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Millennium BCP Equity Research

One Bank, 3 Worlds

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Abstract

This is one of two parts of an Equity Research on the Portuguese Bank Millennium BCP. In this part, an overview of the banking industry is made, Forecasts for Commission Income are explained and Provisions for FX Loans in Poland were analyzed. The valuation, using a EFCF method was concluded. A multiple analysis was also carried out and possible M&A deals and their returns were explored. The target share price is €0.2020, as of 21/05/2021.

Keywords: Corporate Finance

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This report is part of the 2020-21_Spring_28915_Júlio_Sousa - Part 2 report (annexed) and should be read has an integral part of it.

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The Banking Industry

Since the financial crisis of 2008, banks across Europe have faced several challenges. After the initial losses due to the crisis, the industry has had to adapt to low interest rates, which decreased their margin and forced banks to find new profitability channels, mostly through commissions. Stricter regulations were introduced to prevent future crisis like ‘08, which made the banking sector more akin to a utilities industry rather than a high growth and high profitability sector, it was before the crisis. New technologies, like home banking, AI and blockchain have allowed banks to offer more customer-centric products and cut cost, however, banks which failed to invest in these technologies soon started lagging behind their competitors, venture capital-backed fintech’s and established tech companies looking to diversify their product portfolio by entering the banking sector. To remain competitive, many smaller banks have engaged in M&A deals, to form or become part of larger institutions. The Covid-19 crisis shook markets in March 2020, however, even though there is uncertainty regarding NPLs once government subsides expire, the prospect of higher inflation and thus higher rates have pushed the Euro Stoxx Banks index near pre-pandemic highs.

In Portugal, BCP is the private bank with the biggest market share. Its main competitors are the Portuguese Branches of the Spanish banks Santander Caixa Bank,the state-owned Caixa Geral de Depósitos (CGD), the smaller, loss-making, Montepio and Novo Banco. Of these banks, the best performing is Santander, with a return on equity (ROE) in 2019 of 13%. On the same year, BCP’s Portuguese operations had a ROE of 3%.

In Poland, the largest bank is the state-owned bank PKO BP. In 2019 this bank had a ROE of 10%, compared to Bank Millennium’s 6%, negatively impacted by the acquisition of Eurobank in that year. Other important players include Bank Pekao, Bank Zachodni WBK and subsidiaries of BNP Paribas, Santander, Commerzbank and ING. Recent court rulings regarding loans denominated in Swiss-franc exposed the sector to potential combined costs of 234bn zloty. This topic is explored further in the provision’s section of the report.

In Mozambique, 70% of the market share is held by 3 banks: BCP’s Banco Bim, CGD’s BCI and the South African Standard Bank. Of the three, Standard Bank had a slightly higher ROE in 2019 (20%) compared to Bim’s 9% and BCI 18%.

Commission Income

Portugal

Commission income can be divided into commission income from Banking and Income from market-related services, such as assets management and brokerage. In 2021, commission income from banking is expected to decrease about 30M€ due to new legislation forbidding some commissions. This type of commissions was 1,1% of total loans in 2020 and are expected to be 1,04% in 2020. However, this decrease will be offset by an increase in brokerage-based commission – as the number of retail investors increase, so do the commissions charged by BCP. In the base scenario, in the long run, commissions from banking are expected to be 1% of total loans, as this value is closer to what is charged by BCP’s competitors in Portugal. In the alternative scenario, commissions/loans recuperate over the following 5 years, thus being 1,1%

of total loans in perpetuity.

Commissions from brokerage are expected to increase significantly in the base scenario. Between 2020 and 2025, these commissions are forecasted to grow 50% due to demand for investments with higher returns in the low interest rate environment. As rates remain low in perpetuity in this scenario, these commissions keep growing at 3%. Commissions from assets management are expected to remain relatively stable in the medium term due to margin compression and fierce competition I the industry, however, as loans increase and competition subside, these are expected to increase as well, going from 47M€ in 2020 to 100M€ in 2040.

In the alternative scenario, commissions from brokerage are expected to be lower as there is less demand for high-return investments due to high base interest rates. Commissions from asset management, on the other hand, are expected to be higher, reaching 173M€ in 2040, up from 40M€ in 2020.

Poland and Mozambique

In Poland and Mozambique, commission from Banking make up the majority of commissions charged. In Poland, I the base scenario, these commissions are forecasted as 0,92% of total loans – about the same as what was charged in 2019 and 2020. In the Alternative scenario, this driver was revised down to 0,85%

In Mozambique, net commission income as percentage of loans increased from 2,72% in 2015 to 4,8% in 2020. In the base scenario, net commissions over total loans were forecasted to reach 5% in perpetuity, as BIC – one of Banco Bim's main competitors, charges lower commissions over total loans than this. However, in the alternative scenario, commissions over loans are expected to reach 5,85%, closer to Standard Bank commissions over loans in 2019 – 6,8%.

Provisions - Poland

The main factor affecting Provisions for Bank Millennium will be future costs and losses associated with the **FX Loans Portfolio**.

In the 2000s, eastern European banks encouraged their customers to take advantage of the low interest rates in Switzerland by taking swiss franc – denominated loans (mostly mortgages). For customers, these loans were safe, as the exchange rate between the zloty and the swiss franc was stable, at the time, while their interest rates were nearly half of the rates charged for zloty-denominated loans. For the banks the loans allowed to offer more attractive loans to customers while also issuing loans on the same currency they got funding from, thus passing on the exchange-rate risk to their clients.

This arrangement worked well for clients at first as the franc depreciated against the zloty. For instance, from December 2003 to August 2008, the zloty to swiss franc exchange rate went from 0,33 to 0,5. However, the financial crisis of 2008 caused the zloty to depreciate against the franc. This was further aggravated in 2015 when Switzerland unpegged its currency from the Euro. As of May 2021, this exchange rate is 0,24. These decreases in the exchange rate caused consumers to see their interest payments and the outstanding nominal amounts rise. Many customers took this issue to the courts. In 2019, the European Court of Justice ruled in favour of the borrowers, who could now ask polish courts to have their loans converted from Swiss Francs to Zlotys.. However, details on how the loans should be converted is yet to be decided by the Polish supreme court. In the case of out-of-court settlements with the borrowers, S&P estimates the sector to face up to 34,5bn zloty in costs, but if the loans are to be annulled the costs could vary between 70,5bn zloty and 234bn zloty1.

Considering the valuation model, in the positive scenario for Bank Millennium, total losses for the sector were expected to be 52,5bn zloty, with most cases being settle out of court. in the negative scenario, the loans would be annulled, and the losses would amount to 156bn zloty.

In the first quarter of 2021, Bank Millennium provisioned and additional 512 million zloty for FX loans losses. Nevertheless, the bank said it saw no need to raise capital to cover future losses.

Bank Millennium had, at the end of 2020, 14% of the total swiss denominated loans in Poland. Therefore, their future losses are expected to be 14% of the total sector losses depending on the scenario – 7,5bn zloty in the positive scenario, 22,4bn zloty in the negative scenario. To cover these potential losses, Bank Millennium had provisioned until 2020 just 0,9bn zloty. The remaining costs for each scenario were expected to be provisioned in the coming five years as the number of court cases is expected to increase substantially once the Polish Supreme Court deliberates on the issue. While these provisions will directly impact capital, the negative cashflows will only materialize in the following years. About 66% of the costs are expected to materialize until 2026, mostly from the payment of settlements to borrowers. The remaining costs are expected to materialize in the form of reduced cash flows from restructured loans up to the perpetuity. For simplification purposes, these cash outflows were all forecasted by decreasing the accumulated provisions in the balance sheet each year.

These provisions were a determent factor in the valuation of Bank Millennium. In the positive scenario, the bank did not have receive a capital injection, but could not pay dividends up to 2037 has it was constrained by capital ratios. On the negative scenario, the bank would have to receive 1300M€ in capital up to 2026.

Valuation – Equity Free Cash Flows

To evaluate the bank, the equity free cash flows (EFCF) of each scenario for each geography were calculated and converted to euros at the expected exchange rate of their respective years. These cashflows were conditioned to the minimum capital ratios applicable to each bank, Moreover, in Poland and Portugal capital buffers were also considered, so the banks could distribute money to shareholders if their capital ratios were below the minimum plus the buffers. No significant changes in the minimum capital ratios or their buffers were forecasted.

The cashflows were then discounted at a rate of 5,6%, calculated with the CAPM model. The risk-free rate used was the yield on German 10-year bonds (-0,11%). The beta used was 0,996. This beta was calculated by regressing the returns of BCP on the MCSI world index, gross of dividends. A global index was used since the majority of BCP's shareholders have access to world markets – not only is the majority of BCP's shareholders institutional investors, but even retail investors can also by trackers of MCSI World. So, to capture the opportunity cost of investing in Millennium, a diversified would index must be used. The market risk premium used was 5,75, as suggested by KPMG2.

1 Spglobal.com. 2021. *Polish banks face up to 234B zlotys in costs from solving CHF mortgage problem*. [online] Available at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/polish-banks-face-up-to-234b-zlotys-in-costs-from-solving-chf-mortgage-problem-62951656> [Accessed 21 May 2021].

2 Groenendijk, M., Engelbrecht, H. and Verburg, A., 2021. *Equity Market Risk Premium – Research Summary*. [online]

The continuing value was calculated as a growing perpetuity of the EFCF of each scenario, of each geography, at 2040.

Do note that, since the scenarios are independent and have different probabilities, a Consolidated target price target for each scenario is not applicable.

The results of the valuation and the probability of each scenario are as follows:

		Base Scenario		Alternative Scenario		Weighted Average	
Geography	Current Market Cap	Target Mkt Cap	Probability	Target Mkt Cap	Probability	Target market Cap.	Ownership of BCP
Mozambique	N/A	€ 733	85%	€ 2 024	15%	€ 926	66,70%
Poland	€ 1 240	€ 1 656	85%	€ 1 195	15%	€ 1 587	50%
Portugal	N/A	€ 1 574	90%	€ 2 240	10%	€ 1 640	100%
Consolidated	€ 2 473	N/A	N/A	N/A	N/A	€ 3 053	

These results imply a target share price of 0,2020 to Millennium BCP, which had at 20/05/2021 a share price of 0.1636€. Bank Millennium has a target share price of 1,31€, which at 21/05/2021 correspond to 5,89 PLN. At the same date, its share price was 4,59PLN. These results indicate that the BCP and bank Millennium are undervalued, and that their share prices are expected to rise. However, in the negative polish scenario, the bank's value was lower than its market cap, indicating that if such a scenario occurs, or if probability is higher than what is estimated, the share price would drop.

Multiple's Analysis

A multiple's analysis was performed to better understand the market's valuation of Bank Millennium and BCP's Portuguese operations. The analysis was not done for Banco BIM since no significantly similar listed banks were found. Multiples were calculated using Revenues and Net income of 2020 and 2019, as well as Total Common Equity of 2020.

Bank Millennium

Bank Millennium had at 20/05/2021 a market cap of 1240 M EUR. The following banks operating in Poland were considered comparable to Bank Millennium:

Name	Market CAP	Total Assets 2020	ROE 2020 (bloomberg)	ROE 2019 (bloomberg)	FX mortage loans as percentage of equity
BANK MILLENNIUM SA	€ 1 240	€ 21 405	0,25%	6,47%	149,00%
MBANK SA	€ 2 810	€ 39 438	0,63%	6,45%	81,00%
BNP PARIBAS BANK POLSKA SA	€ 2 400	€ 26 179	6,32%	5,66%	40,00%
BANK PEKAO SA	€ 5 300	€ 51 059	4,51%	9,38%	11,00%
SANTANDER BANK POLSKA SA	€ 5 680	€ 50 204	3,96%	8,47%	43,00%
PKO BANK POLSKI SA	€ 9 910	€ 83 587	6,09%	9,99%	52,00%
ING BANK SLASKI SA	€ 5 150	€ 40 852	7,91%	11,62%	5,00%

By analysing the price movements of these banks over the last 6 years, it was possible to conclude that the main factors contributing to large swings in price for the polish banking sector were the coronavirus sell out in March 2020 and the rise in the 4th Quarter of 2020 due to good news regarding vaccine developments. Another factor that negatively affected the sector was the

Indialogue.io. Available at: <https://indialogue.io/clients/reports/public/5d9da61986db2894649a7ef2/5d9da63386db2894649a7ef5> [Accessed 21 May 2021].

Polish Supreme Court's decision in favour of borrowers regarding FX-Loans. In the months leading up to this decision, the share price of banks with high exposures to these loans, such as Bank Millennium and Mbank dropped significantly (from June 28th to November 28th, Bank Millennium's share price dropped 41% while Mbank dropped 13,5%). The polish bank with the highest exposure (Getin Nobel Bank, with an FX Loans Portfolio more than 4 times larger than its equity) is Getting Nobel Bank. This bank was excluded from the analysis, due to serious continuity concerns – Fitch's long-term rating for this bank is CCC, while Bank Millennium's rating is BBB-. For other individual share price swings, these were explained by significantly better/worse results than expected.

