

## Board Characteristics and Bank Performance after the Global Financial and Economic Crisis – Do People Matter?

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### Abstract

*The study focuses on the impact of board characteristics on the performance of major international banks following the global financial crisis of 2008. Aspects such as the stability of governance structures, gender equality policies, and the correlation between board composition and key success indicators are analyzed. The relationships between efficiency, age, and gender of board members are explored, emphasizing the significance of dynamics in these structures for successful financial institution management. The study refrains from explicitly mentioning specific banks, providing insights into the broader issues surrounding governance in the post-crisis banking sector.*

*Keywords: banking, board, bank performance, stock price, EPS, ROA, ROE, CIR, P/E, P/S, market capitalization*

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### Introduction

Board characteristics are often overlooked when evaluating bank performance. Analysts mainly monitor the quantitative indicators of success, expressed in traditional profitability, efficiency, capital adequacy, liquidity, net interest margin, non-performing loans, etc. But beyond these remain those who drive institutions to the limits of or beyond efficiency – with the higher appetite for risk, with the decisions made about structured portfolios, with the assessment of the real state and capability of the institutions, and often beyond that – with the slippage between the lines of the law.

Bank executives are not nameless, random, irreplaceable and infallible, but their enabling environment maintains their "invisibility" to the world. And the breach of any security in the system, especially with consequences of bankruptcy, brings out the names of the bankers, even placed under the common denominator "characteristics of the board", including the high risk appetite, the huge bonuses, the incompetence, the advanced age of the directors, the lack of diversification of its members etc. The crisis of 2008 brought the directors out of anonymity, and the change in the policies for the formation of the boards and the Principles of Corporate Governance gave the institutions an impetus for serious transformations towards a balanced and optimally structured directorate of the banks.

Are they able to find the right path to positive performance, or are management dynamics preventing banks from achieving the success they desire?

### 1. The wind of change – board transformation in some top banks in US and Europe after 2008

Despite the distance in time, the World Financial and Economic Crisis remains one of the leading points of reference for analysis of the banking sector to this day due to the strong negative effects and total change of legislation, business models and corporate management. The tightening of regulations, the innovations, the change of market participants and the performance of banks, the condemnation of the failure of boards and top management, the requirement for gender equality in management, the problems from Covid-19 – these are only some of the reasons for the interest in banks in the last 16-17 years.

The present study aims to trace the relationship between individual characteristics of boards and CEOs with a number of performance indicators of five of the top banks in the world (due to the scope of the study): JPMorgan Chase&Co, BNP Paribas, Intesa San Paolo, Banco Santander, Deutsche Bank.

The starting point for the analysis of the "board-performance" relationship is the characteristics of the board and CEO of the selected institutions: CEO-dualism, chairman of the board, members and CEO, size, gender and age structure of the board.

JP Morgan Chase&Co. is the largest US bank by assets, and fifth in the world (assets \$3,898.33B\$, Q3 2023), with a market capitalization of 491.76 B\$ (29.12.2023), as well as government support of 15B\$ during the World Financial and Economic Crisis. Extremely specific in terms of management, the bank follows a policy of CEO-dualism, with an unchanged chairman of the board/CEO since 2005. At the head of the institution is one of the most successful bankers of the modern era – James Dimon, and despite the SEC's pressure to replace him, he remains at the helm. The bank's board is one-tier, without a supervisory board; its average size in the period 2007-2023 is 11 people, and it does not show strong dynamics – neither in size, nor in composition. The directors' participation in it is long-term, with some of the members' mandates reaching 16-17 years.

Table 1. Board characteristics during 2007-2023<sup>1</sup>

	JPMorgan		Deutsche Bank		Intesa San Paolo			Santander			BNP Paribas		
	CEO-dualism (One tier board)	Size, Age, Women (%)	CEO-dualism (two tier board)	Size, Age, Women Board (%), Women SB (%)	Board Ch.	CEO	Size, Age, Women (%)	Board Ch.	CEO	Size, Age, Women(%)	Board Ch.	CEO	Size, Age, Women (%)
2007 г.		12/57/17	Josef Ackermann 2002-2012, two-tier board	10/53/0/25	Enrico Salza	C Passera	11/62/0	Emilio Botin	Alfredo Saenz	18/63/11	Michel Pebereau	Baudouin Prot	15/63/13
2008 г.		11/59/18		10/52/0/31									11/62/0
2009 г.		10/61/20		12/53/0/35			11/63/0			19/65/11			15/64/20
2010 г.		11/61/18		12/53/0/32	Andrea Beltratti	E. Cucchi-ani	9/64/0			19/65/11			19/63/21
2011 г.		12/62/17		12/54/0/32									9/65/0
2012 г.		11/62/18	Jurgen Fitschen; Anshuman Jain (co)	7/50/0/35	Gian-Maria Gros-Pietro	Carlo Messina	9/66/0		Javier Marin	16/66/19	Baudouin Prot	Jean Laurent Bonmafe	18/61/22
2013 г.		11/62/18		7/51/0/36									10/63/20
2014 г.		11/63/18	8/51/0/43						10/63/20	15/61/33			17/61/30
2015 г.		11/64/18	12/53/8/36						10/64/20	15/61/33			16/60/31
2016 г.		12*65/17	13/83/15/36						19/61/37	15/61/40			15/59/33
2017 г.		13/64/23	12/52/17/36					19/62/37	14/61/36	15/59/33			
2018 г.		12/65/17	8/53/13/31					19/63/37	15/63/33	16/59/38			
2019 г.		11/66/18	9/51/11/28					19/61/37	16/61/31	14/59/36			
2020 г.		10/63/40	10/49/10/29					19/62/42	15/59/40	14/60/36			
2021 г.		10/64/40	10/50/20/27					19/63/37	16/60/38	16/61/38			
2022 г.		12/64/42	10/50/20/30			19/64/42	16/60/44	17/62/41					
2023 г.		11/64/45	10/52/10/35			19/65/42	Hector Grisi	16/62/44	13/63/47				
<b>Average</b>		<b>11/63/-</b>		<b>10/52/-</b>			<b>17/62/-</b>		<b>16/61/-</b>				<b>14/63/-</b>

