

### CFA Institute Research Challenge Hosted by CFA Society Mexico Universidad Iberoamericana Ciudad de México

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#### Figure 1. Valuation Summary

Recommendation: B	Recommendation: BUY									
Target Price (P\$ MXN)	33.62									
Current Price (P\$ MXN)	29.29									
Upside / Downside	15%									
Shares Outstanding (m)	578.62									
Market Cap (B MXN)	16.03									
52-Week High	41.50									
52-Week Low	27.72									
2024E EPS (\$)	2.71									
EPS 2022	2.86									
P/E (LTM) (x)	12.67									
Target P/E (x)	10.80									
EV/EBITDA (LTM)	7.97									
Source: Team Analysis, Capital IQ, B	loomberg									

**Figure 2. Weighted Valuation Summary** 

Weighted Valuation Summary								
Price Per Share Weight								
DCF	31.09	60%						
EV/EBITDA	41.13	20%						
P/E	34.35	12%						
P/B	33.79	5%						
Real Options	31.07	3%						

 Weighted Valuation
 \$ 33.62
 100%

 Source: Team Analysis, Capital IQ, Bloomberg
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Figure 3. Provected Net and EBITDA CAGRs

	FY2022	FY2023E	FY2024E	FY2025E	FY1016E	FY202TE	FY1018E	CAGR
Net Margin (%)	相關	38.655	37.81%	37.81%	37.94%	39.07%	39.0%	4.6%
EBITDA Margin (%)	61.05%	56.18%	56.77%	60.65%	60.92%	613%	61.27%	0.165
DE (%)	14785	16.45%	15,35%	15.07%	14.93%	15.02%	15.00%	0.33%
ROE (%)	5.44%	4.97%	5.105	5.17%	533%	5.68%	5.88%	1.30%
ROA (59)	4,74%	4,26%	4425	4,49%	4,63%	4.94%	5.11%	1.16%
CAPENRevence (%)	2.12%	5.14%	3.65%	233%	1.78%	1.38%	1.42%	-6.46%
ROIC (%)	15.65%	5.95%	9.115	13.545	18.43%	2115	22.11%	5.93%

Source: Team Analysis, Company Data

### Figure 4. Grupo BMV's Operating Expenses & Margin

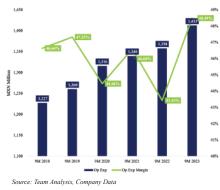


Figure 5. Grupo BMV's Market Share



We commence our analysis and evaluation of Grupo BMV (BMV: BOLSA A) with a BUY recommendation based on a 12-month target price of MXN \$33.62, signifying a 15% upside to its closing price of MXN \$29.29 as of November 6th, 2023 (See Figure 1).

Our investment thesis is supported by the following key drivers: 1) an expected sustained long-term growth perspective, 2) an efficient strategic diversification and 3) an innovation approach pioneering excellence and leading the industry.

#### 1)Long-term Growth

We foresee that BMV will experience a steady and continuous expansion driven by short and long-term strategic projects aimed at growth, regulatory compliance and transformation. These initiatives include the following: 1)BMV is implementing several key strategies to enhance its market presence and performance. These strategies include enabling Pension Funds (AFORES) to use securities as collateral for transactions, potentially driving up to 100 million pesos in annual transactions and reducing liquidity constraints. They are also looking to leverage newly acquired SWIFT software for Direct Custody, with a projected annual yield of 500 million MXN after ten years. The company is working on transforming the Bond market into an electronic trading platform, aiming for increased liquidity, lower prices, and higher trading volumes. Additionally, they are enhancing post-trade operations through the segregation of infrastructures for central counterparties, clearinghouses, and the Central Securities Depository. 2)Alongside the Mexican Pension System Reform, which centers on four main features, we envision a promising future for the company. Considering that AFORES managed 5.57 trillion pesos in assets as of June 30, 2023, and that SIEFORE's net assets represent 20% of the Mexican GDP, we can anticipate substantial growth. Consequently, we expect a significant increase in Grupo BMV's local market volume traded, thus, a strengthened revenue growth. These factors collectively reinforce our confidence in the Grupo BMV's long-term potential and steady growth, offering promising returns to stakeholders.

#### 2)Efficient strategic diversification

We believe Grupo BMV's vertical integration, as seen within its value chain (Appendix 14), effectively serves to mitigate potential risks associated with the adverse macroeconomic environment to which its day-to-day operations are exposed. Consequently, it strengthens its financial performance as well. By maintaining control over all facets of the supply chain of a financial transaction through its nine business divisions, Grupo BMV achieves a robust diversification of revenue sources, thereby fortifying its capacity to sustain growth and financial stability, even in the face of economic challenges. We anticipate that Grupo BMV will persist in its prudent containment of operating expenses, with an expected growth rate of 5% from FY2023 to FY2028, primarily explained by its vertically integrated operations. Our projected CAGRs for Grupo BMV's Net and EBITDA Margins (Figure 33) predominantly derive from our outlook of effective operational diversification. Consequently, we consider Grupo BMV as a solid and resilient company poised for enduring long-term growth and expansion. Grupo BMV's strategic diversification leads to a leading market position in all of its 9 business divisions, which leads us to our third key driver supporting our investment thesis.

#### 3)Leading the Industry

In Mexico, BMV holds a leading position within the industry. Despite the emergence of new competitors, such as BIVA, Grupo BMV has managed to maintain a strong market presence with a minimal 10% decrease in market share, shifting from 94% in August 2022 to 84% by September 2023. Across the majority of its business divisions, Grupo BMV has consistently outperformed its peers. It is actively investing in technology projects that will further elevate their position as pioneers in technological solutions. As part of their core platforms, they operate BMV Operations (MONET), a real-time processing system that efficiently handles orders from intermediaries on behalf of both themselves and their clients. Grupo BMV is committed to continuous technological innovation, consistently modernising and fortifying their platforms. They are making comprehensive updates across all platforms, focusing on flexibility in Disaster Recovery Planning (DRP) and service monitoring. Additionally, they're promoting digitization and automation, with innovations like BolsApp and Process Automation (RPA) to enhance efficiency and risk management. Consequently, given their ongoing growth and investment in technology, the BMV is a company with a promising future and expansion.

**EXECUTIVE SUMMARY** 

Figure 6. Grupo BMV's 9 Companies

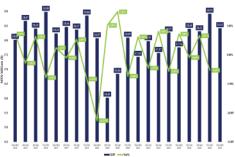




Figure 9. Distribution of 91% of Grupo BMV's listed companies

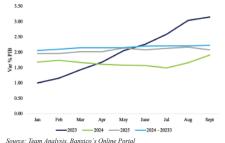






Source: Team Analysis, Banxico's Online Portal

Figure 11. Banxico's GDP Expectations 2023, 2024 & 2032



### **BUSINESS DESCRIPTION**

Grupo BMV, Bolsa Mexicana de Valores SAB de CV, is the main stock exchange in Mexico and one of the most important in Latin America, with a net profit in 2022 of 1,662 million pesos and 8,743 million pesos in Total Assets. Its purpose is to facilitate the buying and selling of securities, such as stocks, bonds, participation certificates, and other financial instruments. The Group is made up of different companies: Besides the stock exchange, it operates a derivatives market, a securities and over-the-counter (OTC) derivatives brokerage company, the central securities depository in Mexico where custody and settlement of securities take place, a securities clearinghouse, a derivatives clearinghouse, as well as a price valuation company and risk management services. Out of all its products, the OTC and information services are its main sources of income.