It is possible to observe these factors in the multiple's analysis as well. Banks with higher profitability (ROE) and lower exposure to FX Loans portfolios had, in general, higher multiples as well. The exception was in the net income 2020 multiple. Banks with high FX Loans exposure recorded high provisions in 2020, which negatively impacted their results. However, since the net income for these banks was still positive, banks with more exposure to FX Loans had higher net income multiples. This indicates that while the market believes that the future costs associated with FX Loans are not reflected in the most exposed banks' accounts, it does not consider the earnings of 2020 to be representative of the long-term earnings for these banks. In Bank Millennium's case, its Net income 2020 multiple is 195 while the average for its peers is 27.

In order to better understand how the market is valuing Millennium, different comparable valuations were done using all 6 identified peers, the 4 peers with a significant exposure to FX Mortgage Loans and with just MBank, the peers with the highest exposure. The results can be seen in the table below:

	Revenue: 2020 Multiple	Revenue: 2019 Multiple	Net Inc Avail to Cmn Shhldr:	Net Inc Avail to Cmn Shhldr 2019 Multiple	Tot Common Equity: 2020	Average Valuation without net income	Average Valuation with net income 2020
valuation Millennium All Peers	€ 2 586	€ 2 368	€ 99	€ 1 525	€ 1 902	€ 2 095	€ 1 696
valuation Millennium 4 Peers	€ 2 231	€ 2 048	€ 105	€ 1 525	€ 1 863	€ 1 917	€ 1 555
valuation Millennium Mbank Only	€ 1 701	€ 1 744	€ 618	€ 1 560	€ 1 532	€ 1 634	€ 1 431

It is possible to conclude that when using Peers with profitability and FX loans exposure more similar to Bank Millennium, the comparable price obtained is lower. When considering just MBank – the most similar to Bank Millennium, the valuations obtained are the closest to the current market cap of BCP's polish subsidiary. Considering that there still is a significant difference in exposure to FX Loans between these two banks, it can be concluded Bank Millennium's current valuation is in accordance to its peers.

Millennium BCP - Portugal

Millennium BCP had at 20/05/2021 a market cap of 2470M€. This market cap, however, also included the stakes BCP has in Bank Millennium and Banco Bim. In order to consider the Market cap of the Portuguese operations on their own, BCP's share of the Market cap of Bank Millennium (621M€) and its share of the base EFCF value of Banco Bim calculated above (489M€) were deducted. Therefore, the estimate market cap of BCP Potuguese + other operations is 1360M€. The financial information used to calculate the multiples in this analysis also corresponds only to the Portuguese operations.

Since there are no other public Portuguese banks, peers were selected from similar countries to Portugal – Italy Spain and Greece. These countries were selected as they present similar levels of wealth and public indebtedness as Portugal. Furthermore, these countries have had sluggish growth in the recent years and their tourism-heavy economies were impacted similarly by the Covid-19 pandemic.

source: IMF	GDP Per capita 2020 International Dollars PPP	Public Debt to GDP 2020	Real GDP growth rate 2020	Real GDP Growth rate 2019
Portugal	34 040	132%	-7,6%	2,5%
Italy	40 860	156%	-8,9%	0,3%
Spain	38 390	117%	2,0%	-11,0%
Greece	28 750	213%	-8,2%	1,9%

From these 3 countries, the following banks that most resemble Millennium BCP were selected. Do note that for Greece 3 banks were selected since each presented very different ROE and NPL / Net Loans ratios.

Name	Mkt Cap (M EUR)	Country	Tot Assets:Y (M EUR)	ROE 2020	ROE 2019	NPLs / Net Loans 2020	NPLs / Net Loans 2019
BCP Portugal + Other	€ 1 360	Portugal	€ 62 442	1,95%	3,28%	8,50%	9,79%
NATIONAL BANK OF GREECE	€ 2 230	GREECE	€ 64 248	0,74%	-4,99%	7,45%	20,87%
PIRAEUS FINANCIAL HOLDINGS S	€ 1 980	GREECE	€ 71 576	-8,52%	3,72%	45,31%	34,65%
ALPHA BANK AE	€ 1 910	GREECE	€ 70 057	1,24%	1,27%	30,66%	30,13%
Greece median				0,74%	1,27%	30,66%	30,13%
CREDITO EMILIANO SPA	€ 1 730	ITALY	€ 56 650	6,70%	7,38%	2,71%	3,23%
UNICAJA BANCO SA	€ 1 430	SPAIN	€ 65 544	1,95%	4,37%	2,26%	2,98%

By analysing the price movements of these banks over since 2018 (after BCP had a capital increase), it was possible to conclude what were the main factors contributing to large swings in price. In March 2020 there was generalised sell-off in the markets due to the beginning of the coronavirus pandemic. This was followed by a rise in the 4th Quarter due to good news regarding vaccine. Other price swings in this period are specific to each bank or country. Greek banks losing value in the 4th quarter of 2018 due to concerns over NPLs and rising again in the 2nd quarter of 2019 after a snap election which ousted the incumbent far-left government was announced. Unicaja's major swings are explained by a capital increase in the second quarter of 2019 and by news of a possible merger with Liberbak in the fourth quarter of the same year. BCP, on the other hand, saw its share price increase in the second quarter 2019 due to increased assets quality and good results, but disappointing second quarter results and concerns regarding Portuguese net interest income saw its share price decrease in the the third quarter. In conclusion, the main factors affecting these bank's stock prices are their results, their NPL exposure and the country they operate in.

Valuation BCP Portugal	Revenue: 2020 Multiple	Revenue: 2019 Multiple	Net Inc Avail to Cmn Shhldr: 2020 Multiple	Net Inc Avail to Cmn Shhldr 2019 Multiple	Tot Common Equity: 2020 Multiple	Valuation Average	Valuation Median
Peers Greece	€ 1 187	€ 1 337	€ 2 483	€ 1 193	€ 1 370	€ 1 514	€ 1 337
Peer Spain	€ 1 611	€ 1 591	€ 2 477	€ 1 400	€ 1 767	€ 1 769	€ 1 611
Peer Italy	€ 1 696	€ 1 734	€ 1 157	€ 1 450	€ 2 733	€ 1 754	€ 1 696
Spain + Greece Avg	€ 1 399	€ 1 464	€ 2 480	€ 1 297	€ 1 569	€ 1 642	€ 1 464
All Average	€ 1 498	€ 1 554	€ 2 039	€ 1 348	€ 1 957	€ 1 679	€ 1 554

Since the country of operations is an important factor in the market value of each bank, the valuation of millennium was done separately for each group of peers of each country:

It is possible to observe that if BCP's Portuguese operations is compared with the peers from Spain and Italy its valuation would be much higher. However, BCP's value is closer to that of its peers from Greece. BCP having a lower value than its peers from Italy and Spain is expected.

On one hand, when considering GDP per capita, Italy and Spain are more wealthy countries than Portugal. In addition, Unicaja (Spain) and Credito Emiliano (Italy) perform better than BCP in NPLs/Net Loans and ROE. However, BCP was expected to have a higher valuation than its Greek peers, since Greece is poorer than Portugal and the banks from this geography have worse performance metrics than BCP.

From this, one of two things can be concluded: either the Portuguese bank is undervalued when compared to its peers or the value obtained for Banco Bim is higher than it actually is, since a lower value of Banco Bim would increase the estimate of BCP's Portuguese Operations.

M&A analysis

In the end of 2020, Sonagol (BCP's second largest shareholder) indicated that it was looking for opportunities to divest from the bank as it focused on its main sector (Oil & Gas). However, the company claimed that it was monitoring consolidation movements in Portugal and would evaluate possible merger opportunities. This statement comes from an ongoing trend of mergers and acquisitions in the sector, as investors and politicians incentivize the sector to consolidate in order to be able to compete with the larger and more profitable American and Chinese banks. More recently, the ECB is started looking for ways to make M&A deals between banks easier, allowing banks to consider badwill originating from buying banks at a price lower than their book value in their capital ratios.

The rationale behind these deals is that larger banks benefit from increased market power and economies of scale. Banks are expected to continue investing in technologies such as AI and blockchain to remain competitive, however, much of the costs associated with these technologies are fixed, meaning that larger banks will see higher returns on these investments. In the case of cross-border deals, these are expected to generate less cost reductions as the banks have to adapt their technological solutions and marketing to fit the countries, they operate in. On the other hand, these deals can generate value by allowing banks to offer global solutions to their clients and through geographical diversification.

From 2007 to 2018, the number of banks in Europe as decreased from just over 6100 to 4600[3]. Most of these deals have been small, however, the recent acquisition of Unione di Banche Italiane for €3735M by Intesa Sanpaolo and the €4.3Bn deal between Caixa Bank and Bankia indicated that a deal involving BCP is possible. With the sector moving to consolidate and one of BCP's major shareholders looking for M&A opportunities, the potential return for shareholders of a large deal and the possible deals for BCP were analyzed.

The month immediately before the proposition / announcement was not considered because share prices often rise ahead of such announcements due to insider trading.

In order to analyse the potential return of such deals, 5 comparable past transactions were considered: The acquisition of a majority stake in the Portuguese bank BPI by Caixa Bank in 2016, the acquisition of Bank Mare Nostrum in Spain by Bankia, the acquisition of Eurobank by Bank Millennium in Poland and the aforementioned deals between Unione di Banche Italiene and Intesa Sanpaolo (Italy) and Caixa Bank and Bankia (Spain).

To analyse the potential increase in share price in case BCP is the acquired company, the average share price of the 120th day to the 30th day before the acquisition was announced / proposed was compared to the price per share at which the stocks were bought at the completion date of the deal. To isolate the effect of the acquisition, these returns were compared to the returns of the Euro stoxx banks index for the same period, but rather than using the completion date the average price of the 45 days before and prior to this date were used. The returns of the index were further adjusted with the beta of the target company in relation to the index, as to consider the cases in which the companies are more or less susceptible to industry-wide shocks. Note that, as Eurobank and Mare Nostrum were not publicly quoted, this analysis was not possible for these banks.

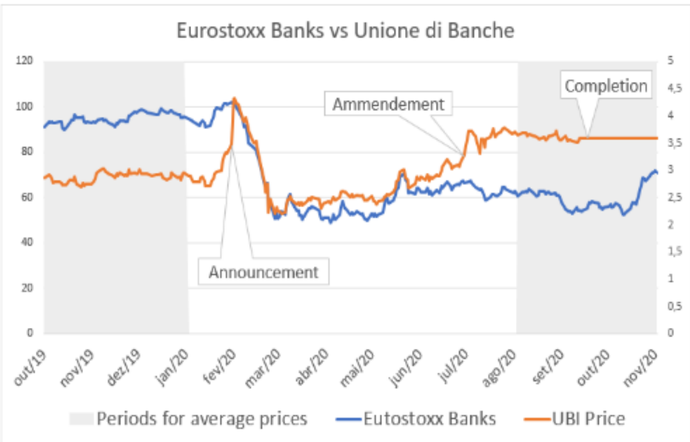
To analyse the potential returns in case BCP was the acquirer, the process was conducted on the share prices of the acquirer companies of the transactions, with the end price of the acquirer and the index being the 90 day average around the completion date. Note that, with this methodology, even though the same period is being considered for the acquired and the target company, the adjusted index returns can differ due to differences in the betas of the companies.