**Source:** the data in the table are systematized and calculated based on the annual reports of the institutions for the period 2007-2022, as well as current information from the banks' websites about the characteristics of the board and CEO. See: JPMorgan Chase & Co. Annual reports (2007-2022), <https://www.jpmorgan.com>; Banco Santander Annual reports (2007-2022), <https://www.santander.com>, Deutsche bank (2007-2022) Annual reports, <https://www.db.com>, BNPParibas (2007-2022) Universal registration document and annual financial report, <https://invest.bnpparibas/en/document>, Intesa San Paolo (2007-2022) <https://group.intesasanpaolo.com/>.

<sup>1</sup> As of November 24<sup>th</sup>, 2023 г.

In the context of policies on gender equality in the governing bodies of institutions, JPMorgan Chase&Co. has a consistent policy that begins well before the apparent gender equality initiatives in senior management levels of institutions. Already in 2007, the share of women on the board was 17%, and today in 2023 it reaches 45%.

JPMorgan Chase&Co. refutes one of the main accusations against the managements of the banks across the Ocean during the World Financial and Economic Crisis, namely – the high age of the board members. In the crisis years 2007-2008, the average age of the board members was 57 and 59 years; the range of its fluctuation for the entire analyzed period – 57-66 years; and the average age of the board for all years was 63. The mandates of 14 board members last over 7 years, i.e. they are serving two terms on the board, which some consider a concentration of power, but for JP Morgan Chase&Co. it leads to excellent overall performance.

The second of the analyzed banks is the leader in the German banking system and one of the doyens in Europe – Deutsche bank (assets – 1,358.0B€/Q3/2023, market capitalization – 25.23B€/29.12.2023). The board of the institution is two-tier, supported by CEO-dualism. In 2012, the bank's long-time chairman and CEO Josef Ackermann failed to win the trust of the supervisory board and left the chairmanship. In the next six years, power was shared between Jurgen Fitschen and Anshuman Jain (co); and then between Jurgen Fitschen and John Cryan (co). In 2018, the institution was headed by Christian Sewing, performing all the functions of Chairman of the Board and CEO.

Deutsche Bank's average board size is close to that of JPMorgan Chase&Co. – 10 people, but with a significantly younger average age of 53 for 2007-2008; a range for the whole period of 49-54; and an average board age for the whole period of 52.

Women's participation in the bank's management remained absent from the institution's board-level policies until 2014 (0% female participation). The proposed change to the legislation and initial debates on quotas for women in management in the EU refer the required participation to non-executive directors, which directly transfers the initiative to the institution's supervisory board. At Deutsche Bank, the share of women on the supervisory board is 33% on average, and by 2023 – 35% (with 10% on the board).

The board of the largest Italian bank – Intesa San Paolo, is two-tier until 2015 inclusive, without CEO-dualism (assets – 947B€/Q3/2023, market capitalization – 48.57B€/29.12.2023). The transformations in the management of the institution did not begin only after the World Financial and Economic Crisis, but already in 2006 with the merger of Intesa and San Paolo. The subsequent search for balance and dealing with the problems after the Crisis of 2008 lead to a change in its leadership in 2009-2010. After the initial change, a second one followed. In place of Salza (Chairman) and Passera (CEO) came Andrea Beltratti (Chairman) and E. Cucchiani (CEO), who after 2-3 years of management have been replaced by the new tandem, working together for the 11th year now – Gian-Maria Gros-Pietro (Chairman) and Carlo Messina (CEO).

The average size of the board of Intesa San Paolo is 17 people, being 10 people in the first half of the period (with the presence of a supervisory board), and doubling after the transition to the one-tier model. The average age of the board members in the Crisis years of 2007-2008 was 62, ranging from 61-66; and the average age for the whole period was 62.

Women's participation in management is also on the agenda at Intesa San Paolo. Until 2013, their share, even in the supervisory board, was minimal – 1 woman per 19 members. After the adoption of the first reading of the Directive of the European Parliament and of the Council on improving the gender balance among non-executive directors of companies listed on stock exchanges and related measures in 2012<sup>2</sup>, the share of women has increased - in the supervisory board for the last three years since its existence - up to 26%, and in the board - starting from 20% in 2013, to between 37 and 42% since 2016.

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<sup>2</sup> European Commission (2012) Proposal for a Directive of the European Parliament and of the Council on improving the gender balance among non-executive directors of companies listed on stock exchanges and related measures. COM/2012/0614 final.

