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## **SELECTED PAPERS**

Maribor, Slovenia  
October 27, 2022

**Sixth International Scientific Conference ITEMA**

*Recent Advances in Information Technology, Tourism, Economics, Management and Agriculture*

ISSN 2683-5991

**Selected Papers (part of ITEMA conference collection)**

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Association of Economists and Managers of the Balkans – **UdekoM Balkan**

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**Cover image by:** Gerd Altmann from Pixabay

**Printed by:** SKRIPTA International, Belgrade

**Print circulation:** 100 copies

**Belgrade, 2023**

**ISBN 978-86-80194-64-6**

**ISSN 2683-5991**

**DOI: <https://doi.org/10.31410/ITEMA.S.P.2022>**

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CIP - Katalogizacija u publikaciji  
Narodna biblioteka Srbije, Beograd

330(082)

004(082)

005(082)

338.48(082)

631(082)

616.98:578.834]:33(082)

**INTERNATIONAL Scientific Conference ITEMA 2022  
Recent Advances in Information Technology, Tourism, Economics, Management and Agriculture (6 ; 2022)**

Selected Papers / Sixth International Scientific Conference ITEMA 2022 Recent Advances in Information Technology, Tourism, Economics, Management and Agriculture, Maribor, Slovenia October 27, 2022 ; [editor Vuk Bevanda]. - Belgrade : Association of Economists and Managers of the Balkans / UdekoM Balkan, 2023 (Belgrade : Skripta International). - XVI, 119 str. : ilustr. ; 29 cm. - (ITEMA Conference Collection, ISSN 2683-5991)

Tiraž 100. - Napomene i bibliografske reference uz tekst. - Bibliografija uz svaki rad. - Registri.

ISBN 978-86-80194-64-6

a) Informaciona tehnologija -- Zbornici b) Ekonomija -- Zbornici v) Menadžment -- Zbornici g) Turizam -- Zbornici d) Poljoprivreda -- Zbornici đ) Korona virus -- Ekonomski aspekt -- Zbornici

COBISS.SR-ID 120761609





# Recent Advances in Fintech: The Case of Italian Challenger Banks

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Received: November 10, 2022

Accepted: February 8, 2023

Published: June 12, 2023

## Keywords:

Financial technology;  
Emerging finance;  
Digitalization;  
Economic performance



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**Abstract:** *Fintech or financial technology is a relatively recent and expanding phenomenon, which identifies the application of technologies, in particular digital, in the financial sector. In the context of Fintech, a recently born sector is represented by challenger banks (CBs), i.e. banks that do not have branches but operate exclusively through apps and smartphones. There are currently 96 challenger banks in Europe, of which 12 are located in Italy. This study aims to analyze the performance of the Italian challenger banks in the three years 2019-2021 to grasp the strengths and weaknesses of their management. The study highlighted how Italian challenger banks have overcome the pandemic with satisfactory results compared to 2019. This is partly due to the advantages that digital services offer in conditions in which physical travel is limited or prohibited. However, income performance also grew in 2021 and confirms the progressive strengthening of the sector.*

## 1. INTRODUCTION

Fintech or Financial Technology is a relatively recent phenomenon. Although there is no single definition of Fintech, this term generally identifies the application of technologies, in particular digital, in the financial sector.

It should be noted in the introduction that, in general, the use of digital technologies can be defined with two similar terms but with different meanings. As evidenced by the literature, there is a *tendency of the definition of digitization towards explaining a technical process of data conversion, generation, storage, or processing. In contrast, digitalization was mainly referred to as a socio-technical phenomenon, the use of digital technologies, and their influence on societies, businesses, and personal lives* (Frenzel et al., 2021, p. 7).

This study refers to the concept of digitalization, in the sense defined above, and in particular, focuses on the effects that the use of digital technologies produces on companies and their management models. Digitalization, whose developments date back at least to the 1990s (Schallmo & Williams, 2018), has progressively affected a large part of the economic sectors and especially medium and large companies, both bringing advantages and creating new critical issues.