The results are as follows:

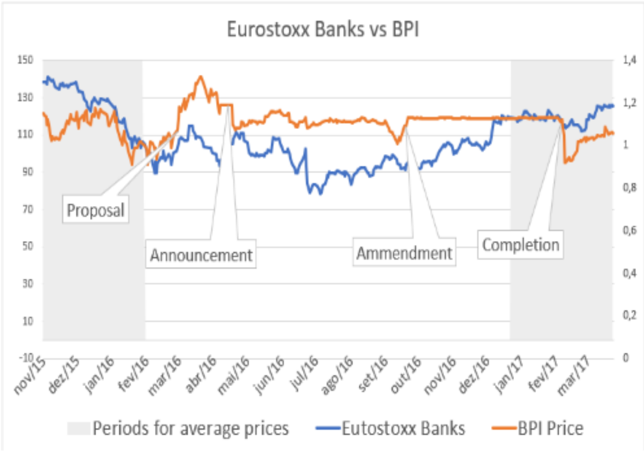
Target Name	Acquirer Name	Target Return over the selected period	Beta in relation to Benchmark	Adjusted Benchmark returns	Target return - Adjusted Benchmark
Bankia SA	CaixaBank SA	83,9%	0,90	38,7%	45,2%
Unione di Banche Italiane SpA	Intesa Sanpaolo SpA	24,9%	1,10	-41,4%	66,3%
Banco BPI SA	CaixaBank SA	4,8%	0,93	-5,3%	10,1%

Target Name	Acquirer Name	Acquirer Return over the selected period	Beta in relation to Benchmark	Adjusted Benchmark returns	Acquirer return - Adjusted Benchmark
Bankia SA	CaixaBank SA	35,4%	0,92	39,4%	-3,9%
Unione di Banche Italiane SpA	Intesa Sanpaolo SpA	-27,9%	0,95	-31,1%	3,2%
Euro Bank SA /Poland	Bank Millennium SA	7,8%	0,50	-14,6%	22,4%
Banco Mare Nostrum SA	Bankia SA	51,5%	0,90	45,9%	5,6%
Banco BPI SA	CaixaBank SA	12,1%	0,93	-5,3%	17,4%

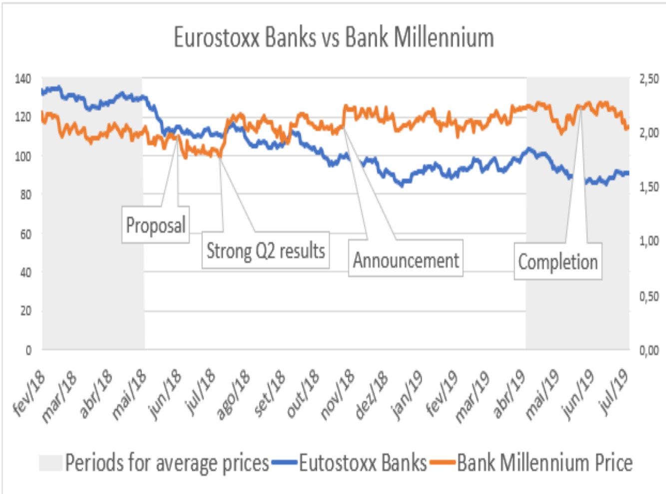
As indicated by the tables above, the target companies were acquired at a price substantially above their market price before the deal was announced. Moreover, the returns on these stocks were also higher than the adjusted benchmark, which indicate that the deals generated value for the shareholders of the target companies. Unione di Banche's deal was the one to generate the most returns above the benchmark. Despite Global stocks falling immediately after the announcement due to the pandemic, Intensa's bid for the bank was increased in July 2020, leading to a return 66p.p above the adjusted benchmark.



In contrast, BPI's acquisition was the one to generate the lowest returns. It is also worth noting that Caixa Bank did not buy all the remaining floating share of BPI, and that its 3-month average price after the transaction was 8% lower than the acquisition price, while the adjusted benchmark returns for the same period were 5%. One possible explanation for these returns is that this was the only cross-border deal of the three, and thus the expected gains from the merger were lower. Another explanation is that, since Caixa Bank already owned 39% of BPI prior to this deal, the banks were already collaborating and benefiting from economies of scale, leading to lower productivity gains from the deal.



The shares of the acquirers, on the other hand, also performed better than their benchmarks, although less so. The acquirer with the best returns over the benchmark over the selected period was Bank Millennium. Despite a small dip following the proposal, the share's price increased with the announcement. However, the main driver for the overperformance against the benchmark was increase in July 2018 amid strong Q2 results. In the two most recent acquisitions, the acquirers' share price (CaixaBank and Intesa) did not vary significantly from the benchmark. These results indicate that while the market perceived these acquisitions favourably, most of the returns from the deal were concentrated on the target company.



These results are consistent with academia findings on M&A which conclude that, for financial and non-financial firms alike, acquires experience small positive abnormal returns while target companies experience high positive abnormal returns[4]. Therefore, BCP's shareholders are expected to benefit significantly from a deal in which BCP is target company, but only marginally if BCP is the acquirer.

As for deal opportunities, there are a few that may be available to BCP:

4 Neely, Walter P. "Banking Acquisitions: Acquirer and Target Shareholder Returns." *Financial Management* 16, no. 4 (1987): 66-74. Accessed May 21, 2021. doi:10.2307/3666110.

Despite not planning to grow through acquisitions, Santander has €1.5trn in assets, so acquiring BCP would not significantly impact its business.

BCP can opt to merge or acquire a smaller Portuguese competitor. In this case, the most likely merger would be with Banco Montepio, which had €18M in assets in 2019. Other possibilities include the controversial loss-making Novo Banco and the state-owned Caixa Geral de Depósitos, as the privatization of the latter has been considered. In either case, even though these deals would allow the combined bank to cut on cost, the combined bank would only be slightly larger and would not have a global presence. Furthermore, such deals are risky in the short and medium term as BCP is exposed to high impairment costs due to the pandemic and future costs related to FX Loans in Poland. Moreover, BCP's CEO said in September that it was considering possible mergers with smaller, loss-making rivals such as Montepio. All things considered; such deals are unlikely.

There are, however, more attractive opportunities if BCP is acquired by a larger European Bank. The deals which could generate the most value would be deals with the Spanish lenders Santander and CaixaBank. Both banks have subsidiaries in Portugal with significant market share (Santander Totta and BPI, respectively). Such cross-border deals would not only create value through geographical diversification and by connecting BCP's clients to a broader and global bank but would also benefit from the cost-cutting associated with local deals. A deal with Caixa Bank makes the most sense. The bank seems open to growth by acquisitions in the Iberian Peninsula, as exhibited by the recent BPI and Bankia deals. Moreover, as BPI as bout 10% market share in the Portuguese market, a combined BCP-BPI would have about 28% market share, the same as Caixa Bank has in the Spanish market after its merger. Thus, regulators would likely approve this deal. A deal with Santander would be more profitable, as the bank as operations in all geographies BCP operates in but is less likely. Santander indicated that it would focus on organic growth rather than acquisitions. Moreover, the combined bank in Portugal would have more than 35% market share, so the deal would likely face scrutiny from regulators.

From the sample above, it is hard to say what would be the premium paid to BCP shareholders in such a deal. However, data from Statista indicates that the average 4-week premium paid in M&A deals in the financial industry between 2017 and 2018 was 23.5%[5]. If such an average premium is assumed in a BCP M&A deal, then its share price would increase to €0,2020. When applied to the target share price, the expected value of the stock would be €0,2495.

5 Statista. 2021. *Europe: Average M&A premiums by industry 2018 | Statista*. [online] Available at: <https://www.statista.com/statistics/978583/average-premiums-in-europe-by-industry/> [Accessed 21 May 2021].

"MILLENNIUM BCP"

COMPANY REPORT

"RETAIL BANKING"

21 MAY 2021

STUDENT: JÚLIO SOUSA

julio.sousa@novasbe.pt

Millennium BCP Equity Research

One Bank, 3 Worlds

- The macroeconomic context of the country is the most decisive factor in the performance of Millennium BCP. Poland and Mozambique are market with a lot of potential. Additionally, assuming that negative interest rates are not sustainable in perpetuity, the current cost cutting strategies could yield Millennium a dramatic improvement in performance.
- Millennium has been lagging its competitors in most performance indicators and value drivers, in the respective markets, even so, in the most likely macroeconomic framework its performance is expected to improve.
- It is expected the recording of provisions from 6,6bn zloty up to 21,5bn zloty by the Polish Subsidiary withing the next 5 years related to FX Loans. In the worst-case scenario, the bank is expected to need a capital injection of up to 1.3Bn zloty.
- M&A deals involving the bank are possible. If the BCP is acquired by a larger competitor, such as Santander or CaixaBank, the deal is expected to favour BCP shareholders the most. Investors are expected to receive a premium of 23,5% in such deal.

Company description

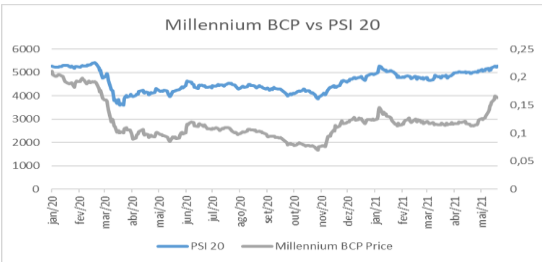
Millennium BCP is the largest private Portuguese Bank. Besides Portugal, the bank also operates in Poland and Mozambique. The bank's main focus is retail banking, although it also has investment banking and private banking business.

Recommendation:	**BUY**
Vs Previous Recommendation	*HOLD*
Price Target FY21:	**0.2020 €**
Vs Previous Price Target	*0.00 €*
Price (as of 21-May-21)	**0.1636 €**

Bloomberg: BCP PL

52-week range (€)	0.697-0.1662
Market Cap (€m)	2473
Outstanding Shares (m)	0.000

Source: Booomberg



Source:Bloomberg

(Values in € millions)	2020	2021E	2022F
Net Interest Income	1.533	1.529	1.670
Net Operating Revenues	2.306	2.411	2.615
Net Income to Shareholders	183	293	394
E/S	0,01	0,02	0,03
P/E	13,5	8,45	6,28
Total Loans	52.121	52.036	55.362
Total Assets	85.813	85.080	90.867
Total Deposits	63.001	61.231	65.923
Total Liabilities	78.427	77.631	83.397
Equity	7.386	7.449	7.469

Source:Financial Statements, Bloomberg

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Company Description

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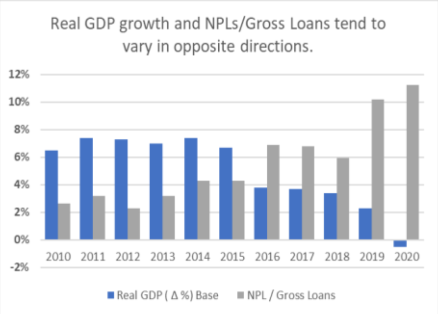


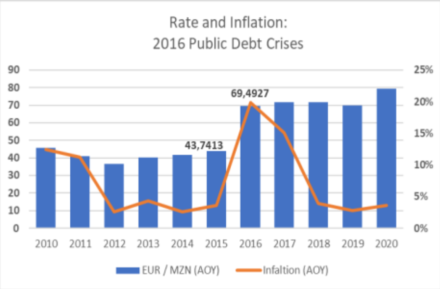
Banco Comercial Portugues, S.A. (BCP) was founded in 1985 and, after a series of mergers and acquisitions, is now the largest Portuguese private sector bank. The company's main business is retail banking and its activity in Portugal is complemented by several subsidiaries, most notably Activo Bank (a digital bank). Since 1985, BCP has sold several insurance subsidiaries, now maintaining only a representative share in this market. The bank also expanded into several geographies, divesting from most in recent years. Nowadays, its largest subsidiaries are Bank Millennium in Poland (28% of assets and 33% of income in 2019) and Banco BIM in Mozambique (3% of assets and 25% of Net income in 2019). Banco Millennium acquired Euro Bank in 2019. BCP also has a noncontrolling share of Banco Atlântico in Angola and representative offices in selected countries, namely Switzerland and Macau. In 2012 BCP received €3 billion in state aid due to the sovereign debt crisis. The bank finished paying these loans off in 2017 after two capital raises through a rights issue to shareholders and a direct sale of shares to the Chinese Conglomerate Fosun International.

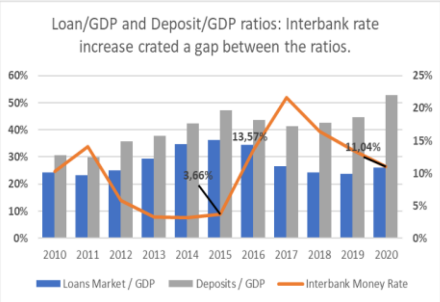
Shareholder Structure

The largest shareholders of BCP are the Fosun group, with a stake of 29,01% and the Sonangol Group, with a stake of 19,49%. The other qualified shareholders are Blackrock (2,99%) and the EDP Group (2,06%). These companies hold a total of 53,56% of the share capital and of the voting rights. The remaining shareholders of the group are located mostly in Portugal, the USA and the UK.

BCP as a one-tier management and supervision model, with an independent Audit committee. As the majority of voting rights are held by institutional investors, it can be assumed that the management's main priority is the creation of long-term value for shareholders

Macro Scenarios

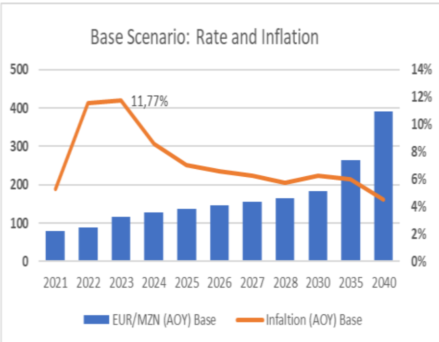




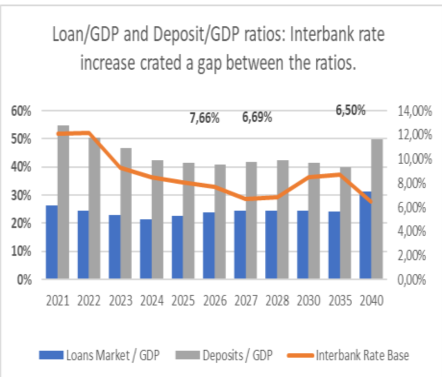
Mozambique

In 2016 Mozambique defaulted on its public debt. The county's political situation has been deteriorating since 2010 because of its large informal economy, the large number of opaque state-owned (SOEs) enterprises and weak regulatory framework. Several factors lead to Mozambique's government default: low commodity prices, adverse weather events and, most important, disclosure of hidden debt from the above mentioned SOEs. The hidden debt discovered in 2016 amounted to around $1,4bn, 11% of Mozambique's 2015 GDP. Government's access to external financing was limited by country's high risk of debt distress. Mozambique's government initiated a reformulation of country's monetary policy.