The board of the leader in Spanish banking, Banco Santander, is one-tier, with separate functions of the chairman of the board and the CEO, but the chairman of the board is the executive director of the Group (assets – 1, 816.844B€/Q3/2023, market capitalization – 61.26B€/29.12.2023). Unlike other institutions, Banco Santander is connected in its development with four generations of the Botin family, who have turned the institution into an international financial group, and the main credit for this goes to the long-time Chairman of the Board, Emilio Botin. With his overseas expansionist policy, Emilio Botin limited Santander's dependence on internal banking crises, especially the one in 2012. In 2014, his daughter Ana Patricia Botín-Sanz de Sautuola y O'Shea was elected to Emilio Botin's place, and she performs the duties to this day (2023).

The tradition in the lack of strong dynamics and preservation of a relatively constant composition of the board is also visible with the CEO. Two of the CEOs have held their posts for 12 and 8 years respectively – Alfredo Saenz (under Emilio Botin) and Jose Antonio Alvarez (under Ana Botin). In the board, there are no periods of upheaval in terms of composition, changes happen smoothly. The average board size is 16 people, with a larger number at the beginning of the period. The average age of the board in 2007-2008 was 63 years, with its fluctuations for the period being respectively between 59-66 years, and the value for the whole period – 61 years. The proportion of women on the board increased smoothly from the beginning to this day, with a current share of 44%.

At the leader of French banking – BNP Paribas (assets – 2,940.163B\$/Q3/2023, market capitalization – 71.52B€/29.12.2023) the position of Chairman of the Board was held by 3 people. During the crisis of 2008 and in the two decades before it, including during the CEO-dualism phase and before the merger between Banque nationale de Paris and Paribas, Michel Peberau (1993-2010) was at the helm. Currently, he is Chairman for BNP Paribas Foundation and Chairman for Fondation BNP Paribas. Baudouin Prot succeeds Peberau for one term, after which the position of Chairman of the Board is taken by Jean Lemierre (2015 – present). The bank's executive directors for the period 2007 to 2023 are two – the first ends his term after the end of the crisis together with Peberau, and is succeeded by Jean Laurent Bonnafé (13 years in this post).

Dynamics in the structure of the board are observed after the change of Peberau and Prot – the number of directors increases, and over time it reaches average levels of 16 people. The average age of the board for the entire period is the usual for the other banks, too – 63 years, including for 2007 and 2008, and the range of fluctuation is 59 to 64.

BNP Paribas also actively involved women in the management of the institution long before the ideas of EU for directive and quota setting. The steady increase in the share of women on the board started as early as 2007, and today (2023) it reaches 47% – an extremely balanced board.

## **2. Dynamics in the amount of assets and market capitalization of banks**

The size of banks, but also their acceptance by investors, can be judged from the data on the size and dynamics of assets, as well as from their market capitalization for the period 2007-2023. Are the institutions perceived the same way by both customers and investors?

Market reaction and asset dynamics at JPMorgan Chase&Co. are in a positive direction – growth in both assets and market capitalization, and the corridor between the highest and lowest values of market capitalization remains almost constant, except for the period of COVID-19, in which the "scissor" widens. With the almost unchanged composition of the board, as well as the management of James Dimon, the bank shows the absolute support of both customers and investors.

At Deutsche bank, the exact opposite trend is observed – a significant consecutive decline in the amount of assets and market capitalization corresponding to their behavior. The biggest range between stock market valuation is in the years 2008-2011, but they are not the worst in terms of market performance and assets. The descent "down" the ladder of positive trust begins after the Ackermann era (in 2012), and the search for leadership options to stabilize the institution comes

only after 2018-2019, when the leadership is taken by Christian Sewing and the new board members.

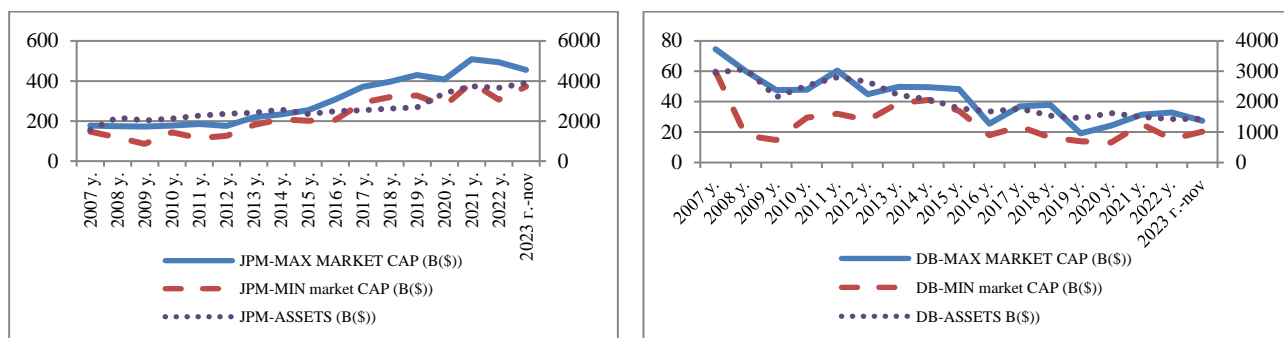


Figure 1. Dynamics of market capitalization and assets of JPMorganChase&Co. and Deutsche bank for 2007-2023

The other three banks have inconsistent performance and relationship between asset performance and market capitalization.