The advantages are linked not only to the possibility of obtaining a vast amount of updated data in real-time to support decisions but also to the introduction of new communication channels that facilitate the exchange of information inside and outside the company (i.e. with managers, customers, suppliers, shareholders, stakeholders).

The criticalities are instead mainly of two types: (a) the onerousness of digital technologies, linked to the investments required for their implementation and the costs of their management; (b) the cultural change required of the company so that new technologies can give their maximum benefit.

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These two aspects, considered jointly, are equivalent in summary to the transformation of the business model and are able to modify even in depth the operating strategies and economic performance of the company, acting above all on the structure of costs and revenues.

In the financial field, the use of digital technologies is often defined through the term Fintech, which can be described as *a cross-disciplinary subject that combines Finance, Technology Management and Innovation Management* (Leong & Sung, 2018, p. 74).

In the banking sector, which represents a relevant segment of the overall financial market, the degree of depth with which digital technologies are applied can be more or less high and its extent is particularly useful in distinguishing traditional banks from challenger banks (CBs). Traditional banks generally integrate digital technologies within an operational structure that is based on physical presence, through branches and agencies with more or less widespread diffusion. In this management model, digital services represent additional options thanks to which banking operations, instead of being carried out in the various local offices, can be carried out online, via PC or smartphone.

Unlike traditional banks, a recently born sector is represented by the challenger banks, i.e. companies without branches, which are not materially present in the territory and operate exclusively through apps and smartphones, so much so that part of the literature assimilates them to information and communication companies (Bataev, 2019).

There are currently 96 challenger banks in Europe, of which 12 are located in Italy. After Great Britain, which has 37 challenger banks, Italy, together with France, is among the most represented countries, followed by Germany, with 8 banks and Spain, with 7 banks.

A characteristic of the challenger banks is their particular profitability structure, which has led the literature to highlight factors both favorable and contrary to the achievement of adequate levels of financial performance.

This study aims to analyze the performance of the Italian challenger banks in the three years 2019-2021 to grasp the strengths and weaknesses of their management. Compared to traditional banks, challenger banks have a very different structure of costs and revenues. This is since, on the one hand, the application of digital technologies represents an opportunity to improve performance, especially for the operational flexibility that it allows to obtain; however, on the other hand, it requires a careful evaluation of costs and revenues.

## 2. LITERATURE REVIEW AND RESEARCH QUESTIONS

The existing literature underlines how the particular business model of CBs can present both functional characteristics for achieving adequate levels of effectiveness, and structural connotations that make it difficult to obtain high levels of profitability.

According to the study by Bataev et al. (2019), a comparison with traditional financial institutions shows that CBs represent an effective and sustainable management model, capable of being economically efficient both in conditions of crisis and in conditions of market expansion.

The probabilities of obtaining adequate profitability, however, are strictly dependent on some fundamental variables, including in particular the ability to reach a large number of customers.

In this regard, [Schepinin and Bataev \(2019\)](#) have shown that with a capital investment of around 6 million dollars, efficiency can be achieved if during the first year of activity, the CBs are able to have a customer portfolio of at least 210,000 people.

The importance of the number of customers is also underlined by [Gnevko \(2020\)](#), who notes that the UK challenger banks show a considerable weakness in competition with international banking giants, which have unlimited sources of financing and achieve strong economies of scale and scope.

In this regard, some data are significant: *A huge part of the story is the rise of fintechs, which are encroaching on space traditionally occupied by bankers. Yet most challenger banks can only dream of reaching a big-bank customer base. Starling has tens of thousands of customers; N26, a leading mobile bank in Europe, has 850,000; Revolut has 1.5 million. Traditional banks number their customers in the tens of millions: Deutsche Bank (30 million), HSBC (38 million), or Bank of America (57 million)* ([Naegele, 2020, p. 19](#)).

The increase in the number of customers, although difficult, can be achieved by improving various aspects of the customer experience, for example, to focus on the most price-sensitive customers to whom to offer services at favorable or even free prices.