Business Divisions: 1) Subscription 48.5% and Transactional 52% of Grupo BMV's revenue a)Bolsa Mexicana de Valores (BMV). With 363 issuers, of which 52 have more than one type of securities listed, the BMV s current asset value is 1.4 Trillion pesos with a 13% ESG, and they trade about 800M MXN a day. It is one of the cheapest stock exchanges in the world, charging a mere third of a basis point in listing and maintenance. Regardless, due to the rates being so high this year and the dollar being so low, many investors have switched from the equity market to other alternatives such as CETES or fixed income. Furthermore, since the new Best Execution Requirements directive, the competition has taken on average 20% of the Capital market. (The Capital formation is subscription revenue, and the equity trading is transactional revenue). **b)I nformation services.** This branch is amongst the most profitable for the Group, and is comprised of Valmer, an authorized price vendor and financial risk software provider, an alliance with S&P which enables the access indexes calculated by them, and the Feed of Data, which replicates foreign stock market information for mexican use and distributes BMV's data to other markets.c) Institución para el Depósito de Valores (INDEVAL) As the only Central Securities Deposit in Mexico, its purpose is to safekeep the securities of issuers and compensate and liquidate the buyers. Their main income sources are the custody and settlement of securities and their Global Markets Services. (INDEVAL is considered both subscription and transactional revenue).d) Mercado de Derivados (MexDer) The derivatives average a daily national value of 370 Million USD, however they only sum up to 3% of the total Group BMV's total revenue. The main products of this market are the peso-dolar futures, the IPC futures and the Interest Rate Swaps. Although a small market in Mexico due to other alternatives such as the Chicago market and the OTCs being more popular, it shows promise in the future to grow to the size of other countries' examples, such as India where this investment option is very popular.e) Central counterparts. In Mexico, everything that is traded by any company goes through the CCV and Asigna, since they are the only Equity and Derivatives Central Counterparts in the country that provide the service of eliminating the counter-party risk and the registration of each transaction, for which they charge a fee. CCV has an average clearing revenue of 55 M MXN and Asigna has an average margin deposit of 35.7 Billion pesos. f) Sif Icap. In a joint venture with this company, BMV offers highly sought after products such as government bonds, swaps, forwards and both banking and corporate bonds. This operation is divided between Mexico, which yields 31% of the revenue and has a fee cap, and Chile, with the remainder and no cap. Grupo BMV's Strategic Approach

Grupo BMV's strategic approach is characterized by a clear and well-defined business purpose, a forward-looking vision and strong differentiators. Its purpose of enabling the functioning of the stock and derivatives markets in Mexico through an integrated business group demonstrates its commitment to the financial sector's stability while leveraging their talent and cutting-edge technology. We consider Grupo BMV a catalyst for economic progress based on its excelling performance in each of its 9 business divisions. Its prevailing 84% market share (Figure 5) is explained by its 129+ years of experience and its diversified business model supported by advanced technology, which leads to a significant advantage in the financial markets. Grupo BMV aims to fortify their traditional financial and operational business while carrying out strategic alliance with regulators in order to remain compliant and at the forefront of industry standards. Moreover, its pursuit of new revenue streams through subscription-based businesses shows adaptability and a forward-thinking mindset strategic approach to cover all stages of stock market operations; from promotion, order execution, transaction settlement, custody and clearing, risk management and the generation of real-time and value-added information through the establishment of an integrated business group has contributed to Grupo BMV's

### **INDUSTRY OVERVIEW AND COMPETITIVE POSITION**

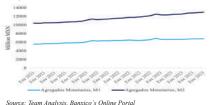
#### Macroeconomic conditions.

Certain macroeconomic aspects regarding politics and economics at the global, regional and national level impact directly the industry in which Grupo BMV's subsidiaries operate as well as its financial performance. Hence, an economic and political analysis on the evolution and behavior of relevant macroeconomic variables is key.

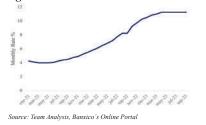
Economic Growth Stagnation.

A country's economic growth fosters economic activity, favoring financial markets. Since 2019, Mexico's economy has faced economic growth stagnation for 4 consecutive years until it surpassed the 2019 pre-pandemic level of 18.86M MXN with a GDP of 18.92M MXN in Q2 2023 (Figure 10). Yet, its economic growth continues. Expectations on Mexican economic growth rates indicate an optimistic outlook for H2 2023, since the expected growth rate increased from 0.98% anticipated in January 2023 to 3% anticipated in August 2023; led by robust private consumption and investment. However, in the short term, Banxico expects a demoralized outlook for 2024, forecasting a lower economic growth rate for 2024 in August 2023 (1.60%) than the one anticipated in January 2023 (1.85%). In the long term,





#### Figure 13. Mexico's Interest Rates 2021-2023



#### Figure 14. Mexicos' Inflation2021-2023

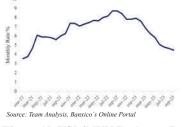
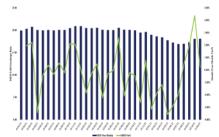
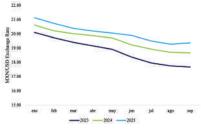


Figure 15. USD/MXN Exchange Rates



Source: Team Analysis, Banxico's Online Portal

#### Figure 16. Banxico's USD/MXN Exchange Rates Expectations

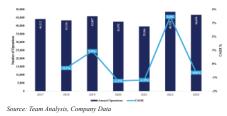


Source: Team Analysis, Banxico's Online Portal

#### **Figure 17. Equity Market Operations**



#### Figure 18. DerivativesMarket Operations



#### Market Liquidity Constant Growth.

More liquidity implies greater credit lines access, ease of bill collections and stimulates economic activity (increasing buy/sell operations in market). Higher liquidity leads to faster market operations. In Mexico, the performance of M1 and M2 money aggregates have demonstrated favorable circumstances for financial markets. In regards to the cash money in circulation and bank deposits (M1), Mexico has constantly increased its results month-over-month by 0.62% since 2021 (Figure 12); overall increasing 21.86%. In regards to M1 + savings deposits and money market mutual funds (M2), Mexico has been having an outstanding performance, increasing its results month-over-month by 0.66% (Figure 12); overall increasing 23.49%

#### Interest Rates and inflation

As an approach to combat inflation, achieve their inflation target level of 3% and mitigate risks associated with the latter such as currency depreciation, cost pressures and energy or agricultural price fluctuations, Banxico has significantly increased its interest rates from 4.02% in 2Q2021 to 11.25% in 2Q2023, and has maintained its 11.25% levels for 3Q2023 (Figure 13). Such increase in interest rates has effectively contributed to a 3Q2023 achieved inflation of approximately 4.5% (Figure 14). When interest rates increase, government bonds become more attractive, thus shifting investments from the equity market to debt market. Banxico's September surveys regarding economic expectations forecast a favorable outlook for equity markets, since they expect Mexico's current target rate of 11.25% to decrease to 11.18% by the end of 2023 and to 8.88% by the end of 2024. Moreover, with respect to inflation, results from Banxico's surveys forecast an optimistic short term, medium term and long term outlook; expecting inflation to decrease to 3.95%, 3.81% and 3.63% by the end of 2024, 2025 and 2030 (See Appendix ). Decline in Currency Exchange Rates.

Current decreasing levels of the Mexican Peso to US Dollar exchange rate have led to an appreciation of the Mexican Peso. Mexico's exchange rate has decreased 17.72% from H1 2020 to H1 2023 (Figure 15). Banxico's expectations of the exchange rate for 2023 has been constantly decreasing since January, from 19.80 to 18.37 in June (Figure 13). Such constant decrease of the exchange rate has also led to a decrease in its 2023 predictions for 2024, from 20.50 in January to 19.22 in June (Figure 13) and for 2025, from 20.40 in January to 19.89 in June (Figure 13). The Mexican peso's appreciation has contributed to the development of a bear market, shifting investors' incentives towards foreign stock exchanges, by making BMV stock exchange less attractive for international investors since stock prices have increased as well as for local investors since investing in foreign stock (such as in the U.S.) becomes more profitable than investing in local exchanges such as BMV or BIVA.

### Equity Market Outlook

The outlook for the Mexican stock market in the coming years is positive, albeit with some risks. On one hand, the Mexican economy is expected to grow at a rate of between 2.5% and 3.5% in the coming years, which should benefit publicly traded companies. Additionally, low inflation is expected to persist, which should also favor businesses. On the other hand, there are some risks that could impact the Mexican stock market. One of the main risks is political uncertainty, as Mexico will hold presidential elections in 2024. Another risk is the volatility of international markets, which could affect the prices of Mexican stocks. We decided to make a comparison with the New York Stock Exchange (NYSE). We can observe how the number of transactions on the BMV remains relatively consistent over the years, ranging from 57 million in 2019 (lower) to 73 million in 2020 (higher). The best year for both exchanges was 2020. Overall, it is anticipated that the Mexican stock market will grow in the coming years, but investors should be mindful of the existing risks

#### Derivatives Market Outlook

The outlook for the derivatives market in Mexico for the coming years is positive, with significant growth potential. The Mexican derivatives market is growing at a rapid pace, driven by increased participation from institutional investors and the growing sophistication of retail investors. In 2022, the trading volume on the Mexican Derivatives Market (MexDer) reached a record of 1.5 trillion Mexican pesos, a 20%

growth compared to the previous year. This growth is expected to continue in the coming years, driven by the following factors: mexican Economic Growth: The Mexican economy is expected to grow at a rate of between 2.5% and 3.5% in the coming years, creating new opportunities for derivatives, international Market Volatility: Increased volatility in international markets could boost the demand for hedging instruments, such as derivatives and development of New Products: MexDer is developing new derivative products to meet the needs of investors. Analyzing the derivatives market of the Mexican Stock Exchange, we can observe that it has, to some extent, remained relatively constant over the years, with a range from 39,566,466 in 2021 (lower) to 48,527,986 in 2022 (higher).