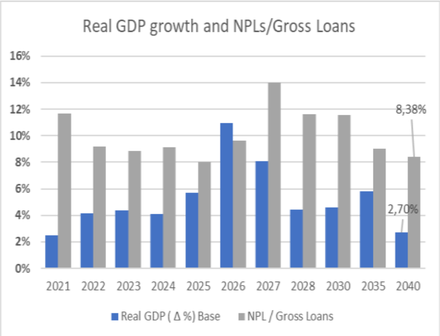
The monetary policy transmission channels, Exchange Rates, Bank Lending, Interest Rates and Asset prices, were weak even before the crises. Capital injection had little impact on credit growth and inflation, partially because of the dollarization of Mozambique's economy. Interbank rates were not strongly impacted by monetary policy, commercial banks did not transact much with each other. **Exchange rates were the most relevant transmission channel due to the economy's reliance on commodity export and imports from several crucial industries**. Lose monetary policy, **foreign exchange** depreciation, and **double digits inflation** froze donor support during this crisis.



To stabilize the economy the Central Bank **(CB) increased the lending rates**. This increased the demand for **domestic deposits** and stabilized the exchange rate. Inflation dropped rapidly and leading rates were lagging, which lead to high real rates and thus to the **deceleration in the credit market growth**. The access of the SMEs to credit has been limited and economic growth slowed down considerably. Because deposits continued growing but credit demand was sluggish, **government founding needs were meat**.



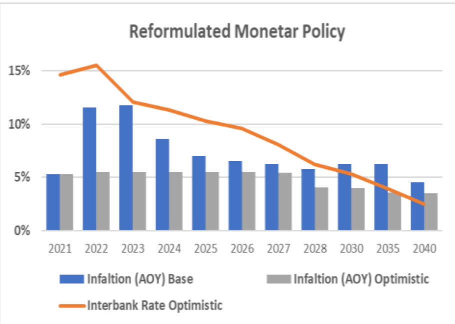
After the government's debt restructuring, the CB has committed itself to take political decisions only with the goal of controlling the expected inflation rate. Intervention in the foreign exchange market would be conducted only to reduce excessive exchange rate volatility, given its the considerable degree of pass-through to inflation. A better coordination between the CB and its central government was established. Additionally**, the law allowing the CB to lend directly to the central government was abolished to avoid monetization of fiscal deficits**. Real rates remained high because of the high concentration in the banking sector.



Mozambique's financial system is highly concentrated, the 6 largest banks hold between 85% and 90% of assets, loans, and deposits. Financial inclusion is limited, only around 36% of the population had a bank account in 2017, although the importance of cash holding has decreased as a proportion of deposits. **Access to financial services** is still very **limited** especially in rural areas.

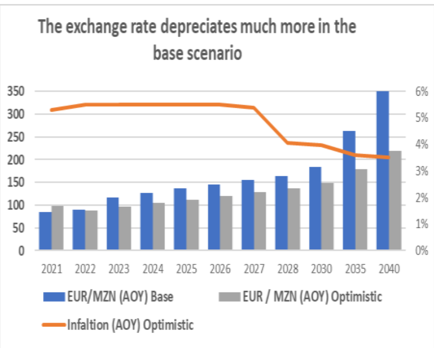
There still is a strong macroeconomic and financial linkages between the government, the state-owned enterprises, banks, and the creditors. Banks are heavily exposed to **SOEs which are mostly excessively leveraged**. In 2018 the 10 largest SOEs represent around 90% of their sector's assets and have experienced a **pre-tax losses** because of the increase in interest costs and have borrowed to finance their operations.

Significant **natural gas reserves** have been discovered in 2017. Their exploitation was expected to start in 2023 and is expected to add around $20bn through domestic and external borrowing. Its being explored by the French operator Total meaning significant foreign interests are involved.



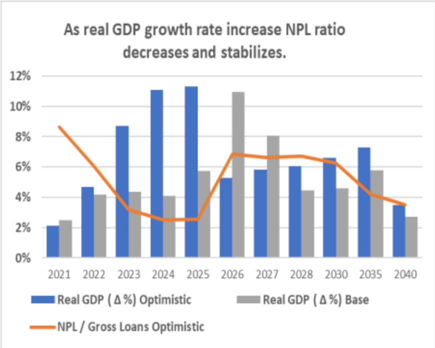
Base Scenario

Before the pandemic Mozambique was recovering from 2 tropical cyclones, this drove its public debt from 106% to 110% of GDP, in the 2018-2019 period. Additionally, an Islamist insurgence in Cabo Delgado is expected to be relatively harsher and lead to a postponement of the start of the exploration of the natural gas reserves, until 2025, destabilizing the overall economy. In the short term, the conflict will decelerate Mozambique's fragile recovery from the Covid-19 pandemic. This is assumed to be the most likely path of events, with a 85% probability.



In this context, to avoid an additional slump in the real GDP growth rate caused by the insurgence, in the short-term, the CB gives up on controlling inflation and decreases the policy rates. Inflation does not reach the same levels it reached in 2016 given that the CB has been capable of building up significant currency reserves since then. This supports the economy until the conflict cools down and the megaproject is completed. Once the Mega Project restarts, the real GDP growth rate increases, surpassing its 10-year average by nearly 4%. Inflationary pressures decrease as the risk of the economy decreases. As inflation comes down, and the CB decreases policy rates further. Due to the decrease in rates, the Loans-to-GDP, and the Loans-to-Deposit's ratios increase. This allows banks to provide more credit to the economy and to shrink the gap between Loans and Deposits, in the medium term.

The growth period up to 2028 is not considered to be sufficient to launch Mozambique's economy into a period of long-term sustainable growth. The inter-dependency between country's institutions, governments SOEs and the banks are expected to persist, as well as the issues with corruption. This way, the overall performance of this economy after the project is not expected to differ substantially from the past, in this scenario.

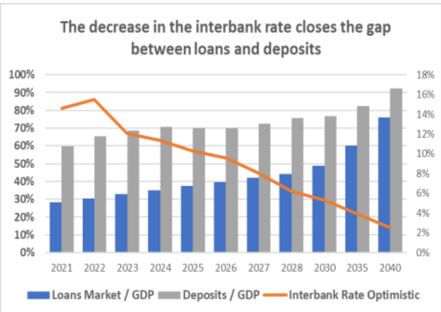


In 2028 the real GDP growth rate is expected to slow down, a bit above the 10-year historical average, due to the continuous exploitation of the natural gas reserves. This marks the beginning of a new cycle, with the assumptions of a crises per 5-year period and of the positive impact of the further development of the South African economy. In perpetuity, the real GDP growth rate will be at 2,7%, there is no convergence to this value within the explicitly forecasted time period, lower than the expected growth rate of the world economy, 3,3%.

During the same decade, inflation will be nearly equal to its 10-year historical average and for the perpetuity it will be 4,5%, similar to South Africa's average inflation of the past three years. Interbank Rate for the same period is forecasted to be above inflation, similarly to the historical period. In perpetuity, this rate is forecasted at 6,5%, 2/3 of the historical average of this measure. The perpetuity value for the Interbank rate was defined as 2/3 of the historical average of this measure. Loans-to-GDP and Loans-to-Deposits will stabilize near their current values as a large part of Mozambique's population will remain unbaked. NPLs will move in the opposite direction of GDP growth and thus in perpetuity they be at 6,55%, some percentage point above the historical average.

Forecasting of exchange rates was done with the average of the interest rate parity and the differences in inflation since, historically, this way has had, on average, the way with the least difference to the real exchange rate.

Optimistic Scenario



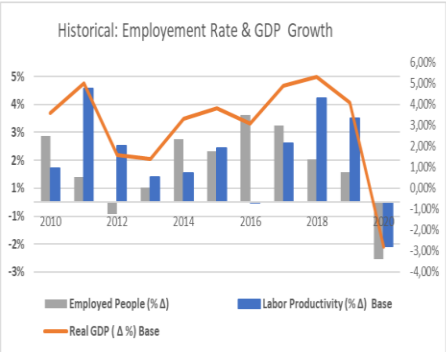
For the optimistic scenario, the insurgence in Cabo Delgado is not expected to delay the completion of the megaproject. Additionally, the CB will maintain its commitment to the new monetary policy and will change rates only to control inflation. This way, in the short-term, Interbank Rates remain higher and inflation lower, for longer. The funds resulting from the megaproject are used to repay government debt and this will help to decrease rates without risking inflation, in the medium term. Therefore, in perpetuity, Mozambique will have a lower inflation rate in this scenario, 3,5%.

Because of the earlier completion of the megaproject, the medium-term **real GDP growth rate average will be higher than that forecasted for the Base scenario**, and in perpetuity the real GDP growth is expected to reach 3,3%, because of the monetary policy reformulation. Slowly, Mozambique will come closer to becoming a developed economy. In the medium term the Interbank Rate will be only slightly lower than the historical average value but in perpetuity it will become 2,5%, lower than inflation, like what happens in the more developed economies. Loans-to-GDP ratio will increase significantly because of the decrease in policy rates, stabilizing at 71%. Deposits-to-GDP will also increase and stabilize at around 88%, meaning financial inclusion will improve significantly.

Poland

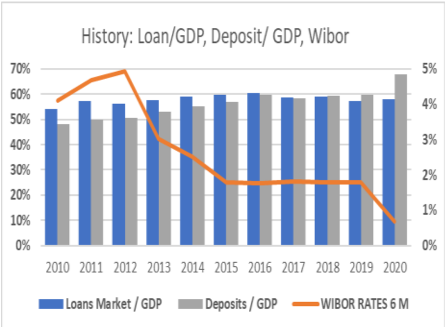
Poland was one of the countries least affected by the pandemic. It had a remained at sustainable levels. Polish banks remained well capitalized. The size of its internal market and economy's high work efficiency have helped Poland to weather crises periods in the past. Because of this Poland has been, one of the main beneficiaries of EU funds, the "Next Generation EU" recovery package attributed Poland $23bn or 4,5% of its GDP. The second wave of support was destined exclusively to companies in the most affected sectors and was mainly targeting SMEs.

According to OECD reports, one of the most decisive factors for the growth of the polish economy will be the possibility of a labour shortage. Polish demographics has not kept pace with the country's economic growth in the last 2 decades, the working age population has been decreasing since 2010.



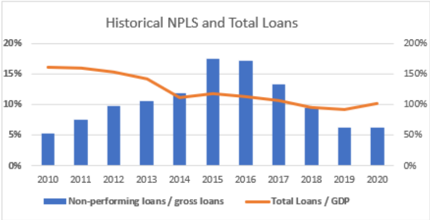
In this forecast, real GDP growth was decomposed in 2 factors: growth in the number of employees and growth in labour productivity. Growth in the number of employees is a function of the change in the employment rate and of the growth of the working age population. Additionally, the minimum wage can be interpreted as an indicator of attractiveness and competitiveness of a given labour market.

The measures implemented by the polish government to achieve an increase in working population hint that the objective might be to increase population's available income without increasing the minimum salary. This way the polish economy would avoid risking the loss of some of its competitiveness, given that this might affect country's employment rate.



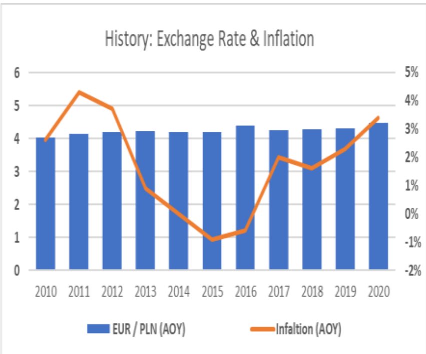
Base Scenario

In the short-term, 2021-24, because of the large amount of fiscal and monetary stimulus, and due to a further decrease in the WIBOR rate during 2021, the real

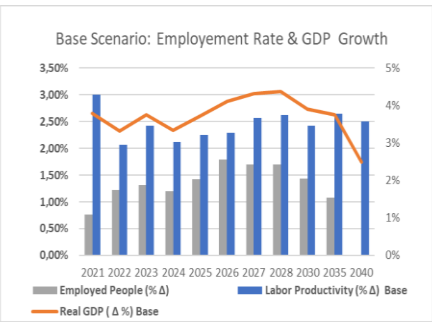


GDP growth rate recovers relatively fast from its 2020 slump. As the real GDP growth rate starts being sustainable the CB starts raising the interest rates to control inflation. Because of the increase in demand for labour, due to the recovery, for 3 years in a row, the polish minimum wage grows above average. Growth in the number of employed people, in labour productivity and in the minimum wage, are equal for both scenarios until 2024. This aims to reflect that the path to recovery from the pandemic crises is relatively clearly defined. NPLs ratio will be, on average, around 1% higher than its historical value\.