At Intesa Sanpaolo, assets have a more defined upward trend (with temporary fluctuations) until COVID-19, then decline. The market capitalization of the institution is extremely dynamic, with the difference in the period between the lowest (disclosed) values from 2012 and those in 2017-2018 being over 40 billion euros. With a market capitalization level as of 12/29/2023 of 48.57 billion euros, it can be observed that the reaction of the market over time is as bad as almost "total deletion" of the bank from the stock market. Until 2016, the lowest and highest average values (based on monthly data) of market capitalization form a corridor of relatively constant width, after which the directions diverge. Since 2019, market capitalization has been increasing, the gap between lows and highs has widened, and with the advent of COVID-19 assets have been shrinking. The sharp fluctuations in the period are related to the sharp reaction of the stock market to all of the participants in the financial sector; and the periods of subsidence of yet another wave – to the restoration of confidence in the institutions.

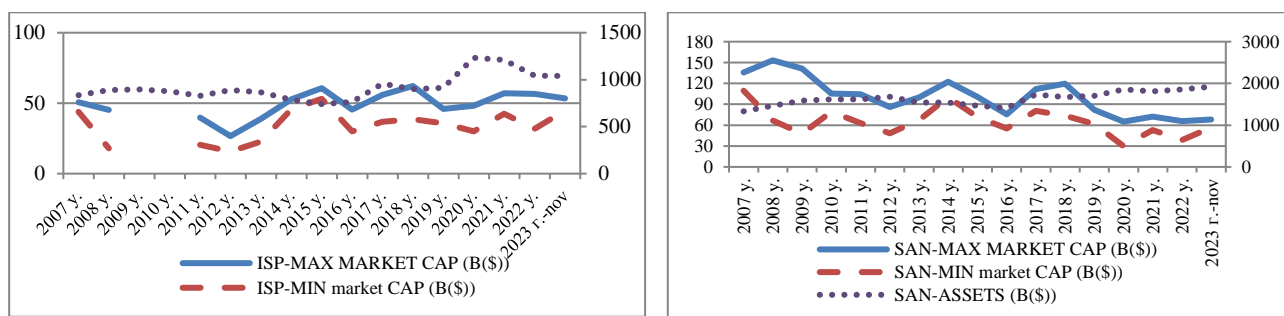


Figure 2. Dynamics of market capitalization and assets of Intesa Sanpaolo and Banco Santander for 2007-2023

Banco Santander shows a different situation. The directions of movement of the assets and the assessment of the investors are opposite – growth of the assets and intensified dynamics with an accumulated negative effect in the market capitalization. The largest range of market capitalization fluctuation was during the World Financial and Economic Crisis, after which the corridor narrowed and remained relatively constant. The strong dynamics of market capitalization outlines three major waves of decline in investor confidence - in 2008-2011, 2014-2015, 2017-2023.

The subsequent management of Ana Botin and Jose Antonio Alvarez succeeded in bringing the bank out of the negative trend in the size of the assets, but failed to restore the stability in

investor confidence from before 2008. Here, however, the likely reason lies in the overall instability of the sector in Spain since 2008 and the failed attempts to restore the system before the unfolding of the debt crisis in the Eurozone. There is hardly any management that would have been able to lead the bank in a better way from the "cataclysms in the system", the result of rapid credit growth and the expansion of bank balance sheets after the 1990s, the orientation of lending to the real estate sector and the resulting construction boom, inadequate management and lack of market discipline in savings banks and their dependence on unstable financial sources, etc. The crisis in the Spanish banking sector deepened to such an extent, that in 2012, after a series of measures, the country asked for support from the EU due to the need for the recapitalization of the system, the fiscal deficit and the pressure on the government securities market (Baudino, P. et al., 2023).

The last of the considered institutions is BNP Paribas – exceptional dynamics in market capitalization and reversal of the negative trend of assets in the middle of the period. The margin between the highs and lows of market capitalization is narrowing, and post-COVID-19 there is also a rise in investor confidence. The huge difference between the lowest and the highest point of market capitalization for BNP Paribas, in 2009 and 2010 respectively \$64.78 billion and \$78.37 billion, is so significant that translated to its current value, it would see the institution removed from the stock market.

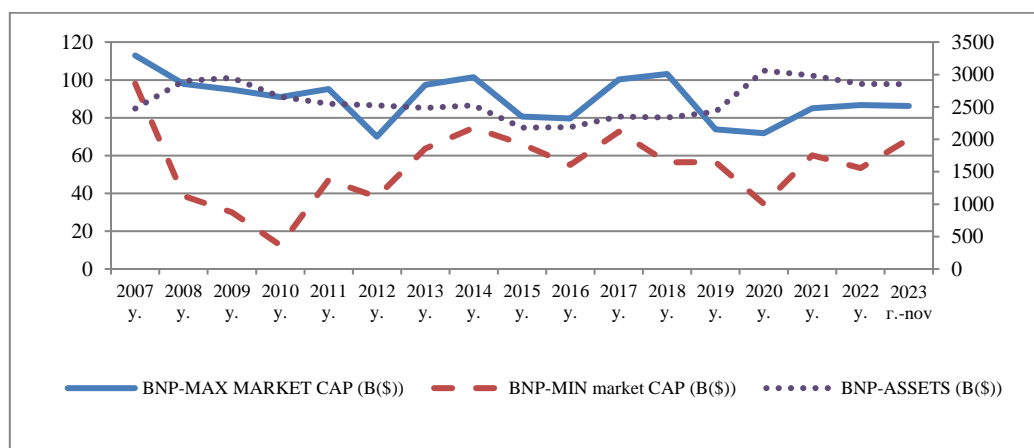


Figure 3. Dynamics of market capitalization and assets of BNP Paribas for 2007-2023