Digitalization undoubtedly facilitates the achievement of these goals as it significantly changes the competitive environment in which financial institutions operate, promoting mobility, innovation, flexibility and the ability to offer better services quickly. As pointed out by [Sibanda et al. \(2020\)](#) the advantages of Fintech are considerable and translate, in summary, into (a) faster processes, (b) increased online activity, (c) intense competition, (d) lower cost banking services, (e) smaller branches, (f) leaner workforce, (g) increased development through mergers, (h) more outsourcing, and (i) a more customer-oriented value chain.

Conversely, it should be remembered that the offerings of Fintech products are limited and the lack of territorial networks tends to place some limits on the ability of the challenger banks to replace traditional banks ([Stulz, 2019](#)).

In this regard, [Johnson \(2021\)](#) – starting from the consideration that one of the greatest strengths of CBs is the strong customer orientation – identifies the basic needs of consumers to highlight how not all these needs can be satisfied by the new banks better than traditional ones. In particular, challenger banks are lackluster in customer service and have little or no experience or products to meet lending and investment needs.

A further limitation is indicated by [Hodson \(2021\)](#) who points out how, for example in Germany, savings banks enjoy a series of advantages, such as the absence of a profit purpose, state aid and segmented regional markets, which make it difficult to stay on market and limit the ability to compete for banks to reach profitable positions.

In light of the characteristics of CBs, the future of the sector could lie not so much in competition with large banks, but rather in collaboration, thanks to which important synergies could be obtained. In fact, on the one hand, CBs can act as a driving force for the digital transformation of the sector, to improve the offer of financial products and services at lower costs and with greater operational efficiency. On the other hand, traditional banks can find strength not only in

their large size but also in the deep-rooted credibility they enjoy, especially by the stringent regulation to which they are subject (Wewege et al., 2020).

In this regard, the literature has also highlighted how the past experiences of some government policies (for example British) have tried to promote competition, especially with online (or challenger) banks, intending to increase the choices available to consumers and make the whole sector more efficient. However, such policies have led to a perverse outcome, leading to further consolidation and homogeneity (Froud et al., 2017).

Still from the perspective of coexistence, Letts (2017) also sees a sort of division of labor, or market division, in which the major banks can concentrate on wholesale, leaving the management of the interface with the consumer to the new challenger banks.

Although there are CBs with high profitability (Lu, 2017), as Biondo and Menegon (2020) underline, the sector is still in the initial phase of its development and the competition from the major banks is also due to the difficulties of customers of traditional financial institutions to transfer their deposits in favor of new players.

Added to this is the evolution of the traditional banks themselves, which have been able to seize the advantages of digital technologies and have consequently reduced the number of branches, in such a way as to reduce the fixed and variable costs of the operating offices (Polasik et al., 2021).

From what has been described above, it emerges that the literature has amply highlighted the advantages enjoyed by challenger banks and the factors of difficulty they encounter, especially in competition with the big and traditional players.

However, to fully understand the chances of success of CBs, the advantages and the factors of difficulty must not be considered separately, but rather must be studied jointly, especially in how they balance each other, and it seems that the studies on Fintech that adopt this type of approach are fewer.

The present analysis starts from this research gap and from the observation that the profitability scheme characterizing CBs is essentially based on the balancing of two variables. On the one hand, on the cost front, a significant strength is represented by the elimination of the costs associated with maintaining the branches; on the other hand, on the revenue side, an element of weakness is the low-profit margins on financial transactions, many of which are offered at no cost.

Furthermore, it is important to note that the reduction in branch costs certainly has a positive effect on profitability, but we must not forget the presence of a “substitution effect”, linked to the need to make up for the lack of branches with other tools that allow offering customers a sufficiently satisfactory service. The absence of branches does not mean the elimination of operating costs, but rather the replacement of some types of costs, mainly linked to the presence of employees, with costs of different types, especially determined by the purchase outside the services that the bank is unable to produce internally.