#### Regulatory Framework

#### New "Best Execution" Rule in the Stock Market.

The enactment of the "Best Execution" Rule in August 2022, which consisted of an algorithmic method that splits operations between Grupo BMV and BIVA focusing on the best price and volume at the precise memento the transactions is made, had a notable impact on Grupo BMV's market share, resulting in a decline of 10%, from 94% in August 2022 to 84% in September 2022 (Figure 5). This, in turn, contributed to a constant decrease in its revenue, commencing in Q3 2022 and extending through Q3 2023, with a cumulative decrease of 18% from Q2 2022 to Q2 2023.

#### Competitive Position.

Up until recently, BMV Group had enjoyed a very comfortable position in its industry as the only stock market in Mexico, a privilege that lasted for almost 130 years. This, over time, also ended up causing a full financial infrastructure to be built around securities trading, with every-thing from capitals, derivatives, and OTCs to supporting institutions, such as INDEVAL and Asigna. sion and expansion in the financial market. Their arrival would cost BMV on average 15% less revenue on a monthly basis.



Figure 20. Grupo BMV's ESG **Rating vs Mature Markets 2023** 

BYMA (A Source: Team Analysis, Bloomberg

BMV (Me

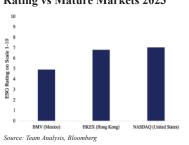
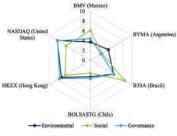


Figure 21. Grupo BMV's S&P, MSCI and Bloomberg Ratings vs Peers 2023

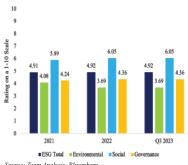
Company	S&P	MSCI	Bloomberg
Grupo BMV	65	Α	4.92
BYMA (Argentina)	33	n/a	3.06
BOVESPA	55	A	6.81
BOLSASTG	57	n/a	3.16
HKEX	63	AA	6.81
NASDAQ	59	AA	7.04
Source: Team Analys	is. Bloomber	g. S&P. and MSCI	

Figure 22. ESG Rating Comparison 2023



Source: Team Analysis, Bloomberg

Figure 23. Grupo BMV's 2021-2023 ESG Scores



#### Source: Team Analysis, Bloomberg

#### Figure 24. Grupo BMV's Top Owners

OWNER	Common Stock Held	% of Common Shares Outstanding	Marekt Value
FMRLLC	27,192,382	4.75%	817.9
Invesco Ltd	23,576,814	4.12%	709.2
JP Morgan Asset Management	22,115,716	3.86%	665.2
Franklin Resources Inc	21,305,190	3.72%	640.9
BlackRock Inc.	20,844,680	3.64%	627

Source: Team Analysis, CapitalIQ

This monopoly generated millions upon millions of pesos of revenue every single year, and the slowly growing participation in the Mexican financial market predicted that the trend would hold. In 2018, however, a new player rose in the capital's market: BIVA, the new technologically and socially driven project from Censor (Central de Corretajes) that aimed for inclusion and expansion in the financial market. Their arrival would cost BMV on average 15% less revenue on a monthly basis. Although this shift on the industry had a visible impact on the company's finances, it would also mean an opportunity, since the new competition planned on on the population, and new investors were giving the Mexican stock markets a try. Keeping in mind that Capitals market is a fraction of the revenue of the company, and that financial infrastructure is a bigger part of their worth, the new traffic derived from a more diversified market ends up benefiting Bolsa as well, since every transaction has to use and pay the supporting services that only the Group can provide. Consequently, even if more competition was to arrive, BMV Group would stay on top of the market either way.

### ENVIRONMENTAL, SOCIAL & GOVERNANCE

BMV Group is committed to progressively enhance its environmental, social and governance (ESG) rating through strategic initiatives. In terms of its Bloomberg ESG rating for 2023, BMV Group achieved a score of 4..92, surpassing the industry average for emerging stock exchange (Figure 19). However, when comparing Grupo BMV with mature stock exchanges, its 2023 rating fell below the industry average (Figure 20). This discrepancy indicates a need for significant advancements for Grupo BMV to successfully attain its main goal of fostering a culture of sustainability among issuers and investors. Furthermore, Grupo BMV is part of MSCI Emerging Market, Dow Jones Sustainability and S&P/BMV Total Mexico sustainability indices, where it has exhibited exceptional performance. Besides Bloomberg, Grupo BMV has demonstrated outstanding performance in its S&P Global Rating when compared to its peers in both emerging and mature markets (Figure 21). In terms of its MSCI rating, Grupo BMV is only one level behind its peers from mature markets, indicating a commendable performance. Specifically, areas of opportunity for Grupo BMV derived from its insufficient performance regarding its board composition, shareholders' rights and climate transition & physical risks metric of  $> 5^{\circ}$ C (Appendix 19)

#### Environmental

#### Energy management.

Energy management is one important aspect that BMV is paying special attention to. The company has joined the commitment to be a net zero (CO2) company alongside 5 other exchanges, they report under TCFD recommendations, measure annually its carbon footprint (Scopes 1, 2 and 3), which metric they expanded by incorporating the categories of goods and services purchased, as well as employee transportation, and offset the 100% supporting the development of a wind farm in Oaxaca. In the voluntary carbon market, there were offset 356,462 tons of CO2e from 2016 to June 2023 (68% offset in 2Q23). Financing support. Grupo BMV facilitates financing and capital mobilization for sustainable projects through Labeled Bonds and they developed the Carbon Neutrality Guide for companies, promoting the framework for analysis, implementation, and dissemination of the carbon neutrality process. Through MEXICO2, many companies have offset their GHG emissions through the Voluntary Carbon Market.

### Social

Financial Awareness.

They strengthen the financial awareness in Mexico through several channels such as Escuela Bolsa Mexicana and Museo Bolsa, which combined have trained at least 53,728 persons (as of 6M23: 9,231 MUBO and 44,497 Escuela Bolsa), their Podcast and Blog. They also work towards growth in social media scope, is part of Ring

the Bell for Financial Literacy, a global movement to strengthen financial education, and takes part in the CONDUSEF National Financial Education Week.

#### Equality.

They generate equal opportunities to their employees and have a Diversity and inclusion strategy (44% their workforce being STEM (Science, Technology, Engineering and Mathematics). Out of this, 37% are women), creating working communities for initiatives towards gender equality, LGBT+, religion and disability. Grupo BMV constantly seeks to offer the best working conditions, a career plan and training (in 2Q23, 39% of the vacancies were occupied internally, and in 2023 they averaged 30 hours of training and development), and has a policy of Human Rights and Labor Well-being.

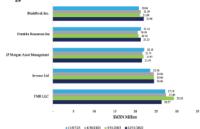
### Governance

Board of Directors

Board of Directors. The governance of the BMV showcases a commitment to transparency and diversity. With 53% of the Board of Directors comprising independent members, the exchange maintains a robust level of objectivity in decision-making. Furthermore, the inclusion of women in half of these independent roles underscores a dedication to gender equality and broader representation. The board's performance is rigorously assessed by a third party, ensuring accountability and the highest standards in corporate governance. This multifaceted approach to governance not only strengthens the BMV's credibility but also reinforces its dedication to fostering an inclusive and responsible business environment. Company Ownership

Grupo BMV's top holders include but are not limited to FMR LLC, Invesco Ltd., JP Morgan Asset Management, Franklin, Resources Inc. and BlackRock Inc., owning in conjunction a 20% of Grupo BMV as a whole (Figure 24). Its biggest shareholder, FMR LLC, currently holds 4.75% of Grupo BMV's shares outstanding, equalling to \$MXN 27.19M. The significant ownership over Grupo BMV by the public of 59.73% has permitted greater transparency towards its shareholders, leading to stronger investor relations that have eventually increased throughout its +129 years of experience, its visibility and brand recognition.