This did not happen, however, and the helm of Jean Lemierre (Chairman, 2015) and Jean Laurent Bonnafé (CEO, 2011) is trying to stabilize the institution. The crisis times for the entire stock market due to COVID-19 are actually the end of a period that was negative for the bank's market valuation, after which, albeit difficult, investor confidence is being restored. But it is also a fact that the external determinants of the post-COVID-19 sector are so numerous that the fragile stability of the market valuation can be quickly destroyed.

### 3. The behavior of some Key performance indicators

The analysis of the behavior of the assets and market capitalization of the banks shows not just a one-track movement, but rather a full spectrum of expectations, opportunities, and losses of confidence of both customers and investors. However, does the movement of some key performance indicators (KPI) confirm the picture of the state of the institutions during the management of the different boards and the CEOs?

The leader in return on assets (ROA) and return on equity (ROE) indicators is JPMorganChase&Co. Both indicators (ROA, ROE) are positive throughout the period, and the values exceed those of the other banks in almost all years. The results lead to the conclusion that James Dimon's long-term management, low board dynamics and CEO-dualism have an extremely beneficial effect on JPMorganChase&Co.



Banco Santander and Intesa Sanpaolo (since 2014) are in second and third position in the ranking of profitability.

Banco Santander has weathered the crisis in Spain and the only “minus” in its profitability is in the year of the COVID-19. Since the coming to power of Anna Botin and Jose Antonio Alvarez, the values of ROA and ROE are moving within 0.50-0.63% and 6.60-10.67% for ROE (except in 2020). The dynamic (but good) results prove that the management of Emilio Botin and Alfredo Saenz, and Ana Botin and Jose Antonio Alvarez is successful.

Table 2. ROA, ROE and Cost/Income for the period 2007-2022 (%)

Банка Година	JPMorgan Chase & Co.			Deutsche Bank			Intesa San Paolo			Banco Santander			BNP Paribas		
	ROA	ROE	CIR	ROA	ROE	CIR	ROA	ROE	CIR	ROA	ROE	CIR	ROA	ROE	CIR
2007 г.	1,06	13,00	58,0	0,30	17,90	69,6	1,20	18,90	51,90	1,09	21,91	44,2		19,60	60,50
2008 г.	0,31	4,00	65,0	-0,18	-11,10	134,6	0,41	5,20	54,70	0,96	17,07	44,6		6,60	67,20
2009 г.	0,58	6,00	52,0	0,29	14,22	72,0	0,44	5,50	53,90	0,86	13,90	41,7	0,56	10,80	58,10
2010 г.	0,85	10,00	60,0	0,12	5,28	81,6	0,77	5,10	56,30	0,76	11,80	43,3	0,75	12,30	60,40
2011 г.	0,86	11,00	65,0	0,20	7,75	78,2	-1,20	-	54,40	0,50	7,14	44,9	0,63	8,80	61,60
2012 г.	0,94	15,00	67,0	0,24	9,07	92,6	0,24	3,30	49,80	0,25	2,91	46,0	0,45	8,90	68,00
2013 г.	0,75	11,00	73,0	0,04	1,19	89,0	-0,70	-	51,10	0,44	5,42	49,9	0,26	6,10	67,60
2014 г.	0,89	13,00	65,0	0,10	2,45	86,7	0,20	2,80	50,60	0,60	7,00	47,0	0,01	7,70	67,70
2015 г.	0,99	13,00	63,0	-0,39	-9,33	115,3	0,40	5,90	50,80	0,50	6,60	47,6	0,31	8,30	68,10
2016 г.	1,00	13,00	58,0	-0,08	-2,10	98,1	0,40	6,40	51,20	0,56	6,99	48,1	0,36	9,30	67,70
2017 г.	0,96	12,00	59,0	-0,05	-1,10	93,4	0,50	7,90	52,90	0,58	7,14	47,4	0,32	8,90	69,40
2018 г.	1,26	12,68	58,0	0,02	0,39	92,7	0,50	8,80	53,00	0,64	8,21	47,0	0,35	8,20	71,90
2019 г.	1,37	14,07	57,0	-0,40	-8,34	108,2	0,50	8,80	51,80	0,54	6,62	47	0,35	8,50	70,30
2020 г.	0,96	10,78	56,0	0,04	0,85	88,3	0,30	5,90	52,20	-0,5	-9,8	47	0,32	7,60	68,20
2021 г.	1,36	15,86	59,0	0,17	3,59	84,6	0,40	7,60	52,80	0,62	9,66	46,2	0,36	10,00	67,30
2022 г.	1,02	12,85	59,0	0,40	7,82	74,9	0,40	8,50	50,90	0,63	10,67	45,8	0,37	10,20	66,80