Between 2024 and 2038, the explicitly forecasted period, wage growth averages around 8%. This aims to depict a successful government effort to stop the shrinking of the working age population, given that during the last 10 years it decreased on average by 0,83% per year. During this period it will grow, on average, by 0,4%, as it is assumed that the government is able to retain more of its working age population and attract additional migrants from other eastern European countries. Average growth in the employment rate decelerates from 1,34%, during the last 10-years, to 0,66%, as a consequence of its already high level and the deceleration of minimum salary growth. Consequentially, the number of employed people grows, on average, by 0,2% more per year in the base scenario than it did historically. The growth in wages was supported by growth in productivity. The implicit assumption is that Poland's economy will be able to move into sectors with more value added. Average historical labour productivity was at 1,72%, while it is forecasted to be, on average, around 1% higher for the 2024-38 period. This leads to an average real GDP growth of around 4,10% through the same period. Inflation will average 2,42%, near the 2,5% target, comparing to the 1,61% historical average. WIBOR rate will remain around the 1,2%, given that, historically, rates are not capable to return to their pre-crises levels. NPLs will average 3% comparing to the 4,5% historical average.

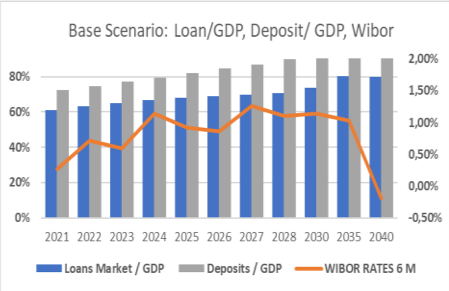


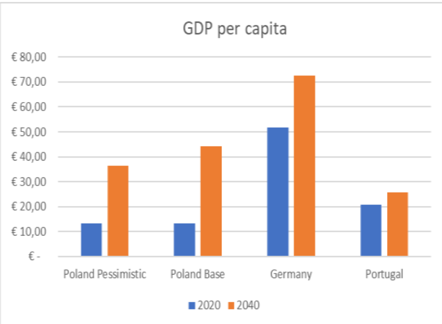
The main assumption for this scenario is that, in perpetuity, Poland will converge towards more developed economies, proxied by Germany. However this does not means that there will be a convergence in absolute terms. According to these estimates, Poland's GDP per capita will be around €50k in 2040 whereas Germany is estimated to be around €72k, in the same year. The convergence applies to Inflation (1,96%), Loan-to-GDP ratio (80%), Deposits-to-Loans (100%) employment rate (80%), growth of the minimal wage (2%) and NPL ratio (2%). Working age population, employment rate and thus the number of employed people will stagnate. Labour will remain at 2,5%. The real GDP growth rate (2,5%) will remain above Germany's, due to the persistence of the positive trend in labour productivity currently verified. The WIBOR rate will approach zero.

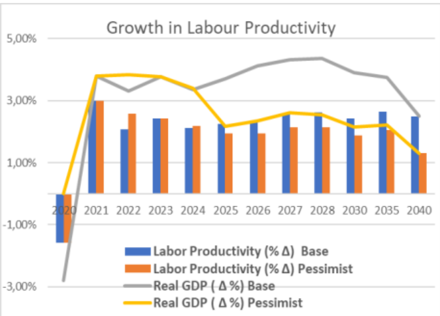


Exchange rates were computed using the interest rate parity, based on an average of the values obtained using inflation and interest rates as inputs and the base scenario for Portugal, given that it is by far the most likely

Pessimistic Scenario







In the short-term, minimal wages, employed people and labour productivity will be the same for both scenarios, as a consequence real GDP growth will also be the same. NPLs in this period are larger than forecasted for the base scenario, averaging 8,12% through the recovery. Theus, inflation will not be as high and thus the WIBOR rate will recover only to around 0,8%.

During the explicitly forecasted period, from 2024-38, significant differences start arising between the 2 scenarios. Wage growth averages only 3,22%, the higher growth characterizing the recovery period is not sustainable due to the lower labour productivity. The working age population and the employment rate continue their previous trends, decreasing and increasing, but at a slower passe, when compared to the historical averages. Measures taken by the government are not enough to promote populational growth in the polish economy. Consequently, the growth of the employment rate will average 0,26% comparing to the 1,58% of the previous decade. As before mentioned growth in labour productivity is assumed not to be as high in this scenario, averaging 2,16%. The lower growth in the number of employed people and in labour productivity will lead to a lower average real GDP growth, 2,13%. Due to the lower WIBOR rates the economy will become more indebted, and a slower real GDP growth will keep NPL ratio higher than in the base scenario.

For the perpetuity values, in the pessimistic scenario, Poland converges to Portugal, a proxy for the southern economies. This implies Poland is not capable of making the leap into economic sectors generating more value added, salaries and productivity have a sluggish growth and remain relatively low. Once again, the convergence will not happen in absolute terms.

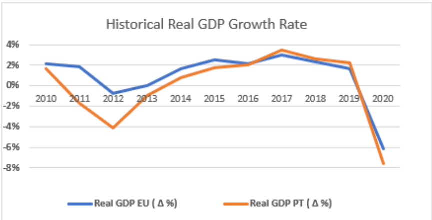
Indicators like, inflation (1,5%), real GDP growth (1,30%), WIBOR rate (-0,31%), Loan-to-GDP ratio (100%) and NPLs (3,38%), will move towards the values of the Portuguese economy. Employment rate will stabilize closer to its current value given that presence of a strong trend, at 77%. There will be no growth in the working age population and in the number of employed people. Wages will grow at 1,5%

Portugal

After experiencing an economic boom in the 90's, as a consequence of joining the EU, Portugal saw close to no growth in the real GDP per capita, during the

2000's before the crisis, and a decrease in this metric thereafter. Even though the economy recovered in the last decade due to a boost in tourism, Portuguese productivity remained one of the lowest in Europe. The economic impact of the pandemic was harsher in Portugal than in most other European nations, as the tourism sector was particularly hard hit. The government was also limited in its help to the economy due to its indebtedness. NPLs, which were still recovering from the sovereign debt crisis, as the private sector reduced leverage, are expected to start increasing again once the moratoriums issued by banks and the government are lifted.

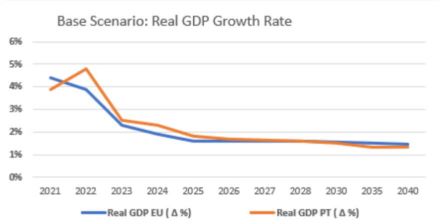
Several factors, which can only be addressed with significant economic reforms, have contributed to Portuguese stagnation. Country's relative stagnation, in relation to Europe is not expected to change significantly in the future, as the overly-indebtedness of the government and the unwillingness of politicians to implement unpopular reforms make the probability of convergence to richer European nations very small. As a small open economy, Portugal is also exposed to external factors. Exports were nearly 87% of GDP in 2019, with the EU accounting for 76% of these. Portugal is also a net receiver of EU funds, accounting for over 1% of its GDP in 2019. Moreover, as a member of the eurozone, Portugal has no monetary autonomy as their base interest rates are decided by the European Central Bank (ECB). Consequently, Portugal's inflation has been similar to that of the Euro Area. For these reasons, the main macroeconomic drivers for Portugal and for BCP's valuation lie in the performance of the Economic performance of the EU.



In 2008 several EU countries became overly indebted, as growth after the crises wad lower than expected. Although the ECB stepped in to prevent governments from defaulting during the crisis, as austerity measures were applied, the private and public sectors began restructuring their balance sheets to reduce debt exposure. This caused aggregate demand to fall, which in turn led to lower output and need for labour, thus keeping aggregate demand low[1]. As demand fell, so did inflation, prompting the ECB to successively cut rates and, once these reached 0, to start quantitative-easing programs, increasing the money supply. The recovery was slow and heterogeneous, with the hardest hit countries taking the longest to recover.

In 2020, EU's real GDP fell 6,1% while Portugal felt 7,6%. Europe is expecting a recovery in the coming years as covid-related restriction ease and the population is vaccinated, pent up demand from the pandemic is being met by supply chain constraints caused by the pandemic, tilting the ECB's expectations of medium-term inflation to the upside.

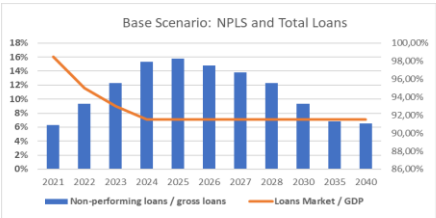
Base Scenario



In this scenario, the aggregate demand of the EU increases in the short term as the economies recover from last year's shock. In 2021 real GDP growth is expected to be slightly above 4% in 2021 and 2022 in the EU and Portugal. However, the increases in aggregate demand are not sustainable thereafter, and real GDP growth retreats to 1,5%, long-term in the EU. The Portuguese economy is expected to outpace the EU before 2027 due to a strong tourism sector but is then expected to grow at a slower ratio in perpetuity, as has been the case in the past two decades.

As the initial increase in aggregate demand is met by supply shortages, short term inflation rises above the ECB's target. To contain it, the ECB rolls back some of the bond-buying programs and raises rates, leading to a 10 basis points increase in the Euribor. As aggregate demand subsides, so does inflation, leading the central bank to resume its pre-pandemic monetary policy. In perpetuity, rates remain negative, at -0,4%. The EU continues in a low growth, low interest rate environment, much like what Japan has experienced in the past 30 years.

Portuguese Loans to GDP start to decrease in 2021 as GDP rises and the need for loans subsides. The ratio is expected to return to the pre-pandemic levels of 91% in 2025 and is expected to remain at that somewhat sustainable level in perpetuity. After rising nearly 20p.p in 2020, Deposits to GDP are also expected to return to their pre-pandemic levels withing the next five year as people spend their pandemic savings. In perpetuity, this ratio is expected to be 126%. As such, loans to deposits will remain at their pre-pandemic levels of 72%, a product of the low aggregate demand and high-risk aversion.

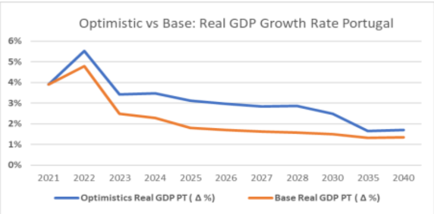


As for NPLs, about 30% of Portuguese Loans are currently in a moratorium[2]. Researchers at vox.eu have estimated the impact of possible NPL's increases by assuming rates of default between 0% and 50% of all loans in moratorium for different European countries[3]. In this scenario, 30% of these loans, or 9% of gross loans default between 2022 and 2025. In 2025, the ratio is forecasted at

[3] Voxeu.org. 2021. *Preparing for a wave of non-performing loans | VOX, CEPR Policy Portal*. [online] Available at: <https://voxeu.org/article/preparing-wave-non-performing-loans> [Accessed 21 May 2021].

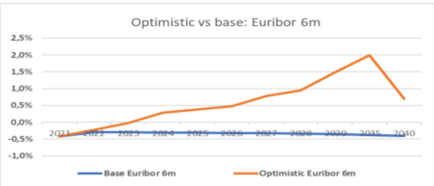
15,8%, below maximum of the sovereign debt crisis. These NPLs slowly leave the banking system, reaching 7% of gross loans in 2034, converging to 6,5% in perpetuity.

Optimistic Scenario

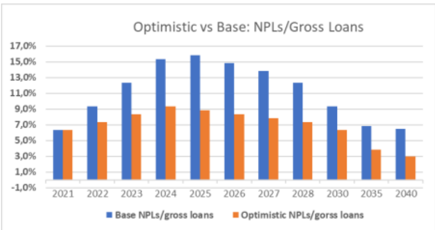


In this scenario, the aggregate demand shock as restrictions ease is stronger. Companies' demand for labour increases, leading to higher wages and employment rates, which, in turn, boost aggregate demand. This loop leads to higher GDP growth than the base scenario in the short term and long term.

Due to this, inflationary pressures remain high for longer. In this scenario, the central bank takes a stance similar to the FED, letting inflation go beyond its 2% target, thus only slowly increasing rates up to 2030 to avoid overheating in the economy. Consequentially, real interest rates drop further, incentivising borrowing and consumption and disincentive investing, reinforcing the shock in aggregate demand. As such, in the first 10 years of forecast, loans/GDP remain high while deposits/GDP decrease.