#### Figure 25. Common Stock Owned



Source: Team Analysis, CapitalIO

Figure 26. Grupo BMV's Net & EBITDA Margins & FY2018-FY2022 CAGR

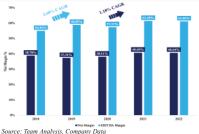


Figure 27. Grupo BMV's Current Ratio vs Industry

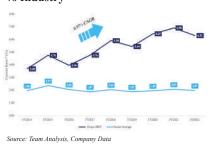
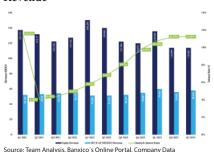
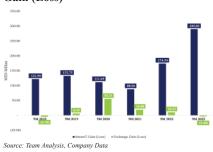


Figure 28. Interest Rates & Grupo BMV's Revenue



Gain (Loss)



#### Figure 30. Pre-Cvodi 19 Recovery



### FINANCIAL ANALYSIS

Overall, through its financial statements, Grupo BMV has demonstrated its tendency to a slow, but constant growth; through financial stability. Its historical financial performance has proved Grupo BMV is a solid and resilient company with a steady commitment to foster the financial market in an environment of challenging market conditions. Although Grupo BMV has recently been facing adverse market conditions, its operative margins have overgone through a steady growth from 2018-2022 at a 1.18% CAGR of its Net Margin and a 2.69% CAGR of its EBITDA margin (Figure 26). Besides its margins, its operating efficiency growth can be seen through its operating cash flow 2023-2028 expected CAGR of 2.74% Grupo BMV's CAPEX constant increase from FY2018-FY2023 explains its strategic path implemented in order to attain its growth expectations, consisting of regulation, growth and transformation projects with attractive benefits for Grupo BMV's overall

performance. Grupo BMV's current ratioYoY growth aligns with our thesis of Grupo BMV being a solid and resilient company, through a 6.97% FY2014-FY2022 CAGR, positioning far above of the industry average (Figure 27).

### Grupo BMV's Vertical Integration Enhances its Financial Performance.

Through its vertical integration in its supply chain (Appendix 14), Grupo BMV controls all stages of a financial transactional operation, thus building a diversified business through which its capable of mitigating the impact of macroeconomic variables on each of its business lines, of which 90% of them lack of competitive alternatives. The current increase in interest rates has significantly affected the equity business line's performance regarding its level of operations and revenue, yet, it has benefited the OTC (Sif Icap) division (Figure 28); increasing trading operations of interest rate swaps (IRS) and MéxiCO2. Current increase in company delistings from BMV has worsened the equity and issuers division performance, still, five new issuers were obtained in 2022 in the debt market. The adverse exchange rate impacted directly each of Grupo BMV's divisions from 9M2022-9M2023 since its global custody fees are in dollars and cross-border transactions on the global market decrease, with its Equity revenue decreasing 11.84%, its Indeval revenue 19.59%, of which 26% of its revenue accounts to global markets services .The MXN Peso appreciation has represented a negative impact in its 9M 2023 Exchange gain (loss) of 14 million pesos compared to the latter of 9M2022, since a high percentage of its revenuesis in USD dollars, corresponding to an exchange loss of 3.40 million (Figure 29). Still, the constant increase in interest rates had led to a 9M2023 interest gain of 289.85 million, 115 million higher than 9M2022. Despite the macroeconomic challenges Grupo BMV is currently facing, it managed to maintain positive 9M2018-9M2023 CAGR rates regarding its revenue(2.05%) and net income (1.91%) and EBITDA Margin (0.65%). Grupo BMV's differentiated approach reflects its operational and financial progress through a 9M2018-9M2023 CAGR of its Op. Exp Margin of just 0.78% compared to its Op Exp CAGR of 2.85% (Figure 48)

#### Ability To Endure Crises

Through 129 years of operation, Grupo BMV has demonstrated its ability to prevail over distinct adverse political, economic and social circumstances. Definitely, 2022 was a challenging year for the market due to all the risk off generated by higher inflation rates, as well as the war between Russia and Ukraine. Regarding these two most recent global crises, Grupo BMV was able to maintain its pre-crisis level growth one year after it took place, and even improve its performance. Grupo BMV managed to generate a net income of MXN 1,590.40 million in 2021, and increased their numbers further in 2022, reporting a net income of MXN 1,656.57M (Figure 30). Despite the current challenges deteriorating the outlook for the world economy, Bolsa Mexicana has had an ample set of examples backing up the claim that they can and will recover financially, as is clear from its historic data visible in the Financial Reports and their growing net income. The company is particularly skilled in managing their resources when the situation calls for it, in order to remain strong in bad times and recover rapidly in good times. Fulfilling to its Shareholders Attractive Returns Less Riskier Than its Peers

Figure 29. Exchange Gain (Loss) & Interest Taking into consideration Grupo BMV's financial ratios compared with those of its peers, we consider it has generated outstanding returns while maintaining low risk margins. Since 2018, Grupo BMV has sustained above the ROE's industry average (Figure 30); mainly corresponding to the increase in the market's volatility derived from the COVID-19 pandemic (Appendix 4). Grupo BMV's historical ROE supports our approach of forecasting a 1.30% FY2022-FY2028 CAGR of its ROE (Figure 31). Such outstanding returns have significantly demonstrated to be less riskier than those of its peers through its D/E ratio, indicating it is less in debt than its peers (Figure 32) by maintaining a constant financial stability through a growth trend on its liabilities lower than that of its assets. However, our expectations on its Assets and Liabilities, lead us to a forecasted 0.33% FY2022-FY2028 CAGR over its D/E ratio, which would increase riskiness of Grupo BMV's returns. Current macroeconomic adverse conditions have led to a decrease in its Net Margin of 1.26% from 2021-2022 and kept Grupo BMV below the industry average, however, it has demonstrated a constant growth of the latter at a CAGR of 1.32% from 2020-2022 (Figure 33).

#### Productive Strategic Growth Projects Strengthening Grupo BMV's Cash Flow

Current strategic projects under development focused on growth, transformation and regulatory aspects suggest a productive and efficient performance on Grupo BMV's investments on the long-term, hence, we expected a 5.93% FY2022-FY2028 CAGR on its ROIC (Figure 33). Enabling access to the local markets infrastructure of the Central Securities Depository to foreign financial institutions will contribute to Grupo BMV's geographical expansion, thus, it will increase its sources of revenue and therefore multiplying its generated returns from invested capital. Recent strategic approaches regarding its Capital Expenditures of FY2022 MXN \$87M and 6M2023 MXN \$120M, have contributed to an efficient value creation through a ROIC ratio of 15.65% and 18% respectively, hence, we expect an increase in investors attractiveness. Grupo BMV's efficiency in its investments is also explained by its sustainable performance regarding Capex/Revenue ratio, thus, we expect a -6.46% FY2022-FY2028 CAGR of the latter (Figure



Figure 31. ROE Forecasts



Source: Team Analysis, Company Data



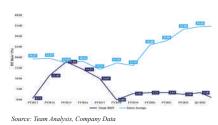


Figure 33. Proyected Net Margin, ROIC, CAPEX/Revenue & CAGR



Figure 34. DPS & Payout Ratio%

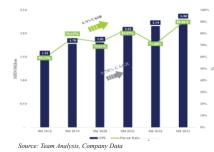
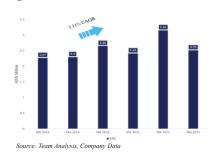


Figure 35. EPS & CAGR



Our anticipated promising outlook for Grupo BMV's cash flow implies an effective mitigation of any potential risk associated with an economic downturn or industry challenge. Effective Capital Allocation

We confirmed Grupo BMV's strong commitment to return reliable and consistent value to its shareholders through the constant increase of its dividend payout ratio at a 8.71% 9M2018-9M2023 CAGR and its DPS at a 8.78% 9M2018-9M2023 CAGR (Figure 34). Moreover, its EPS' significant increase at a 2.11% 9M2018-9M2023 CAGR have proven Grupo BMV's ability to efficiently allocate its increasing capital generated, which has increased 11% from FY2018-FY2023 (Figure 35)Grupo BMV's strategic buyback approach of MXN 800M approved, assuring its shareholders increase in value.

