and value of banks, the idea of this research was to demonstrate that size and business model also affect bank's ability to contain the impact of a crisis financial.

To demonstrate this, the survey has examined the relationship of performance and value of Italian banks with their size, business model, and legal form, during the financial crisis of 2010 to 2012 period.

The empirical results indicated that small banks and investment banks are more able to contain the impact of a financial crisis that, starting in 2008 from stock exchanges, progressively spread to real economy and, therefore, to credit market. Conversely, the results showed that there aren't significant differences between joint stock capital and co-operative banks.

A further proof can come in future by extending this research to other countries, given that financial crises may take on different characteristics depending on economic system.

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