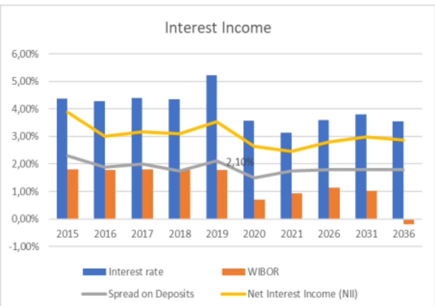
By 2030, the shock begins to subside and the ECB becomes more hawkish on inflation raising rates up to, bringing inflation back to bellow but close to 2%. In the next decade, real GDP Growth slows in Europe and in Portugal, but in the long run, European economies avoid Japanification and become more like the USA, growing at 1,8% in perpetuity, while the Euribor is forecasted at 0,7%, between rates before 2008 and the past decade.



In this scenario, only 10% of the loans in moratorium default, resulting in a 3% increase in NPLs over net loans between 2022 and 2024. As GDP and loans grow, the NPL ratio goes down, reaching 3% in the long run.

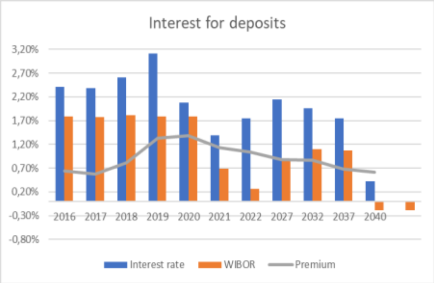
Net Interest Income

Poland



The main drivers for the net loans outstanding in the BS is the bank's market share and the nominal value of the polish loan market. Historically, the polish loan market has been growing faster than GDP. The market share is assumed to remain constant, meaning Millennium's performance will be relatively in line with its regional competitors. The scenarios, Base and Pessimistic, differ in the Loan-to-GDP ratio, convergin to, 80% versus 105%, respectively. Additionally, cost of risk is, on average, 5 basis points higher in the Pessimistic scenario, due to the impact of the FX portfolio and also lower productivity growth of the overall economy. In both scenarios NPL coverage by Impairments increases to 100%. Deposits are defined as a percentage of loans and this driver converges to 100%

or 107%, depending on the scenario, base and pessimistic, respectively. Within deposits 80% will become non-interest bearing, for both scenarios, given the cost cutting strategies and the decrease in policy rates. This increase in non-interest-bearing deposits will require a relative increase in liquid funds, like, cash, loans and advances to other banks and debts securities, as to guarantee additional liquidity, Liquid-funds to loans increase from 31% to 36%. Most of these funds are categorized as other financial assets. The drivers for securities issued and other financial liabilities do not differ much from the historical averages.

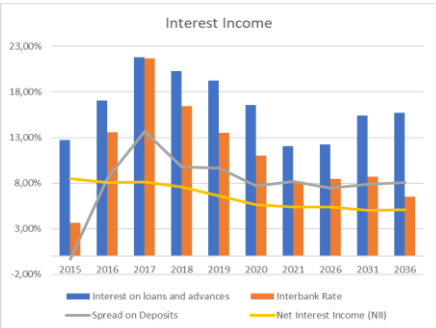


The interbank rate represents the marginal cost of funding for retail banks, thus there will be a certain degree of passthrough to deposit rates, the main source of bank funding. Deposits are, on average, a more stable source of funds, given that they have, on average, a longer maturity. Because of this the bank is willing pay a premium to its clients, Premium should increase more sharply in years when the cost of risk rises significantly or the bank gains market share. The premium on deposits averages 5 and 3 percentage point less than during the historical period in the base and pessimistic scenario. This happens due the decrease in the WIBOR rate and the zero-lower bound. Rates for loans are defined based on a spread on deposit rates, this will decrease when the interbank rates do so. Net interest income has a relatively stable grow rate and Net Interest margin converges to 1,77% and 1,60%, in the base and pessimistic scenarios.

In 2019 Bank Millennium acquired Eurobank. The joint performance of both institutions was proxied, for the sake of additional accuracy in the forecast of Loans, Deposits, and Interest Income.

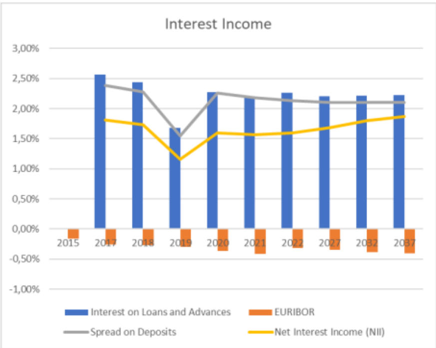
Overall, banks are very pro-cyclical and macroeconomic variables like GDP, loans market and Interbank rate were by far the most impactful.

Mozambique



The largest difference for Mozambique is that around 50% of costumer funds are being used to buy government securities. Rates on government securities are nearly as high as those on loan rate and additionally they bear zero RWA. In the base scenario this situation remains as is, which means that the rates will remain high. On the other hand this also increases the likelihood a government bankruptcy and of a debt restructuring process. The main driver was Millennium's share of Mozambique's deposit market. Net interest margin has averaged 5% during the explicitly forecasted period and is expected to become 2% in perpetuity. In the Optimistic scenario the Deposit Market grows more due to the revenues from the mega project.

Portugal



In Portugal, the market share of the loan market Is used as main driver. Its interbank rate is the EURIBOR, which mean that the monetary policy and countries economic developments could be less aligned. In the optimistic scenario, with the return of the inflation as trigger for a more dynamic growth phase in Europe Millennium's Portuguese business could gain. Assuming the same market share, the loan portfolio would grow exponentially and so would Net Interest Income, with the EURIBOR returning to positive territory.

The Banking Industry

Since the financial crisis of 2008, banks across Europe have faced several challenges. After the initial losses due to the crisis, the industry has had to adapt to low interest rates, which decreased their margin and forced banks to find new profitability channels, mostly through commissions. Stricter regulations were introduced to prevent future crisis like '08, which made the banking sector more akin to a utilities industry rather than a high growth and high profitability sector, it was before the crisis. New technologies, like home banking, AI and blockchain have allowed banks to offer more customer-centric products and cut cost, however, banks which failed to invest in these technologies soon started lagging behind their competitors, venture capital-backed fintech's and established tech companies looking to diversify their product portfolio by entering the banking sector. To remain competitive, many smaller banks have engaged in M&A deals, to form or become part of larger institutions. The Covid-19 crisis shook markets in March 2020, however, even though there is uncertainty regarding NPLs once government subsides expire, the prospect of higher inflation and thus higher rates have pushed the Euro Stoxx Banks index near pre-pandemic highs.

In Portugal, BCP is the private bank with the biggest market share. Its main competitors are the Portuguese Branches of the Spanish banks Santander Caixa Bank,the state-owned Caixa Geral de Depósitos (CGD), the smaller, loss-making, Montepio and Novo Banco. Of these banks, the best performing is Santander, with a return on equity (ROE) in 2019 of 13%. On the same year, BCP's Portuguese operations had a ROE of 3%.

In Poland, the largest bank is the state-owned bank PKO BP. In 2019 this bank had a ROE of 10%, compared to Bank Millennium's 6%, negatively impacted by the acquisition of Eurobank in that year. Other important players include Bank Pekao, Bank Zachodni WBK and subsidiaries of BNP Paribas, Santander, Commerzbank and ING. Recent court rulings regarding loans denominated in Swiss-franc exposed the sector to potential combined costs of 234bn zloty. This topic is explored further in the provision's section of the report.

In Mozambique, 70% of the market share is held by 3 banks: BCP's Banco Bim, CGD's BCI and the South African Standard Bank. Of the three, Standard Bank had a slightly higher ROE in 2019 (20%) compared to Bim's 9% and BCI 18%.

Commission Income

Portugal

Commission income can be divided into commission income from Banking and Income from market-related services, such as assets management and brokerage. In 2021, commission income from banking is expected to decrease about 30M€ due to new legislation forbidding some commissions. This type of commissions was 1,1% of total loans in 2020 and are expected to be 1,04% in 2020. However, this decrease will be offset by an increase in brokerage-based commission – as the number of retail investors increase, so do the commissions charged by BCP. In the base scenario, in the long run, commissions from banking are expected to be 1% of total loans, as this value is closer to what is charged by BCP's competitors in Portugal. In the alternative scenario, commissions/loans recuperate over the following 5 years, thus being 1,1% of total loans in perpetuity.

Commissions from brokerage are expected to increase significantly in the base scenario. Between 2020 and 2025, these commissions are forecasted to grow 50% due to demand for investments with higher returns in the low interest rate environment. As rates remain low in perpetuity in this scenario, these commissions keep growing at 3%. Commissions from assets management are expected to remain relatively stable in the medium term due to margin compression and fierce competition I the industry, however, as loans increase and competition subside, these are expected to increase as well, going from 47M€ in 2020 to 100M€ in 2040.

In the alternative scenario, commissions from brokerage are expected to be lower as there is less demand for high-return investments due to high base interest rates. Commissions from asset management, on the other hand, are expected to be higher, reaching 173M€ in 2040, up from 40M€ in 2020.

Poland and Mozambique

In Poland and Mozambique, commission from Banking make up the majority of commissions charged. In Poland, I the base scenario, these commissions are forecasted as 0,92% of total loans – about the same as what was charged in 2019 and 2020. In the Alternative scenario, this driver was revised down to 0,85%

In Mozambique, net commission income as percentage of loans increased from 2,72% in 2015 to 4,8% in 2020. In the base scenario, net commissions over total loans were forecasted to reach 5% in perpetuity, as BIC – one of Banco Bim's main competitors, charges lower commissions over total loans than this. However, in the alternative scenario, commissions over loans are expected to reach 5,85%, closer to Standard Bank commissions over loans in 2019 – 6,8%.

Provisions - Poland

The main factor affecting Provisions for Bank Millennium will be future costs and losses associated with the **FX Loans Portfolio**.

In the 2000s, eastern European banks encouraged their customers to take advantage of the low interest rates in Switzerland by taking swiss franc – denominated loans (mostly mortgages). For customers, these loans were safe, as the exchange rate between the zloty and the swiss franc was stable, at the time, while their interest rates were nearly half of the rates charged for zloty-denominated loans. For the banks the loans allowed to offer more attractive loans to customers while also issuing loans on the same currency they got funding from, thus passing on the exchange-rate risk to their clients.

This arrangement worked well for clients at first as the franc depreciated against the zloty. For instance, from December 2003 to August 2008, the zloty to swiss franc exchange rate went from 0,33 to 0,5. However, the financial crisis of 2008 caused the zloty to depreciate against the franc. This was further aggravated in 2015 when Switzerland unpegged its currency from the Euro. As of May 2021, this exchange rate is 0,24. These decreases in the exchange rate caused consumers to see their interest payments and the outstanding nominal amounts rise. Many customers took this issue to the courts. In 2019, the European Court of Justice ruled in favour of the borrowers, who could now ask polish courts to have their loans converted from Swiss Francs to Zlotys. However, details on how the loans should be converted is yet to be decided by the Polish supreme court. In the case of out-of-court settlements with the borrowers, S&P estimates the

The number of Court cases regarding FX Loans increased from 10K in 2019 to 30K in 2020

sector to face up to 34,5bn zloty in costs, but if the loans are to be annulled the costs could vary between 70,5bn zloty and 234bn zloty[4].

Considering the valuation model, in the positive scenario for Bank Millennium, total losses for the sector were expected to be 52,5bn zloty, with most cases being settle out of court. in the negative scenario, the loans would be annulled, and the losses would amount to 156bn zloty.

In the first quarter of 2021, Bank Millennium provisioned and additional 512 million zloty for FX loans losses. Nevertheless, the bank said it saw no need to raise capital to cover future losses.

Bank Millennium had, at the end of 2020, 14% of the total swiss denominated loans in Poland. Therefore, their future losses are expected to be 14% of the total sector losses depending on the scenario – 7,5bn zloty in the positive scenario, 22,4bn zloty in the negative scenario. To cover these potential losses, Bank Millennium had provisioned until 2020 just 0,9bn zloty. The remaining costs for each scenario were expected to be provisioned in the coming five years as the number of court cases is expected to increase substantially once the Polish Supreme Court deliberates on the issue. While these provisions will directly impact capital, the negative cashflows will only materialize in the following years. About 66% of the costs are expected to materialize until 2026, mostly from the payment of settlements to borrowers. The remaining costs are expected to materialize in the form of reduced cash flows from restructured loans up to the perpetuity. For simplification purposes, these cash outflows were all forecasted by decreasing the accumulated provisions in the balance sheet each year.

These provisions were a determent factor in the valuation of Bank Millennium. In the positive scenario, the bank did not have receive a capital injection, but could not pay dividends up to 2037 has it was constrained by capital ratios. On the negative scenario, the bank would have to receive 1300M€ in capital up to 2026.

Valuation – Equity Free Cash Flows

To evaluate the bank, the equity free cash flows (EFCF) of each scenario for each geography were calculated and converted to euros, at the expected exchange rate, of their respective years. These cashflows were conditioned to the minimum capital ratios applicable to each bank, Moreover, in Poland and Portugal capital buffers were also considered, so the banks could distribute money to shareholders if their capital ratios were below the minimum plus the buffers. No significant changes in the minimum capital ratios or their buffers were forecasted.