Unhealthy Solvency Aligns with our Expected Investment Risks

We consider Grupo BMV's unhealthy solvency reputation a significant area of opportunity in order to increase investors' attractiveness and outstand its peers. Despite its Long Term Fitch Rating scale positions Grupo BMV in the investment grade category, it is in the lowest level of such category; characterizing Grupo BMV with good credit quality and low credit risk but somewhat vulnerable to changing economic conditions. When compared with its peers, its score is found below all of them, indicating a higher risk reputation among its peers (Figure 37). With respect to its Short-Term Credit rating, Fitch Ratings considers the latter of Grupo BMV's as adequate, which is also located below all of its peers. Grupo BMV has effectively proven to be less riskier with respect to its indebtment level through its D/E lower than the average industry since 2013 (Figure 32). Grupo BMV's Financial Stability. In the year 2021, Grupo BMV experienced a notable impact on its liquidity performance, largely attributed to the consequences of the ongoing COVID-19 pandemic. During this period, the company implemented significant policy changes that are discernible through an examination of its fiscal year 2021 Liquidity Index and Cash Ratio levels, as depicted in Figure 36. While the Liquidity Index and Cash Ratio exhibited a noteworthy decline in 2021, the working capital demonstrated a substantial increase. This increase underscores the company's effective financial stability, a phenomenon largely attributable to a substantial upsurge in current assets, particularly in cash and cash equivalents, in contrast to the increase in its current liabilities. Hence, Grupo BMV has substantiated its capacity to meet its short-term obligations with ample cash reserves, albeit with limited surplus available for further investments or expenditures. This pronounced upswing in working capital provided higher levels of cash which empowered Grupo BMV to allocate MXN 120 million toward its 6M2023 CAPEX, aligning with its strategic objectives for sustained growth and development.

### VALUATION

Our investment thesis consisting in a BUY recommendation for Grupo BMV at a a 12-month target price of MXN \$33.62, signifying a 15% upside to its closing price of MXN \$29.29 as of November 6th, 2023 (See Figure 1) is supported by a weighted average target price cosndiering results obtained from the DCF FCFF, Real Options, Monte Carlo and Relative Valuation models. (Appendix 7). In order to asses the impact of specific key variables have on Grupo BMV's DCF valuation, we conducted a sensitivity analysis and scenario analysis (Appendix 12 & 13). Moreover, we modeled and analyzed the probability of the different scenarios used in our DCF model through a MonteCarlo Simulation. confirm our investment thesis Discounted Cash Flow

Due to Grupo BMV's historical financial performance and capital structure, we opted to carry out a discounted cash flow model through both, free cash flow to the firm and free cash flow to the equity, in which we valued Grupo BMV as a whole and Grupo BMV's equity respectively. We assigned relevant weights for each of the valuation methods, specifically 70% FCFE and 30% to FCFF since we expect Grupo BMV to generate stable cash flows in the long term and maintain its low levels of debt. Our forecasted model contains long term projections for 4Q2023 and five consecutive years from 2023-2028, with significant growth rates explained by Grupo BMV's expected growth projects.

#### CAPEX Projections

Grupo BMV's historical Capital Expenditures of an annual average of \$MXN 70M and its recent significant increase to \$MXN 120M in 6M2023 support our capital expenditures forecast of an annual average of between \$MXN 60M - \$MXN 80M (Figure 40). Since some of Grupo BMV's growth and transformation projects are under approval and its implementation is expected for at least 2024, we expected 2024 capital expenditures to follow FY2023 increasing trend, however, we expect capital expenditures to begin decreasing in 2025 at a slow rate until they reach pre-2023 capital expenditures levels. Our expectations on Grupo BMV's capital expenditures slow decrease throughout the years led to a gradual increase in our forecasted FCFF, as seen in Figure 40.

#### Revenue Projections

Since revenue from all of the 9 Grupo BMV's business divisions is directly impacted by different macroeconomic variables, we determined a specific growth rate for each of the business divisions. Due to significant increases in Mexico's target interest rates, we expect equity revenue to continue decreasing for 4Q2023 at a significant rate of -12.50% but to recover in 2024 and grow at a constant rate between 4-5% until FY2028 since interest rates are expected to decrease to 8.88% by the end of FY2024. We determined a

4-5.5% constant growth rate toSIF Icap revenue since decreasing expectations on interest rates will impact directly its revenue. Moreover, three out of the four strategic projects planned to take place in either 4Q2023 or 2024 are focused on Indeval s business growth and transformation, thus, they will strengthen Custody revenue. Consequently, we forecasted Custody revenue's growth with an increasing trend at rates ranging from 2.5% to 4.5%. We used the same forecasting approach for each of the rest of Grupo BMV's business division's revenue.

the FCFF valuation target price but still aligns with our weighted average target price of \$33.03

#### Figure 36. Grupo BMV's Liquidity & Working Capital



#### Figure 37. Grupo BMV's Solvency

	Fitch Ratings (Long Term)	Fitch Ratings (Short Term)	Altman's Z Score	D/E
Grupo BMV	BBB	F3	9.89	16.45
CME Group	AA-	F1+	0.71	14.05
BOVESPA	BB	В	8.6	57.57
BVC	AAA	F1+	n/a	8.99
Source: Team .	Analysis, Fitch R	atings, Company	v Data & Guru	Focus

#### Figure 39. WACC Composition

WACC COMPOSITION								
Input	Data	Source						
Risk free rate		11.25% Mexico's Target Rate						
Equity risk premium		7.89% Damodaran						
Industry Unlevered Beta		0.7296 Unlevered with D/E and Tax Rate						
Market D/E		0.0155 Grupo BMV's D/E						
Tax Rate		31% Marginal Tax Rate						
Levered Beta		0.82 Levered with D/E and Tax Rate						
Country Risk Premium		2.89% Damodaran						
Cost of debt (after tax)		11.2% Weighted average of bond yields						

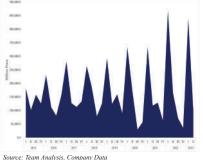
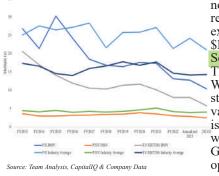


Figure 40. Grupo BMV's Multiples vs Peers



#### Free Cash Flow to Equity (FCFE)

In order to determine the value of Grupo BMV's equity, we opted to use the Free Cash Flow to Equity (FCFE) method because it is a company expected to have stable cash flows and a low level of debt. To execute this method, we first began by analyzing historical data from 2018 to 2022, calculating Revenue Growth, Total Capital Growth, and Return on Equity (ROE). This provided us with insight into the company's performance in previous years. We decided to maintain a Revenue Growth Adjustment of -0.50% as we anticipate gradual year-over-year growth in Stage 1 (2023 to 2027). Additionally, we project a 3% improvement in ROE for Stage 1, but with a long-term adjustment of -1.50% for Stage 2 (2028), reflecting the company's ability to generate profits from shareholders' capital. We plan to increase it during Stage 1 and decrease it in Stage 2.To calculate the FCFE, we use Net Income, which is determined by ROE and the projected BV Equity, minus Equity Reinvestment. In the Equity Reinvestment calculation, we utilize the difference between Total Capital and the bet-to-capital ratio. Finally, we decided to employ different Cost of Equity rates for Stage 1 and Stage 2, altering only the beta value. We adjusted it higher for Stage 2, as we believe that predicting conditions for 2028 involves more volatility and uncertainty over a five-year period."The present value of our free cash flows to equity resulted in a target price per share of \$30.50 (Appendix 8b), which resulted lower than the FCFF valuation target price but still aligns with our weighted average target price of \$33.03 MXN. Relative Valuation