In other words, the management’s priority must consist in monitoring replacement costs, in the sense described above, in order to avoid the absence of branches becoming more expensive than their presence.

As far as revenues are concerned, the reduction in commissions applied to customers is a force factor because it attracts demand for the services offered by CBs. However, the decrease in unit revenues implies that in order to achieve sustainable levels of profitability, management must be able to acquire more customers than would be necessary if the commissions applied were higher.

The achievement of the break-even point can therefore represent a critical factor, but correct monitoring of costs and revenues, especially of the core business, can make CBs effectively profitable.

Based on the above observations, the study formulated the following research question:

*RQ What are the characteristics of the economic performance and economic structure of the Italian challenger banks?*

### 3. METHODOLOGY

#### a) Sample selection

To answer the research question, this study analyzes a sample made up of the top 5 Italian challenger banks, by volume of revenues, in the three years 2019-2021. The observed period is significant because it includes the year before the pandemic (2019), the year of the pandemic (2020), and the first year after the pandemic (2021). The analysis is based on the financial statements published by the banks on their websites, through which the study examines the trend in profitability and its composition, as well as the capital structure, with particular attention to the relationship between debt and equity.

The financial statements are prepared following the IAS/IFRS international accounting standards.

#### b) Empirical analysis

For empirical analysis, the financial statements data of the sample banks were aggregated for each year included in the observation period. In particular, the examination first concerned the income statement data and then the balance sheet data, based on the assumption that profitability is the main cause on which the financial balance depends. Table 1 presents the aggregate income statement data of the 5 sample banks, in the three years 2019-2021.

**Table 1.** Aggregate income statement data

Income statement item	2019	2020	2021
10. Interest and similar income	196,419,761	342,349,536	459,914,174
20. Interest and similar expense	-50,730,383	-90,467,863	-119,848,159
30. Interest margin	145,689,378	251,881,673	340,066,015
40. Fee and commission income	113,621,515	112,745,723	147,943,593
50. Fee and commission expense	-72,857,534	-61,741,061	-78,808,040
60. Net fee and commission income	40,763,981	51,004,662	69,135,553
70. Dividends and similar income	56,922	236,495	227,764
80. Profits (Losses) on trading	120,465	-389,878	3,176,193
90. Fair value adjustments in hedge accounting	-34,572	14,972	-37,267



100. Profits (Losses) on disposal or repurchase	42,248,912	38,682,818	29,087,545
110. Profits (Losses) on other financial assets and liabilities measured at fair value through profit or loss	-3,055,156	484,037	4,919,256
120. Net interest and other banking income	225,789,931	341,914,779	446,575,059
130. Net losses/recoveries for credit risks	-25,979,871	-15,543,817	-25,040,062
140. Profits (Losses) on changes in contracts without derecognition	-1,137	39,986	209,028
150. Net income from banking activities	199,808,923	326,410,948	421,744,025
160. Administrative expenses	-205,301,827	-229,646,963	-272,537,827
a) personnel expenses	-71,790,616	-84,172,785	-101,789,831
b) other administrative expenses	-133,511,211	-145,474,178	-170,747,996
170. Net provisions for risks and charges	-7,970,142	-8,403,317	-1,204,628
180. Net adjustments to / recoveries on property and equipment	-9,160,533	-9,579,683	-10,166,974
190. Net adjustments to / recoveries on intangible assets	-7,700,815	-11,896,989	-13,827,185
200. Other operating expenses (income)	17,754,447	19,873,181	36,317,774
210. Operating expenses	-212,378,870	-239,653,771	-261,418,840
220. Profits (Losses) on equity investments	0	-989,629	0
230. Valuation differences on property, equipment and intangible assets measured at fair value	-1,340,982	-1,092,300	-331,850
240. Goodwill impairment	0	0	0
250. Profits (Losses) on disposal of investments	-148	0	2,302,723
260. Income (Loss) before tax from continuing operations	-13,911,077	84,675,248	162,296,058
270. Taxes on income from continuing operations	5,222,600	-12,779,651	-29,121,624
280. Income (Loss) after tax from continuing operations	-8,688,477	71,895,597	133,174,434
290. Income (Loss) after tax from discontinued operations	0	0	253,275
300. Net income (loss)	-8,688,477	71,895,597	133,427,709

Source: Own elaboration

Table 2 presents the aggregate balance sheet data of the 5 banks in the sample, in the three years 2019-2021.