*Source: the data in the table are systematized and calculated based on the annual reports of the institutions for the period 2007-2022, as well as current information from the banks' websites about the characteristics of the board and CEO. See: JPMorgan Chase & Co. Annual reports (2007-2022), <https://www.jpmorgan.com>; Banco Santander Annual reports (2007-2022), <https://www.santander.com>, Deutsche bank (2007-2022) Annual reports, <https://www.db.com>, BNPParibas (2007-2022) Universal registration document and annual financial report, <https://invest.bnpparibas/en/document>, Intesa San Paolo (2007-2022) <https://group.intesasanpaolo.com/>.*

At Intesa Sanpaolo, the situation is different – exceptional dynamics until 2014, including two negative values of profitability in 2011 and 2013 (with undisclosed ROE values). After 2014, the situation normalized and the bank managed to keep profitability within positive, even though not so high values. The new leaders of the institution since 2013 Gian-Maria Gros-Pietro and Carlo Messina took over the bank in difficult times, so the result of their work came a year later, with the bank entering the right direction of managing its revenue and profit centers. As for the COVID-19 period, deviations keep profitability positive, with differences of 0.10 in ROA and 2.90 in ROE.

The management and CEO of BNP Paribas has pursued a policy of sustainability since 2008, managing to keep profitability within the limits of positive values, but without a sustainable growth rate. The change began after the end of 2014, with the new management of the board working with the already replaced CEO during this period. Under the management of Jean Lemierre and Jean Laurent Bonnafe, the bank managed to accelerate the growth of its profitability, despite internal legacy problems.

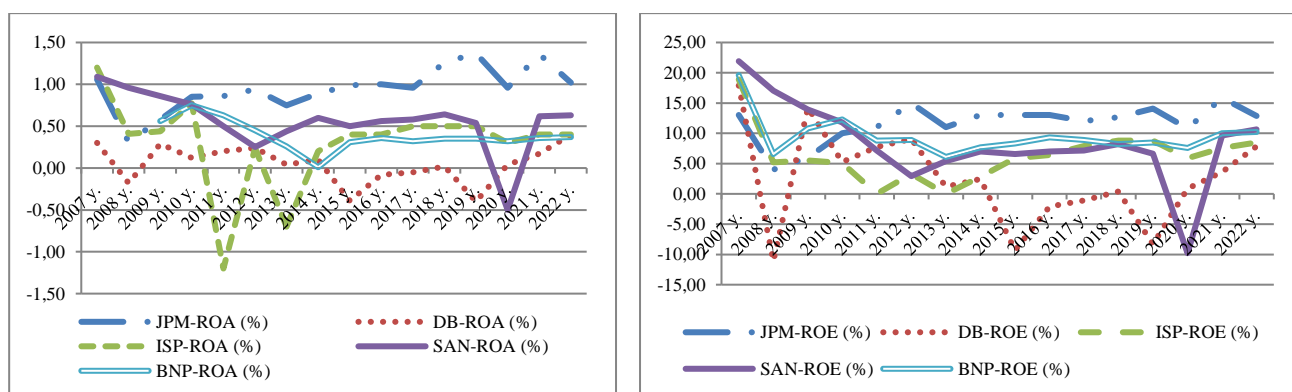


Figure 4. dynamics of ROA and ROE of banks for 2007-2022 y.

The strongest dynamics of profitability of assets are observed at Deutsche Bank and Intesa San Paolo. In five of the periods Deutsche Bank has negative ROA values (until 2019 and again with the coming to power of Christian Sewing and his board and policies). Intesa Sanpaolo recorded negative values of ROA in two years – 2011 and 2013, and the bank does not disclose official figures for the ROE due to the negative profit of the institution. Again, a change in the indicator is achieved with the arrival of the latest management of the bank and the achievement of the desired sustainability.

The third key indicator is that of operational efficiency – Cost/Income (CIR). Unlike profitability, CIR is a negative indicator and its high value indicates the inefficient management of institutions, with too high level of operating costs, which eats into the banks’ profits.

The leader in efficiency is Banco Santander. It is also one of the few institutions with an extremely targeted policy in the management of Cost/Income. The results achieved by the institution are more than excellent, ranging from 41.7 to 49.9%, below the limit of 50%, accepted as normal. Despite the slight negative trend since 2012, the bank has far better indicators than the other banks (targeted by them too); and extremely successful management of operating expenses under the second management/CEO team as well.