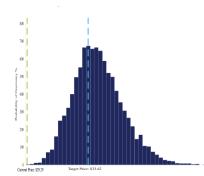
We opted for the relative valuation model in order to assess Grupo BMV's positioning among its peers in the same industry regarding its multiples representing the returns expected from an investment in Grupo BMV. The multiples we considered the most essential and descriptive for our analysis and eventual interpretations were Earnings Per Share (EPS) to measure Grupo BMV's profitability generated per share outstanding, Price per Share / Earnings per Share (P/E) in order to assess how the industry is pricing Grupo BMV's stock and that of its peers and determine whether Grupo BMV is trading at a premium or discount relative to its peers (whether Grupo BMV's stock is overvalued or undervalued), Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization (EV/EBITDA) to support our target price obtained from the Discounted Cash Flow model and Price per Share / Book Value per Share (Price-to-book Ratio) in order to asses Grupo BMV's financial performance cyclality towards macroeconomic downturns and eventually determine whether Grupo BMV trades at a discount during economic downturns and at a premium during economic upturns. Grupo BMV's historical and projected P/E ratio indicates that the industry is pricing Grupo BMV's stock at a low price in relation to its earnings per share, thus, it supports our investment thesis that Grupo BMV's stock is currently undervalued. Since its 17.55 P/E ratio in FY2020, Grupo BMV has managed to decrease its ratio to 13.13 in FY2022, thus, we expect its ratio to continue decreasing to 2.83 in FY2023 and 2.44 in FY2024. When compared to the industry, Grupo BMV is significantly below the industry average, indicating that compared to its peers' stocks, Grupo BMV is significant-ly undervalued. Grupo BMV's constant increase in its EPS ratio indicates a significant increase in its profitability, increasing from 2.52 in FY2020 to 2.87 in FY2022, thus, we expect Grupo BMV to maintain its constant increase for 2023 and 2024. Grupo BMV's expected FY2023 P/E ratio of 12.75 suggests an insufficient performance regarding its profitability compared to the industry's average of 24.21. We were able to determine Grupo BMV's financial performance cyclality towards macroeconomic downturns or upturns with its P/BV increasing from 3.39 in FY2018 to 3.51 in FY2021. From FY2018 to FY2021 macroeconomic conditions were favorable for Grupo BMV, while from FY2022 to FY2023 adverse macroeconomic conditions have directly impacted Grupo BMV's financial performance, thus, it suggests Grupo BMV's stock is currently trading at a discount. With respect to its EV/EBITDA, Grupo BMV has demonstrated an insufficient performance when compared to its Figure 40, FCFF vs CAPEX Proyections industry peers, since it has significantly undergone a YoY decrease since FY2020 until FY2022, thus, we expect a constant decrease for FY2023 and FY2024. Consequently, this ratio indicates that the market is not willing to pay as much for Grupo BMV's stocks as they are willing to for its peers, which negatively affects the demand, thereby, the enterprise value.

#### Real Options Valuation

We opted to real options valuation model to come up with an even more assertive target price. This model considers the company's equity to be a call option over its assets, with the face value of the debt serving as the option's strike price.We had to determine the pre-tax WACC value of the firm using EBIT and the tax rate. Then, we calculated the present value of dividends using a projection period of 5 years, extending to 2028 (Appendix 10). Subsequently, we determined the outstanding debt by taking the difference between our short-term and long-term debt, using a 5-year debt life. Consequently, we had to analyze the book value of debt and the book value of equity to ascertain the variance in firm value, allowing us to conclude with the value of equity. This process provided us with the necessary variables for the application of real options. Our target price based on the real options model resulted in \$MXN 31.06, which is alligned with our investment thesis consisting in a buy recommendation. The target price indicates Grupo BMV's potential for future growth and value creation. Since Grupo BMV's financial performance is directly affected by the changing macroeconomic conditions more specifically interest and exchange rates, we considered important to use the real options model to value Grupo BMV's stock. However, since its a company with +129 years of experience and a forecasted stable growth through its diversified business model, we weighted the \$MXN 31.06 target price obtained from real options model with just 3%. Sensitivity Analysis

#### This analysis can take key variables and measure how much our target price can be affected by them. We chose it because it can reveal what elements are the most impactful for the company we are studying. After weighing our options, we chose WACC and Terminal Growth Rate. By varying the values and setting up different scenarios we are able to calculate the range in which the target price is likely to fall into. By combining both variables in these alternatives we can estimate the best, worst and most likely scenario. In this case, assuming the lowest WACC and the highest Terminal Growth Rate, we came up with a most optimistic scenario of MXN 37.62 stock value, while the opposite arrangement of variables showed a result of MXN 32.01 stock value. The most important result that we came up with was the neutral estimate, which had a stock watter of MXN 34.42. finding

Figure 41. Monte Carlo Simmulation



Source: Team Analysis, Company Data

Figure 42. Monte Carlo Simulation Statistics

Monte Carlo Simmulation DCF Summary								
Iterations	10,000							
Mean	MXN 34.74							
Median	MXN 34.63							
DCF Target Price	34.075529							
25th percentile	MXN 33.24							
75th percentile	MXN 36.02							
% Above current Price	99.53%							
% Above target Price	62.52%							

Source: Team Analysis, Company Data

Figure 43. Investment Risk Matrix

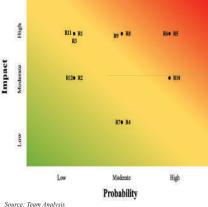
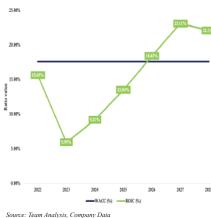


Figure 44. Expected ROIC vs Calculated WACC



#### Scenario Analysis

We explored three different scenarios for our DCF FCFF valuation in which different key drivers such as Interest Gain (Loss), Exchange Gain (Loss), Market Share, Revenue Growth, CAPEX AND Terminal Growth rate were systematically adjusted in order to determine their impact on Grupo BMV's financial performance and

valuation. We conducted our DCF valuation on the following scenarios: a pessimistic scenario in which Grupo BMV is subjected to adverse macroeconomic conditions and Regulatory Framework, consequently its operational performance weakens, its strategic growth prospects diminish and its valuation expectations decrease; an optimistic scenario envisioning Grupo BMV operating under favorable macroeconomic conditions and regulatory framework, consequently its operation performance strengthens, strategic growth investments increase and its valuation expectations improve; and a most-likely scenario representing the anticipated outcome under the most expected circumstances. As shown in Appendix 20, the optimistic's scenario target price represents a 25% upside from the current price, and the pessimistic's scenario target price a 14% downside, indicating potential risks associated with adverse conditions.

#### Monte Carlo Simulation

We conducted a Monte Carlo simulation comprising 10,000 iterations on our DCF FCFF model; in which we systematically adjusted key value drivers, including revenue growth percentage, Operating Expenses Margin WACC. The simulation generates a wide array of scenarios, providing a comprehensive perspective on potential operational performance for Grupo BMV. The simulation's central tendency of MXN 34.77 (mean) and MXN 34.64 (Median) aligns (See Figure \_\_\_\_\_, Statistics Summary) with our target price of \_\_\_\_. The specific variables subjected to modification using a normal distribution are included in Appendix \_\_\_\_. Although the simulation's skewness suggests a greater concentration of the values to the left, \_\_\_\_% of the latter proves a high probability that the Price Per Share derived from the DCF model surpasses our established target price.

, INVESTMENT RISK

We consider investing in Grupo BMV entails several significant investment risks to consider, derived from a higher exposure to technology and systems failures, an adverse macroeconomic environment, unfavorable governmental regulatory framework and a bear market outlook. Operational Risks

#### 2 R1. Tech and Systems Failure) (LOW probability, HIGH impact).

The overall tendency of contemporary industries, including stock markets, is moving towards the digitalization of every viable process to quicken and optimize resources. This constitutes a massive advantage over competitor companies that do not adopt the new practices, but poses different threats to the continued functionality of the process. BMV Group has upheld its commitment to modernize itself through the pursuit of incorporating modern technology to their everyday practices. While useful in many ways, it makes hardware and software maintenance a necessity which carries the potential of a malfunction. Although there has been emphasis by the company to make their availability for customers as reliable as it can be, there is a risk of shutdown that could carry potential eatastrophes. A way to mitigate this uncertainty is to constantly invest in newer and safer technologies. Mitigation: To mitigate this uncertainty, BMV Group should consistently invest in newer and safer technologies.

#### R2. Estimated ROIC < WACC for 2023-2025 (LOW probability, MODERATE impact).

The company has many investment plans underway, all looking for growth in certain strategic areas. Even though the return on investment projections is optimistic, it is also uncertain, and the amount of money spent might pose a problem for the company provided that it is not regained through the success of their plan. For 2023.2025, we expect for Grupo BMV a lower ROIC than the calculated WACC, indicating that such investments planned will not be profitable enough to cover its cost of capital. Some of their proposals seem to be based on subjective criteria, like the assumption that sectors of the industry like derivatives can grow at unprecedented nacional levels given time. Worst case scenario, they will have to face a shortage in their operating cash flow. The risk of this situation can be managed through conservative estimates and contingency plans. Mitigation: To mitigate this risk, the company should adopt more conservative estimates and develop contingency plans.