[4] Spglobal.com. 2021. *Polish banks face up to 234B zlotys in costs from solving CHF mortgage problem*. [online] Available at: <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/polish-banks-face-up-to-234b-zlotys-in-costs-from-solving-chf-mortgage-problem-62951656> [Accessed 21 May 2021].

The cashflows were then discounted at a rate of 5,6%, calculated with the CAPM model. The risk-free rate used was the yield on German 10-year bonds (-0,11%). The beta used was 0,996. This beta was calculated by regressing the returns of BCP on the MCSI world index, gross of dividends. A global index was used since the majority of BCP's shareholders have access to world markets – not only is the majority of BCP's shareholders institutional investors, but even retail investors can also by trackers of MCSI World. So, to capture the opportunity cost of investing in Millennium, a diversified would index must be used. The market risk premium used was 5,75, as suggested by KPMG[5].

The continuing value was calculated as a growing perpetuity of the EFCF of each scenario, of each geography, at 2040.

Do note that, since the scenarios are independent and have different probabilities, a Consolidated target price target for each scenario is not applicable.

The results of the valuation and the probability of each scenario are as follows:

		Base Scenario		Alternative Scenario		Weighted Average	
Geography	Current Market Cap	Target Mkt Cap	Probability	Target Mkt Cap	Probability	Target market Cap.	Ownership of BCP
Mozambique	N/A	€ 733	85%	€ 2 024	15%	€ 926	66,70%
Poland	€ 1 240	€ 1 656	85%	€ 1 195	15%	€ 1 587	50%
Portugal	N/A	€ 1 574	90%	€ 2 240	10%	€ 1 640	100%
Consolidated	€ 2 473	N/A	N/A	N/A	N/A	€ 3 053	

These results imply a target share price of 0,2020 to Millennium BCP, which had at 20/05/2021 a share price of 0.1636€. Bank Millennium has a target share price of 1,31€, which at 21/05/2021 correspond to 5,89 PLN. At the same date, its share price was 4,59PLN. These results indicate that the BCP and bank Millennium are undervalued, and that their share prices are expected to rise. However, in the negative polish scenario, the bank's value was lower than its market cap, indicating that if such a scenario occurs, or if probability is higher, the share price would drop.

Multiple's Analysis

A multiple's analysis was performed to better understand the market's valuation of Bank Millennium and BCP's Portuguese operations. The analysis was not done for Banco BIM since no significantly similar listed banks were found.

[5] Groenendijk, M., Engelbrecht, H. and Verburg, A., 2021. *Equity Market Risk Premium – Research Summary*. [online] Indialogue.io. Available at: <https://indialogue.io/clients/reports/public/5d9da61986db2894649a7ef2/5d9da63386db2894649a7ef5> [Accessed 21 May 2021].

Multiples were calculated using Revenues and Net income of 2020 and 2019, as well as Total Common Equity of 2020.

Bank Millennium had at 20/05/2021 a market cap of 1240 M EUR. The following banks operating in Poland were considered comparable to Bank Millennium:

Name	Market CAP	Total Assets 2020	ROE 2020 (bloomberg)	ROE 2019 (bloomberg)	FX mortage loans as percentage of equity
BANK MILLENNIUM SA	€ 1 240	€ 21 405	0,25%	6,47%	149,00%
MBANK SA	€ 2 810	€ 39 438	0,63%	6,45%	81,00%
BNP PARIBAS BANK POLSKA SA	€ 2 400	€ 26 179	6,32%	5,66%	40,00%
BANK PEKAO SA	€ 5 300	€ 51 059	4,51%	9,38%	11,00%
SANTANDER BANK POLSKA SA	€ 5 680	€ 50 204	3,96%	8,47%	43,00%
PKO BANK POLSKI SA	€ 9 910	€ 83 587	6,09%	9,99%	52,00%
ING BANK SLASKI SA	€ 5 150	€ 40 852	7,91%	11,62%	5,00%

By analysing the price movements of these banks over the last 6 years, it was possible to conclude that the main factors contributing to large swings in price for the polish banking sector were the coronavirus sell out in March 2020 and the rise in the 4th Quarter of 2020 due to good news regarding vaccine developments. Another factor that negatively affected the sector was the Polish Supreme Court's decision in favour of borrowers regarding FX-Loans. In the months leading up to this decision, the share price of banks with high exposures to these loans, such as Bank Millennium and Mbank dropped significantly (from June 28th to November 28th, Bank Millennium's share price dropped 41% while Mbank dropped 13,5%). The polish bank with the highest exposure (Getin Nobel Bank, with an FX Loans Portfolio more than 4 times larger than its equity) is Getting Nobel Bank. This bank was excluded from the analysis, due to serious continuity concerns – Fitch's long-term rating for this bank is CCC, while Bank Millennium's rating is BBB-. For other individual share price swings, these were explained by significantly better/worse results than expected.

It is possible to observe these factors in the multiple's analysis as well. Banks with higher profitability (ROE) and lower exposure to FX Loans portfolios had, in general, higher multiples as well. The exception was in the net income 2020 multiple. Banks with high FX Loans exposure recorded high provisions in 2020, which negatively impacted their results. However, since the net income for these banks was still positive, banks with more exposure to FX Loans had higher net income multiples. This indicates that while the market believes that the future costs associated with FX Loans are not reflected in the most exposed banks' accounts, it does not consider the earnings of 2020 to be representative of the long-term earnings for these banks. In Bank Millennium's case, its Net income 2020 multiple is 195 while the average for its peers is 27.

In order to better understand how the market is valuing Millennium, different comparable valuations were done using all 6 identified peers, the 4 peers with a significant exposure to FX Mortgage Loans and with just MBank, the peers with the highest exposure. The results can be seen in the table below:

	Revenue: 2020 Multiple	Revenue: 2019 Multiple	Net Inc Avail to Cmn Shhldr:	Net Inc Avail to Cmn Shhldr 2019 Multiple	Tot Common Equity: 2020	Average Valuation without net income	Average Valuation with net income 2020
valuation Millennium All Peers	€ 2 586	€ 2 368	€ 99	€ 1 525	€ 1 902	€ 2 095	€ 1 696
valuation Millennium 4 Peers	€ 2 231	€ 2 048	€ 105	€ 1 525	€ 1 863	€ 1 917	€ 1 555
valuation Millennium Mbank Only	€ 1 701	€ 1 744	€ 618	€ 1 560	€ 1 532	€ 1 634	€ 1 431

It is possible to conclude that when using Peers with profitability and FX loans exposure more similar to Bank Millennium, the comparable price obtained is lower. When considering just MBank – the most similar to Bank Millennium, the valuations obtained are the closest to the current market cap of BCP's polish subsidiary. Considering that there still is a significant difference in exposure to FX Loans between these two banks, it can be concluded Bank Millennium's current valuation is in accordance to its peers.

Millennium BCP – Portugal: Millennium BCP had at 20/05/2021 a market cap of 2470M€. This market cap, however, also included the stakes BCP has in Bank Millennium and Banco Bim. In order to consider the Market cap of the Portuguese operations on their own, BCP's share of the Market cap of Bank Millennium (621M€) and its share of the base EFCF value of Banco Bim calculated above (489M€) were deducted. Therefore, the estimate market cap of BCP Potuguese + other operations is 1360M€. The financial information used to calculate the multiples in this analysis also corresponds only to the Portuguese operations.

Since there are no other public Portuguese banks, peers were selected from similar countries to Portugal – Italy Spain and Greece. These countries were selected as they present similar levels of wealth and public indebtedness as Portugal. Furthermore, these countries have had sluggish growth in the recent years and their tourism-heavy economies were impacted similarly by the Covid-19 pandemic.

source: IMF	GDP Per capita 2020 International Dollars PPP	Public Debt to GDP 2020	Real GDP growth rate 2020	Real GDP Growth rate 2019
Portugal	34 040	132%	-7,6%	2,5%
Italy	40 860	156%	-8,9%	0,3%
Spain	38 390	117%	2,0%	-11,0%
Greece	28 750	213%	-8,2%	1,9%

From these 3 countries, the following banks that most resemble Millennium BCP were selected. Do note that for Greece 3 banks were selected since each presented very different ROE and NPL / Net Loans ratios.

Name	Mkt Cap (M EUR)	Country	Tot Assets:Y (M EUR)	ROE 2020	ROE 2019	NPLs / Net Loans 2020	NPLs / Net Loans 2019
BCP Portugal + Other	€ 1 360	Portugal	€ 62 442	1,95%	3,28%	8,50%	9,79%
NATIONAL BANK OF GREECE	€ 2 230	GREECE	€ 64 248	0,74%	-4,99%	7,45%	20,87%
PIRAEUS FINANCIAL HOLDINGS S	€ 1 980	GREECE	€ 71 576	-8,52%	3,72%	45,31%	34,65%
ALPHA BANK AE	€ 1 910	GREECE	€ 70 057	1,24%	1,27%	30,66%	30,13%
Greece median				0,74%	1,27%	30,66%	30,13%
CREDITO EMILIANO SPA	€ 1 730	ITALY	€ 56 650	6,70%	7,38%	2,71%	3,23%
UNICAJA BANCO SA	€ 1 430	SPAIN	€ 65 544	1,95%	4,37%	2,26%	2,98%

By analysing the price movements of these banks over since 2018 (after BCP had a capital increase), it was possible to conclude what were the main factors contributing to large swings in price. In March 2020 there was generalised sell-off in the markets due to the beginning of the coronavirus pandemic. This was followed by a rise in the 4th Quarter due to good news regarding vaccine. Other price swings in this period are specific to each bank or country. Greek banks losing value in the 4th quarter of 2018 due to concerns over NPLs and rising again in the 2nd quarter of 2019 after a snap election which ousted the incumbent far-left government was announced. Unicaja's major swings are explained by a capital increase in the second quarter of 2019 and by news of a possible merger with Liberbak in the fourth quarter of the same year. BCP, on the other hand, saw its share price increase in the second quarter 2019 due to increased assets quality and good results, but disappointing second quarter results and concerns regarding Portuguese net interest income saw its share price decrease inde the third quarter. In conclusion, the main factors affecting these bank's stock prices are their results, their NPL exposure and the country they operate in.

Since the country of operations is an important factor in the market value of each bank, the valuation of millennium was done separately for each group of peers of each country:

Valuation BCP Portugal	Revenue: 2020 Multiple	Revenue: 2019 Multiple	Net Inc Avail to Cmn Shhldr: 2020 Multiple	Net Inc Avail to Cmn Shhldr 2019 Multiple	Tot Common Equity: 2020 Multiple	Valuation Average	Valuation Median
Peers Greece	€ 1 187	€ 1 337	€ 2 483	€ 1 193	€ 1 370	€ 1 514	€ 1 337
Peer Spain	€ 1 611	€ 1 591	€ 2 477	€ 1 400	€ 1 767	€ 1 769	€ 1 611
Peer Italy	€ 1 696	€ 1 734	€ 1 157	€ 1 450	€ 2 733	€ 1 754	€ 1 696
Spain + Greece Avg	€ 1 399	€ 1 464	€ 2 480	€ 1 297	€ 1 569	€ 1 642	€ 1 464
All Average	€ 1 498	€ 1 554	€ 2 039	€ 1 348	€ 1 957	€ 1 679	€ 1 554

It is possible to observe that if BCP's Portuguese operations is compared with the peers from Spain and Italy its valuation would be much higher. However, BCP's value is closer to that of its peers from Greece. BCP having a lower value than its peers from Italy and Spain is expected. On one hand, when considering GDP per capita, Italy and Spain are more wealthy countries than Portugal. In addition, Unicaja (Spain) and Credito Emiliano (Italy) perform better than BCP in NPLs/Net Loans and ROE. However, BCP was expected to have a higher valuation than its Greek peers, since Greece is poorer than Portugal and the banks from this geography have worse performance metrics than BCP.

From this, one of two things can be concluded: either the Portuguese bank is undervalued when compared to its peers or the value obtained for Banco Bim is higher than it's true value, since a lower value of Banco Bim would increase the estimate of BCP's Portuguese Operations.

M&A analysis

In the end of 2020, Sonagol (BCP's second largest shareholder) indicated that it was looking for opportunities to divest from the bank as it focused on its main sector (Oil & Gas). However, the company claimed that it was monitoring consolidation movements in Portugal and would evaluate possible merger opportunities. This statement comes from an ongoing trend of mergers and acquisitions in the sector, as investors and politicians incentivize the sector to consolidate in order to be able to compete with the larger and more profitable American and Chinese banks. More recently, the ECB is started looking for ways to make M&A deals between banks easier, allowing banks to consider badwill originating from buying banks at a price lower than their book value in their capital ratios.

The rationale behind these deals is that larger banks benefit from increased market power and economies of scale. Banks are expected to continue investing in technologies such as AI and blockchain to remain competitive, however, much of the costs associated with these technologies are fixed, meaning that larger banks will see higher returns on these investments. In the case of cross-border deals, these are expected to generate less cost reductions as the banks have to adapt their technological solutions and marketing to fit the countries, they operate in. On the other hand, these deals can generate value by allowing banks to offer global solutions to their clients and through geographical diversification.