Table 2. Aggregate balance sheet data

Balance sheet item	2019	2020	2021
<b>Assets</b>			
10. Cash and cash equivalents	772,371,795	3,437,218,588	3,358,725,264
20. Financial assets measured at fair value through profit or loss	34,814,185	81,771,105	175,994,959
30. Financial assets measured at fair value through other comprehensive income	223,747,181	202,190,127	380,082,889
40. Financial assets measured at amortized cost	7,111,326,601	7,587,056,619	10,328,820,190
50. Hedging derivatives	1,611,674	0	3,864,836
60. Fair value change of financial assets in hedged portfolios (+/-)	-1,721,983	3,011,513	-4,196,392
70. Equity investments	1,093,269	23,926,235	119,248,556
80. Property and equipment	77,821,419	70,145,948	68,339,664
90. Intangible assets	70,723,701	83,448,023	98,973,368
100. Tax assets	66,958,608	64,338,712	70,506,597
110. Non-current assets held for sale and discontinued operations	0	0	43,322,184
120. Other assets	149,467,366	167,649,634	359,135,097
<b>Total assets</b>	<b>8,508,213,816</b>	<b>11,720,756,504</b>	<b>15,002,817,212</b>
<b>Liabilities and shareholders' equity</b>			
10. Financial liabilities measured at amortized cost	7,450,588,340	10,566,372,777	13,492,688,299
20. Financial liabilities held for trading	0	0	59,480

30. Financial liabilities designated at fair value	0	0	0
40. Hedging derivatives	0	3,133,560	21,226
50. Fair value change of financial liabilities in hedged portfolios (+/-)	0	0	0
60. Tax liabilities	6,028,304	10,141,950	25,670,608
70. Liabilities associated with non-current assets held for sale and discontinued operations	0	0	0
80. Other liabilities	138,602,115	164,985,991	224,103,394
90. Employee termination indemnities	4,372,539	5,448,152	6,734,376
100. Allowances for risks and charges	65,488,883	39,177,069	33,780,923
110. Valuation reserves	6,002,459	3,669,321	-3,910,332
120. Redeemable shares	0	0	0
130. Equity instruments	0	0	0
140. Reserves	42,315,561	45,348,887	146,127,574
150. Share premium reserve	535,774,584	542,991,111	653,207,271
160. Share capital	267,825,042	268,423,946	291,738,541
170. Treasury shares (-)	-95,534	-831,857	-831,857
180. Net income (loss) (+/-)	-8,688,477	71,895,597	133,427,709
Total liabilities and shareholders' equity	8,508,213,816	11,720,756,504	15,002,817,212

Source: Own elaboration

To evaluate profitability, the analysis considered (a) ROE, i.e. Return on Equity (net income to shareholders' equity) and (b) ROA, i.e. Return on Assets (net income to total assets), while for the examination of equity structure, the study used the Debt-to-Equity Ratio (total liabilities to shareholders' equity) and the Equity Ratio (shareholders' equity to total assets).

#### 4. FINDINGS

Table 3 presents the results of the profitability analysis.

To better understand the significant growth in net profitability that took place in the year of the pandemic and the following one, it may be useful to analyze its components, as identified in Table 4.

As Table 4 shows, the improvement in overall profitability is due to the decisive strengthening of operating profitability, confirming that the growth in net results for the three years was determined by the core business and not by exceptional factors.

Table 5 presents the results of the analysis of the capital structure.