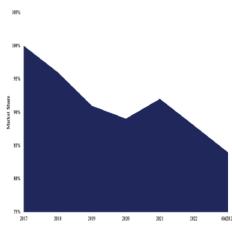
#### **R4. Investor Relation Failure (MODERATE probability, LOW impact)**

Recently, a few important companies have decided to part ways with the Mexican stock market. The reasons as to why they have done this have been stated by the BMV to be not related to the group. However, the situation has caused unrest amongst the investors, which is heightened by the fact that BMV Group's ratings are low compared to other financial institutions of the same kind (Fitch: BBB and F3, Altman's 9.89 and D/E's 16.45) and there is a risk that a domino effect could compel more companies to leave this stock market. If BMV's delistings damage it's global image and their representatives can not salvage the situation, they could face a crisis of investor abandonment. A campaign aimed towards reassuring security-holders of their reliability is necessary for the market to stop withdrawing their assets from Mexico and the BMV. Mitigation: To mitigate this risk, BMV should proactively address investor concerns and rebuild confidence. A campaign aimed at reassuring security-holders of the market's reliability and the actions taken by BMV to safeguard their interests is essential to prevent further withdrawals of assets from Mexico and the BMV. Political Risks

#### R5. Administration of the Current Six-Year Term (HIGH probability, HIGH impact)

Airport Cancellation: The cancellation of a major infrastructure project, such as the Texcoco airport, can have significant economic and political implications that eventually put at risk Grupo BMV's performance. Such cancellations may lead to financial losses for investors and disrupt supply chains and regional economic development. Energy Reform: The success or failure of energy reform efforts can have far-reaching consequences for a country's energy sector and economy. A significant change in energy policies can impact energy prices, production, and distribution. Poor Relations between President and Private Sector: Poor relations between a country's leader and the private sector can create political and economic instability. Such tensions can result in confrontations, changes in regulations or tax policies, or a lack of cooperation on key economic initiatives, which is unfavor-

# Figure 41. Grupo BMV's Historical Market Share



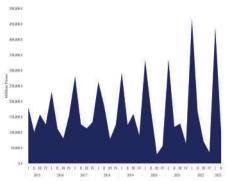
Source: Team Analysis, Company Data

# Figure 42. BMV's Recent Deslistings since 2019

Bio Pappel	Fortaleza
Ienova	Maxom Telecomunicaciones
General de Seguros	Santander México
Aeroméxico	Monex
Lala	Citygroup
Elementia	Rassini

Source: Team Analysis, Company Data

#### Figure 43. Foreign Investment 2015-2023



#### Mitigation: BMV Group should engage in industry

associations and advocacy groups to influence positive change, demonstrate its commitment to

#### the country's economic development, and attract new investors. R6. Grupo BMV's Market Share Sensitivity to its Regulatory Framework (HIGH probability, HIGH impact)

The regulatory framework for a stock exchange like Grupo BMV includes laws, regulations, and rules that govern the operation of the exchange, market participants, and the financial instruments traded. Grupo BMV closely monitors and adapts to changes in the regulatory framework to remain competitive and enhance its position in the market. Understanding the regulatory environment and its sensitivity to market share is crucial for both the exchange and market participants as they navigate the Mexican financial markets. Mitigation: To mitigate Grupo BMV's market share sensitivity to its regulatory framework, the company should prioritize regulatory compliance, engage in proactive advocacy for favorable regulatory changes, maintain open channels of communication with regulatory authorities, and regularly assess the impact of regulatory changes on the market.

#### **R7**. Mexican Government Implementation of Currency Controls (MODERATE Probability, LOW impact)

Operational Challenges: The introduction of currency controls may result in some operational challenges for businesses operating in Mexico (Appendix 15). They may need to comply with new regulations and navigate additional administrative procedures related to foreign exchange transactions. This would impose an obstacle for foreign investors looking to place resources on the Mexican stock market. Repatriation of Profits: Currency controls might make it more challenging for foreign businesses and investors to repatriate their profits earned in Mexico. This could potentially affect financial planning and the ease of capital movement, making BMV a less attractive option. Investor Confidence: While the impact is assessed as low, the introduction of currency controls may still lead to some concerns among investors. It could be perceived as a sign of economic instability or government efforts to manage capital flows, thereby increasing the perceived risk in Mexican securities. Mitigation: To mitigate the potential impact of Mexican government implementation of currency controls, Grupo BMV should focus on transparency and communication. This includes providing clear guidance to foreign investors and businesses operating in Mexico about compliance with new regulations and navigating administrative procedures related to foreign exchange transactions.

#### Market Risks R8. Interest Rates (MODERATE probability, HIGH impact)

Bond Prices: As interest rates rise, the prices of existing bonds with fixed interest rates tend to fall. This is because newer bonds with higher yields become more attractive to investors. The strong correlation observed between Grupo BMV's revenue and interest rates signifies the substantial influence that an increase in interest rates may exert on Grupo BMV's financial performance. Investors holding existing bonds may experience a decrease in the market value of their bond holdings if they decide to sell them before maturity. Yield Curve Changes: Rising interest rates can lead to changes in the shape of the yield curve, which is a graphical representation of interest rates for different maturities. Typically, short-term interest rates rise more quickly than long-term rates, which can result in a flatter or inverted yield curve. This can impact the profitability and lending decisions of financial institutions. Impact on Borrowing Costs: Businesses and consumers may face higher borrowing costs as interest rates increase. This can affect financing decisions, potentially slowing down economic growth if borrowing becomes more expensive. Mitigation: To mitigate the impact of rising interest rates, Grupo BMV should consider implementing a range of strategies. These include maintaining a diversified investment portfolio that includes assets less sensitive to interest rate fluctuations, implementing risk management strategies with stress testing and scenario analysis, considering the use of hedging instruments, continuously monitoring economic indicators and central bank policies, maintaining transparent communication with stakeholders, and assessing the broader economic impact of rising interest rates to make informed decisions and adjustments as necessary.

#### **R9. Exchange Rates (MODERATE probability, HIGH impact)**

Investment Valuation: Changes in exchange rates can significantly affect the value of foreign investments. If the local currency strengthens relative to the foreign currency in which the investment is denominated, it can lead to a reduction in the return on that investment when converted back to the investor's home currency. Risk to Returns: For international investors, exchange rate movements can introduce an additional layer of risk to investment returns. Gains or losses on investments may be amplified or diminished when translated into the investor's home currency, depending on exchange rate movements. Multinational Corporations: Multinational companies with global operations may face challenges in managing their revenues and costs across various currencies. Exchange rate volatility can affect their financial statements and profitability, which ought to be healthy for people to view national exchanges as an investment alternative. Mitigation: To mitigate the impact of exchange rate fluctuations, Grupo BMV should consider strategies like using hedging instruments to manage currency risk, maintaining a diversified investment portfolio with exposure to multiple currencies, closely monitoring currency markets and economic indicators, and having a clear risk management policy in place to address potential gains or losses from foreign investments.

### R10. Innovation and Competition (HIGH probability, MODERATE impact)

Shift in Investment Preferences: Innovative investment alternatives, such as cryptocurrencies like Bitcoin, may attract a portion of investors who are looking for new opportunities. This could result in a shift in investment preferences, with some investors diversifying into these newer asset classes. Competition for Capital: As innovative investments gain traction, they may compete for capital with traditional investments, including stocks, bonds, and mutual funds. This competition could influence capital flows and the valuation of traditional assets.

Market Dynamics: The increasing popularity of new investment options can influence market dynamics, such as trading volumes and liquidity. It may also impact the behavior of investors, potentially leading to higher volatility in certain markets. Regulatory Implications: Regulators may respond to the growth of innovative investments by introducing new regulations or guide-lines. Mitigation: To mitigate the potential impact of innovation and competition, Grupo BMV should focus on staying updated with emerging investment trends and fostering innovation within its own offerings to remain attractive to investors.

#### R11. High Exposure to Systemic Risk (LOW probability, HIGH impact)

As any stock market, BMV Group depends upon the stability of the financial sector, which in turn depends on the economy, to thrive. This means that the company is not exempt from setbacks that affect regionally or locally. Though not usually a problem, recent market volatility derived from fast pace changes in the Mexican landscape has made it a necessity to keep watch on the sector as a whole before committing resources to any investment. This reality affects the market's confidence in allocating resources within the country, and ultimately hinders the growth potential of Groups BMV's revenue streams. Mitigation: To mitigate the impact of high exposure to systemic risk, Grupo BMV should maintain a vigilant monitoring system for the financial sector, the economy, and regional developments, with a particular focus on market volatility. This includes conducting regular risk assessments, scenario planning, and stress testing to anticipate and prepare for potential setbacks.