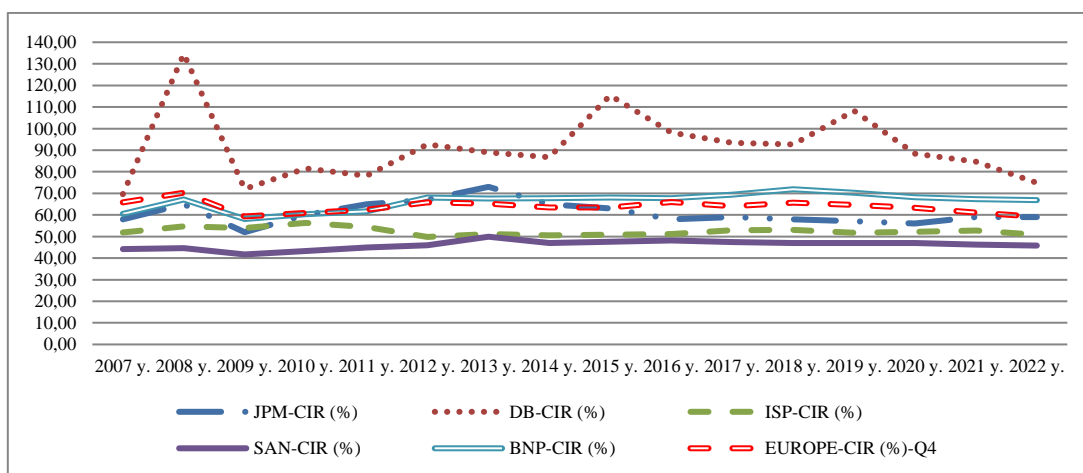


Figure 5. Dynamics of Cost to Income Ratio (CIR) for 2007-2022 y. (%)

Second in good efficiency management is Intesa Sanpaolo. Like Banco Santander, Intesa has a good and targeted policy towards it. Under the bank's new management since 2014, CIR has hovered in the 50-53% range, a result indicating extremely good management of operational costs.

Third position in good performance management goes to the largest of the five banks – JPMorganChase&Co. Within the period, efficiency ranges from 52%-73%, but in recent years (since 2016) CIR values have been below 60%, even in the COVID-19 years when they were 57% and 56% respectively . The extremely large size of the bank implies a difficult management of



operational costs, but the achieved lower CIR levels illustrate the measures taken to improve its operational efficiency.

Too large in terms of assets, like JPMorganChase&Co., BNP Paribas is not efficient enough. The values of the CIR indicator exceeded 70% in two of the periods – 2018 and 2019, and this permanent change in the direction of deterioration (increase) has been in place since 2012. At the beginning of the period, excluding 2008, the efficiency was close to 60%, at the expense of an 8-10% higher rate in the following years. The institution's latest management improves profitability, but not efficiency, suggesting that policies are not specifically geared towards this goal, unlike Banco Santander and Intesa Sanpaolo.

Last and with the highest CIR values is Deutsche bank. In three of the years, the bank has an efficiency above 100%: in the crisis year 2008 – 140%; 2015 – 115.30%; 2019 – 108.20%. Only after the start of the Christian Sewing’s leadership did the values change in a decreasing direction, but they are far from the average value of CIR for Europe. The deteriorating state of the bank's efficiency has led to the adoption of a number of drastic measures – a significant reduction in staff and the closure of bank branches, seen more as a center of cost, rather than a profit center. The difficulty in Sewing’s management are the legacy issues and cumbersome structure that need to be optimized.

The last of the key indicators is Earnings per share (EPS). The best EPS values compared to other banks are achieved by JPMorganChase&Co., led by James Dimon. The factors reducing EPS values during the World Financial and Economic Crisis and COVID-19 did not change the overall direction of its movement towards improvement. In none of the periods did the institution record negative EPS values, which is also evident from the investors' confidence in the afore-analyzed market capitalization.

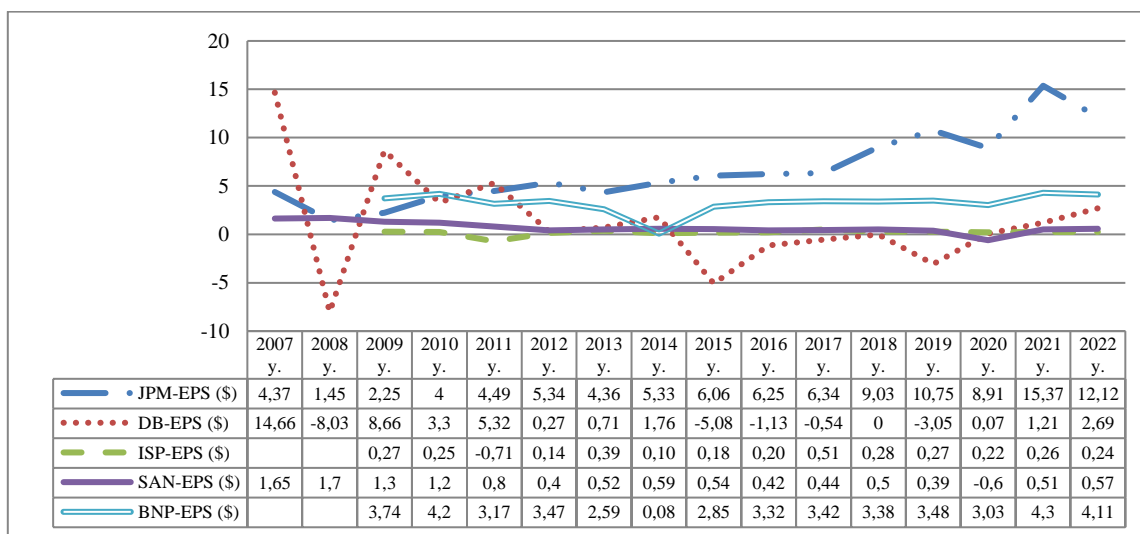


Figure 6. Dynamics of earnings per share (Basic EPS) for 2007-2022 y. (%)

**Source:** the data in the table are systematized and calculated based on the annual reports of the institutions for the period 2007-2022, as well as current information from the banks' websites about the characteristics of the board and CEO. See: JPMorgan Chase & Co. Annual reports (2007-2022), <https://www.jpmorgan.com>; Banco Santander Annual reports (2007-2022), <https://www.santander.com>, Deutsche bank (2007-2022) Annual reports, <https://www.db.com>, BNPParibas (2007-2022) Universal registration document and annual financial report, <https://invest.bnpparibas/en/document>, Intesa San Paolo (2007-2022) <https://group.intesasanpaolo.com/>.