From 2007 to 2018, the number of banks in Europe as decreased from just over 6100 to 4600[6]. Most of these deals have been small, however, the recent acquisition of Unione di Banche Italiane for €3735M by Intesa Sanpaolo and the €4.3Bn deal between Caixa Bank and Bankia indicated that a deal involving BCP is possible. With the sector moving to consolidate and one of BCP's major shareholders looking for M&A opportunities, the potential return for shareholders of a large deal and the possible deals for BCP were analyzed.

In order to analyse the potential return of such deals, 5 comparable past transactions were considered: The acquisition of a majority stake in the Portuguese bank BPI by Caixa Bank in 2016, the acquisition of Bank Mare Nostrum in Spain by Bankia, the acquisition of Eurobank by Bank Millennium in Poland and the aforementioned deals between Unione di Banche Italiene and Intesa Sanpaolo (Italy) and Caixa Bank and Bankia (Spain).

The month immediately before the proposition / announcement was not considered because share prices often rise ahead of such announcements due to insider trading.

To analyse the potential increase in share price in case BCP is the acquired company, the average share price of the 120th day to the 30th day before the acquisition was announced / proposed was compared to the price per share at which the stocks were bought at the completion date of the deal. To isolate the effect of the acquisition, these returns were compared to the returns of the Euro stoxx banks index for the same period, but rather than using the completion date the average price of the 45 days before and prior to this date were used. The returns of the index were further adjusted with the beta of the target company in relation to the index, as to consider the cases in which the companies are more or less susceptible to industry-wide shocks. Note that, as Eurobank and Mare Nostrum were not publicly quoted, this analysis was not possible for these banks.

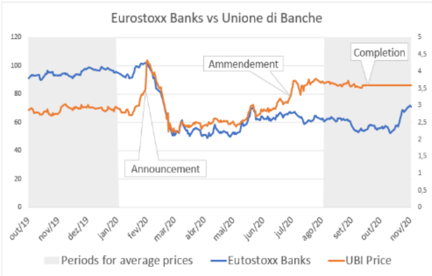
To analyse the potential returns in case BCP was the acquirer, the process was conducted on the share prices of the acquirer companies of the transactions, with the end price of the acquirer and the index being the 90 day average around the completion date. Note that, with this methodology, even though the same period is being considered for the acquired and the target company, the adjusted index returns can differ due to differences in the betas of the companies.

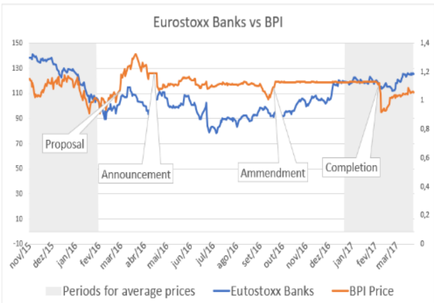
The results are as follows:

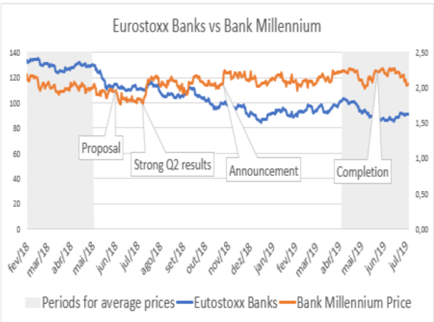
Target Name	Acquirer Name	Target Return over the selected period	Beta in relation to Benchmark	Adjusted Benchmark returns	Target return – Adjusted Benchmark
Bankia SA	CaixaBank SA	83,9%	0,90	38,7%	45,2%
Unione di Banche Italiane SpA	Intesa Sanpaolo SpA	24,9%	1,10	-41,4%	66,3%
Banco BPI SA	CaixaBank SA	4,8%	0,93	-5,3%	10,1%

Target Name	Acquirer Name	Acquirer Return over the selected period	Beta in relation to Benchmark	Adjusted Benchmark returns	Acquirer return – Adjusted Benchmark
Bankia SA	CaixaBank SA	35,4%	0,92	39,4%	-3,9%
Unione di Banche Italiane SpA	Intesa Sanpaolo SpA	-27,9%	0,95	-31,1%	3,2%
Euro Bank SA /Poland	Bank Millennium SA	7,8%	0,50	-14,6%	22,4%
Banco Mare Nostrum SA	Bankia SA	51,5%	0,90	45,9%	5,6%
Banco BPI SA	CaixaBank SA	12,1%	0,93	-5,3%	17,4%

As indicated by the tables above, the target companies were acquired at a price substantially above their market price before the deal was announced. Moreover, the returns on these stocks were also higher than the adjusted benchmark, which indicate that the deals generated value for the shareholders of the target companies. Unione di Banche's deal was the one to generate the most returns above the benchmark. Despite Global stocks falling immediately after the announcement due to the pandemic, Intensa's bid for the bank was increased in July 2020, leading to a return 66p.p above the adjusted benchmark. In contrast, BPI's acquisition was the one to generate the lowest returns. It is also worth noting that Caixa Bank did not buy all the remaining floating share of BPI, and that its 3-month average price after the transaction was 8% lower than the acquisition price, while the adjusted benchmark returns for the same period were 5%. One possible explanation for these returns is that this was the only cross-border deal of the three, and thus the expected gains from the merger were lower. Another explanation is that, since Caixa Bank already owned 39% of BPI prior to this deal, the banks were already collaborating and benefiting from economies of scale, leading to lower productivity gains from the deal.







The shares of the acquirers, on the other hand, also performed better than their benchmarks, although less so. The acquirer with the best returns over the benchmark over the selected period was Bank Millennium. Despite a small dip following the proposal, the share's price increased with the announcement. However, the main driver for the overperformance against the benchmark was increase in July 2018 amid strong Q2 results. In the two most recent acquisitions, the acquirers' share price (CaixaBank and Intesa) did not vary significantly from the benchmark. These results indicate that while the market perceived these acquisitions favourably, most of the returns from the deal were concentrated on the target company.

These results are consistent with academia findings on M&A which conclude that, for financial and non-financial firms alike, acquires experience small positive abnormal returns while target companies experience high positive abnormal returns[7]. Therefore, BCP's shareholders are expected to benefit significantly from a deal in which BCP is target company, but only marginally if BCP is the acquirer.

As for deal opportunities, there are a few that may be available to BCP:

BCP can opt to merge or acquire a smaller Portuguese competitor. In this case, the most likely merger would be with Banco Montepio, which had €18M in assets in 2019. Other possibilities include the controversial loss-making Novo Banco and the state-owned Caixa Geral de Depósitos, as the privatization of the latter has been considered. In either case, even though these deals would allow the combined bank to cut on cost, the combined bank would only be slightly larger and would not have a global presence. Furthermore, such deals are risky in the short and medium term as BCP is exposed to high impairment costs due to the pandemic and future costs related to FX Loans in Poland. Moreover, BCP's CEO said in September that it was considering possible mergers with smaller, loss-making rivals such as Montepio. All things considered; such deals are unlikely.

Despite not planning to grow through acquisitions, Santander has €1.5trn in assets, so acquiring BCP would not significantly impact its business.

There are, however, more attractive opportunities if BCP is acquired by a larger European Bank. The deals which could generate the most value would be deals with the Spanish lenders Santander and CaixaBank. Both banks have subsidiaries in Portugal with significant market share (Santander Totta and BPI, respectively). Such cross-border deals would not only create value through geographical diversification and by connecting BCP's clients to a broader and global bank but would also benefit from the cost-cutting associated with local deals. A deal with Caixa Bank makes the most sense. The bank seems open to growth by acquisitions in the Iberian Peninsula, as exhibited by the recent BPI and Bankia deals. Moreover, as BPI as bout 10% market share in the Portuguese market, a combined BCP-BPI would have about 28% market share, the same as Caixa Bank has in the Spanish market after its merger. Thus, regulators would likely approve this deal. A deal with Santander would be more profitable, as the bank as operations in all geographies BCP operates in but is less likely. Santander indicated that it would focus on organic growth rather than acquisitions. Moreover, the combined bank in Portugal would have more than 35% market share, so the deal would likely face scrutiny from regulators.

From the sample above, it is hard to say what would be the premium paid to BCP shareholders in such a deal. However, data from Statista indicates that the average 4-week premium paid in M&A deals in the financial industry between

[7] Neely, Walter P. "Banking Acquisitions: Acquirer and Target Shareholder Returns." *Financial Management* 16, no. 4 (1987): 66-74. Accessed May 21, 2021. doi:10.2307/3666110.

2017 and 2018 was 23.5%[8]. If such an average premium is assumed in a BCP M&A deal, then its share price would increase to €0,2020. When applied to the target share price, the expected value of the stock would be €0,2495.

[8] Statista. 2021. *Europe: Average M&A premiums by industry 2018 | Statista*. [online] Available at: <https://www.statista.com/statistics/978583/average-premiums-in-europe-by-industry/> [Accessed 21 May 2021].

Appendix

Financial Statements – Consolidated Base Scenarios

Balance Sheet - M EUR	2019	2020	2021 (E)	2022 (F)	2025 (F)	2030 (F)	2035 (F)	2040 (F)
Cash	€ 5 167	€ 5 304	€ 3 960	€ 4 764	€ 5 752	€ 6 592	€ 7 645	€ 8 696
Loans and advances to customers	€ 49 848	€ 52 121	€ 52 036	€ 55 362	€ 63 030	€ 78 168	€ 95 909	€ 109 451
Other Financial Assets	€ 19 977	€ 22 090	€ 22 558	€ 24 100	€ 31 189	€ 37 418	€ 44 372	€ 50 650
Other Assets	€ 6 652	€ 6 298	€ 6 526	€ 6 640	€ 6 450	€ 6 612	€ 6 964	€ 7 472
Total Assets	€ 81 643	€ 85 813	€ 85 080	€ 90 867	€ 106 421	€ 128 790	€ 154 891	€ 176 270
Customer funds	€ 59 127	€ 63 001	€ 61 231	€ 65 923	€ 77 800	€ 91 518	€ 107 875	€ 123 515
Other Financial Liabilities	€ 13 315	€ 13 857	€ 14 219	€ 14 985	€ 17 572	€ 19 484	€ 21 917	€ 21 922
Other Liabilities	€ 1 821	€ 1 570	€ 2 180	€ 2 490	#REF!	€ 2 315	€ 2 846	€ 3 199
Total Liabilities	€ 74 262	€ 78 427	€ 77 631	€ 83 397	€ 89 596	€ 113 317	€ 132 638	€ 148 636
Equity	€ 7 381	€ 7 386	€ 7 449	€ 7 469	€ 7 429	€ 15 473	€ 22 253	€ 27 634
Total Liabilities and Equity	€ 81 643	€ 85 813	€ 85 080	€ 90 867	€ 97 025	€ 128 790	€ 154 891	€ 176 270

Income Statement - M EUR	2019	2020	2021 (E)	2022 (F)	2025 (F)	2030 (F)	2035 (F)	2040 (F)
Net Interest Income	€ 1 549	€ 1 533	€ 1 529	€ 1 670	€ 1 772	€ 2 708	€ 3 372	€ 2 789
Net Comission Income	€ 704	€ 703	€ 699	€ 745	€ 775	€ 1 031	€ 1 251	€ 1 445
Other Net Operating Income	€ 100	€ 70	€ 183	€ 200	€ 198	€ 262	€ 308	€ 375
Net operating Revenues	€ 2 352	€ 2 306	€ 2 411	€ 2 615	€ 2 745	€ 4 002	€ 4 931	€ 4 609
Operating Costs	-€ 1 170	-€ 1 119	-€ 1 064	-€ 1 087	-€ 1 111	-€ 1 339	-€ 1 541	-€ 1 785
Loans Impairment	-€ 510	-€ 471	-€ 428	-€ 475	-€ 496	-€ 520	-€ 544	-€ 561
Other Provisions	-€ 151	-€ 331	-€ 661	-€ 650	-€ 644	-€ 181	-€ 196	-€ 209
Profit Before Income tax	€ 521	€ 384	€ 258	€ 402	€ 494	€ 1 961	€ 2 650	€ 2 053
Income tax	-€ 239	-€ 137	-€ 9	-€ 104	-€ 163	-€ 186	-€ 338	-€ 493
Net Income	€ 401	€ 209	€ 207	€ 345	€ 351	€ 1 664	€ 2 085	€ 1 249
Non-controling Interest	-€ 99	-€ 25	€ 86	€ 49	€ 60	-€ 336	-€ 443	-€ 192
Net Income to Shareholders	€ 302	€ 183	€ 293	€ 394	€ 410	€ 1 327	€ 1 642	€ 1 057
EPS	€ 0,02	€ 0,01	€ 0,02	€ 0,03	€ 0,03	€ 0,09	€ 0,11	€ 0,07

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Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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