Table 3. Profitability indices

Index	2019	2020	2021
ROE	-0.01030	0.07718	0.10939
ROA	-0.00102	0.00613	0.00889

Source: Own elaboration

Table 4. Structure of profitability

Item	2019	2020	2021
Operating result	-12,569,946	86,757,177	160,325,185
± Extraordinary result	-1,341,130	-2,081,929	2,224,148
Result before tax	-13,911,076	84,675,248	162,549,333
- Taxes	5,222,599	-12,779,651	-29,121,624
Net income (loss)	-8,688,477	71,895,597	133,427,709

Source: Own elaboration

**Table 5.** Capitalization ratios

Ratio	2019	2020	2021
Debt-to-Equity Ratio	9.09118	11.58271	11.29982
Equity Ratio	0.09910	0.07947	0.08130

**Source:** Own elaboration

The ratios in Table 1 show a significant incidence of debts concerning shareholders' equity. Although CBs have been able to attract a huge amount of capital through Venture Capital, raising in Europe 11.6 billion Euros from 2016 to today (Mediobanca Report, July 2022), debt has grown throughout the three years.

The Debt-to-Equity Ratio has continuously increased and now stands above 11, while the Equity Ratio has decreased to stabilize around 0.08.

## 5. DISCUSSION

In the three years under review, the overall profitability of the Italian challenger banks showed strong growth, going from a loss in 2019 to a profit that in 2021 almost doubled compared to 2020.

Both profitability indices have continuously grown and demonstrate how the Italian challenger banks not only managed to resist the crisis but also reversed the negative trend before the pandemic, growing further in 2021.

In this regard, it is important to emphasize that the growth in profitability that took place in 2020 compared to the previous year may have been determined by the effects of the lockdown and the forced reduction of mobility that have enhanced the opportunities of the online, in which CBs are particularly well-established.

However, this improvement does not seem transitory, as the further growth of 2021 confirms that the break-even point has been reached stably, so demonstrating that the business model on which the CBs are based constitutes a potentially winning model.

The analysis of the determining factors of profitability showed that the economic equilibrium was achieved thanks to operational management and this indicates that the improvement in the performance of CBs was determined by the strengthening of the core business, i.e. by structural and non-contingent progress.

However, the analysis also highlighted a greater vulnerability of CBs concerning the capital structure, which is still very biased towards debt.

In this regard, it is anyway necessary to note that CBs are relatively recent, while the strengthening of equity generally requires rather long periods, during which management must be able to produce profits. Therefore, if on the one hand, the financial weakness of Italian CBs is physiological, that is linked to the phase of the life cycle in which they are today, on the other hand, this variable must be carefully monitored, especially since the cost of debt reduces profitability.

In particular, the aggregate income statement results show that interest expense has eroded around 26% of interest income in each of the years observed.

In summary, the study answered the research question by reaching two significant conclusions:

- a. the performance of Italian CBs has continuously improved from the point of view of profitability, while overall debt has grown;
- b. the profitability structure has reached a satisfactory balance, above all thanks to the operational management, while the financial structure continues to be substantially weak, with still underpowered equity.

## 6. CONCLUSION

Although the study uses a small sample size, due to the fact that not all financial statements are available for the period 2019-2021, it still includes the major Italian challenger banks.

The implications of the research lie above all in identifying the areas of management that most profoundly affect profitability and, consequently, the capital structure.

In this sense, the proposed analysis can contribute both to understanding the performance of this particular sector of Italian finance, and intercept its strengths and weaknesses.

The originality of this study is mainly due to the scarcity of research dedicated to the sector, especially in the Italian context. In fact, existing literature shows a prevalence of analyses referring to traditional banks, while investigations of challenger banks, and specifically of the economic structure of their business model, are less widespread.

Besides, although the literature generally tends to emphasize the advantages of digitalization, this study also highlights the elements of difficulty that the implementation of digital technologies can entail, especially where the business model is based entirely on it.

The analysis confirms that both aspects – advantages, and criticalities – highlighted by the literature on CBs are also present in the Italian case. However, a particularly positive signal is represented by the recovery of profitability which, if carefully combined with the continuous monitoring of debt, could in the future make this new business model effective and successful.

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