The deteriorating "health" of Deutsche Bank is also evident from the EPS values. In the years after 2008, the bank faces a steep decline in EPS: from +\$14.66 in 2007 to negative levels in 2015-2019, with strong volatility and decline in the indicator starting from 2009. The reversal of the

trend comes in the year of COVID-19 and the following ones, with Christian Sewing taking the position of board chairman/CEO.

In contrast to efficiency, Intesa Sanpaolo does not perform well (compared to others) in EPS. The years with negative EPS values, despite the relative stability at levels of 0.22-0.28 dollars per share, threaten the bank's "timid success" in this parameter. The short leadership of Andrea Beltratti (Chairman, 3 years) and E. Cucchiani (CEO, 2 years) failed to restore confidence in the bank; and the burden of recovery fell on the next, long term, service of Gian-Maria Gros-Pietro and Carlo Messina, which unfortunately also fail to achieve better performance in this metric.

Banco Santander is one of the institutions with the most stable performance in Europe. Despite the slight negative trend in EPS values, its only negative value is in the year of COVID-19. It is likely that under different circumstances, without the huge crisis of confidence in Spain's banks, Santander would have achieved better results.

The French giant BNP Paribas<sup>3</sup> has recorded extremely stable values of the EPS indicator, with the exception of 2014. In 2014, the chairman of the board – Baudouin Prot, former CEO – was replaced, and Jean Lemierre came at the head of the board. In 2014, BNP Paribas was accused of violating US sanctions against third countries, so it agreed to plead guilty and pay an \$8.9B fine. Under the management of Jean Lemierre, the bank has stabilized, and with this came an improvement in EPS values, which suggests that the current management of the bank is leading it to success.

The analysis so far did not take into account three of the factors that have been posited as determinants of board characteristics – size, average age of board members, and the proportion of women on it. Is there really a relationship between them and the three KPIs?

Table 3. Correlation coefficients

RELATION	CORRELATION COEFFICIENT
ROA (%) - Board Size	-0,03
ROE (%) - Board Size	0,09
CIR (%) - Board Size	-0,51
ROA(%) - Average Age	0,44
ROE(%) - Average Age	0,50
CIR(%) - Average Age	-0,69
ROA(%) - Women in Board (%)	0,16
ROE(%) - Women in Board (%)	0,05
CIR (%) - Women in Board (%)	-0,46

Correlation analysis of data on key performance indicators and board characteristics (size, average age, proportion of women) for the five banks for the period 2007-2022 (a total of 80 observations) found that the strongest dependence (and a negative one at that) on the three determinants of the board lies in the efficiency indicator. What do the results mean?

The efficiency indicator is negative, which requires reading the results in a different way. If the efficiency was a positive coefficient, then it would mean that the higher directors' age has a negative effect. However, this is not the case as efficiency is a negative indicator and in this respect a younger board has a negative impact on it. For board size, the effect is similar: larger boards have a more beneficial effect on performance than small boards. A similar conclusion can be drawn for

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<sup>3</sup> BNP Paribas Agrees to Plead Guilty and to Pay \$8.9 Billion for Illegally Processing Financial Transactions for Countries Subject to U.S. Economic Sanctions, <https://www.justice.gov/opa/pr/bnp-paribas-agrees-plead-guilty-and-pay-89-billion-illegally-processing-financial>

the participation of women in management: the -0.46 value of the correlation coefficient indicates that with greater participation of women, banks are more efficient.

There is a direct positive correlation between profitability indicators and the age of directors, which again confirms that boards with an average age of 60+ are not detrimental to institutions.

Of course, these conclusions are not valid for the entire banking system (they are valid for the examined banks). But they provide guidance for the future evaluation of the top banks worldwide in terms of the actual participation of people in the leadership and management of the institutions, without the "anonymity" of the directors in the individual mandates.

### **Conclusion**

The study underscores the pivotal role of board characteristics in influencing the performance of major global banks. Notably, JPMorgan Chase&Co distinguishes itself with a stable board structure, featuring CEO-dualism and consistent gender diversity, resulting in positive indicators for return on assets (ROA) and return on equity (ROE). Banco Santander emerges as an efficiency leader, maintaining a low cost/income ratio, while Deutsche Bank grapples with efficiency challenges, necessitating significant measures such as staff reduction and branch closures.

Correlation analysis reveals meaningful relationships, indicating a negative impact of younger boards and smaller sizes on efficiency, emphasizing the crucial role of board dynamics. Conversely, a positive correlation between profitability and the age of directors suggests that older boards may positively influence bank performance. Additionally, a positive link between the participation of women in management and efficiency implies that greater gender diversity contributes to improved efficiency in banks.

In conclusion, while these conclusions are specific to the examined banks, the findings offer valuable insights for future evaluations of top global banks, highlighting the importance of board composition and dynamics in leadership and management.

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