### **R12.** Grupo BMV's Market Share Sensitive to Increase in Competition (LOW probability, MODERATE impact)

Since 2018, there have been not one but two stock exchanges in Mexico. Despite the capital markets being a fraction of BMV's revenue, it is undeniable that their profits were reduced, specifically by 10% to 15% monthly in that branch. The groundbreaking development of a competitor could be the opening of a door for other companies to incursion in the financial sector, weakening the group's hold on both investors and volume of securities traded. This, however, also helps bring new customers to the financial world by having more companies and persons look for sources of revenue, which could end up being beneficial to BMV as well. Mitigation: To mitigate the potential impact of Grupo BMV's market share sensitivity to increased competition, the company should proactively focus on enhancing its competitive advantages and fostering innovation. This includes continuously improving the quality of services, investing in technology and infrastructure, and providing exceptional customer experiences.

# **APPENDIX MAP**

	<b>Financial Performance</b>	Valuation Details		Miscellaneous
#	Title	# Title	#	Title
1	Consolidated Income Statement	7 Valuation Summary 0.85 Strong & Football Field	14	Value Chain
2	Consolidated Balance Sheet	DCF Valuation -0.17 Buy		Pestel Analysis
3	Consolidated Cash Flow	8 Relative Valuation 0.18 P	15	Economic Projections
4	Annoted Share Price History	9 0.560 Sett	16	Corporate governane
5	Pro-Forma Assumptions Justifications	10 Cost of Equity & WACC	17	Ownership Type Mix
	Competitors Financial Ratios	0.14% 0.05 Strong 5	18	Relative ESG
6	Competitors Financial Kallos Comparison	12 Monte Carlo Simulation	A	La Company and Company
		13 Monte Carlo Simulation		Operating Exp & Margin
		-0.11 Buy		Scenario Analysis Summary

# **1. Consolidated Income Statement**

In Millions of MXN except Per Share	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
Revenue											
Equity	552.85	485.23	529.40	518.34	531.97	468.19	476.31	495.36	520.13	541.05	562.70
Derivatives	201.36	185.60	202.54	189.71	222.79	232.65	262.00	277.72	293.00	307.65	323.03
OTC (SIF ICAP)	584.59	585.24	640.86	639.83	735.92	753.06	806.09	850.42	888.69	933.13	979.79
Issuers	694.12	614.68	579.43	497.99	492.26	490.52	503.11	525.75	550.72	577.16	605.15
Custody (Depósito Central de Valore	901.21	1,013.72	1,221.08	1,275.85	1,270.93	1,048.76	1,094.31	1,127.14	1,166.59	1,213.26	1,267.85
Information Sales	479.83	558.30	603.08	629.81	692.09	754.50	816.10	856.91	904.04	953.76	1,006.22
Others	134.16	133.77	137.34	172.72	153.57	143.38	154.70	159.34	164.12	169.04	174.11
Total Revenue	3,548.13	3,576.54	3,913.72	3,924.25	4,099.52	3,891.06	4,112.62	4,292.65	4,487.29	4,695.05	4,918.85
Cost of Revenue	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gross Profit	3,548.13	3,576.54	3,913.72	3,924.25	4,099.52	3,891.06	4,112.62	4,292.65	4,487.29	4,695.05	4,918.85
Operating Expenses	1,683.41	1,662.07	1,799.78	1,747.30	1,816.03	1,900.53	2,025.78	2,127.07	2,233.42	2,345.10	2,462.35
EBITDA	1,948.23	2,104.89	2,242.89	2,409.35	2,502.96	2,186.14	2,334.73	2,603.31	2,733.48	2,870.15	3,013.66
Depreciation & Amortization	83.49	190.43	208.05	232.40	219.47	276.11	222.72	223.36	229.72	236.36	245.16
Operating Income (Loss) EBIT	1,864.72	1,914.47	2,113.95	2,176.95	2,283.49	1,990.53	2,086.84	2,165.58	2,253.87	2,349.95	2,456.50
Comprehensive Financing Income	186.87	175.53	169.39	149.89	245.35	366.61	395.31	434.84	481.15	531.68	587.50
Dividends	10.43	4.29	9.06	6.86	13.81	21.17	12.40	12.93	13.55	14.60	15.30
Income before Tax	2,062.02	2,054.28	2,292.40	2,333.70	2,542.65	2,378.31	2,494.55	2,613.35	2,748.57	2,896.23	3,059.30
Taxes	590.72	619.17	683.76	601.94	694.17	729.93	769.60	802.55	834.65	828.19	879.40
Associated companies results	7.30	6.84	(6.76)	(0.26)	2.58	8.32	8.68	9.01	4.96	3.93	4.38
Minority Interests	(102.70)	(107.39)	(110.46)	(134.68)	(184.90)	(153.40)	(178.68)	(196.55)	(216.20)	(237.82)	(261.61)
Net Income to Common	1,375.89	1,334.57	1,491.42	1,596.82	1,666.16	1,503.31	1,554.95	1,623.26	1,702.68	1,834.14	1,922.68
											,

Source: Team Analysis & Company Data

# 1. Consolidated Income Staement (Common Size)

In Millions of MXN except Per Share	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
Revenue											
Equity	15.58%	13.57%	13.53%	13.21%	12.98%	12.03%	11.58%	11.54%	11.59%	11.52%	11.44%
Derivatives	5.68%	5.19%	5.18%	4.83%	5.43%	5.98%	6.37%	6.47%	6.53%	6.55%	6.57%
OTC (SIF ICAP)	16.48%	16.36%	16.37%	16.30%	17.95%	19.35%	19.60%	19.81%	19.80%	19.87%	19.92%
Issuers	19.56%	17.19%	14.80%	12.69%	12.01%	12.61%	12.23%	12.25%	12.27%	12.29%	12.30%
Custody (Depósito Central de Valore	25.40%	28.34%	31.20%	32.51%	31.00%	26.95%	26.61%	26.26%	26.00%	25.84%	25.78%
Information Sales	13.52%	15.61%	15.41%	16.05%	16.88%	19.39%	19.84%	19.96%	20.15%	20.31%	20.46%
Others	3.78%	3.74%	3.51%	4.40%	3.75%	3.68%	3.76%	3.71%	3.66%	3.60%	3.54%
Total Revenue	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Revenue	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Gross Profit	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Operating Expenses	47.44%	46.47%	45.99%	44.53%	44.30%	48.84%	49.26%	49.55%	49.77%	49.95%	50.06%
EBITDA	54.91%	58.85%	57.31%	61.40%	61.05%	56.18%	56.77%	60.65%	60.92%	61.13%	61.27%
Depreciation & Amortization	2.35%	5.32%	5.32%	5.92%	5.35%	7.10%	5.42%	5.20%	5.12%	5.03%	4.98%
Operating Income (Loss) EBIT	52.56%	53.53%	54.01%	55.47%	55.70%	51.16%	50.74%	50.45%	50.23%	50.05%	49.94%
Comprehensive Financing Income	5.27%	4.91%	4.33%	3.82%	5.98%	9.42%	9.61%	10.13%	10.72%	11.32%	11.94%
Dividends	0.29%	0.12%	0.23%	0.17%	0.34%	0.54%	0.30%	0.30%	0.30%	0.31%	0.31%
Income before Tax	58.12%	57.90%	64.61%	65.77%	71.66%	67.03%	70.31%	73.65%	77.47%	81.63%	86.22%
Taxes	16.65%	17.31%	17.47%	15.34%	16.93%	18.76%	18.71%	18.70%	18.60%	17.64%	17.88%
Associated companies results	0.21%	0.19%	-0.17%	-0.01%	0.06%	0.21%	0.21%	0.21%	0.11%	0.08%	0.09%
Minority Interests	2.89%	3.00%	2.82%	3.43%	4.51%	3.94%	4.34%	4.58%	4.82%	5.07%	5.32%
Net Income to Common	38.78%	37.31%	38.11%	40.69%	40.64%	38.63%	37.81%	37.81%	37.94%	39.07%	39.09%

Source: Team Analysis & Company Data

### 2. Consolidated Balance Sheet

								-			
In Millions of MXN	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
Total Assets	30,778	31,282	33,887	95,947	35,149	35,251	35,149	36,128	36,765	37,134	37,615
Cash & Cash Equivalents	11,856	11,308	14,356	37,520	15,367	15,115	15,016	15,867	16,364	16,580	16,894
Accounts Receivable and Other Receivables	1,674	2,143	1,813	5,630	1,723	1,555	1,590	1,727	1,876	2,037	2,213
Tax Receivables	293	197	161	651	370	189	132	132	132	132	132
Current Assets	13,823	13,648	16,330	43,801	17,460	16,858	16,738	17,726	18,372	18,749	19,239
Long-Term Accounts Receivable-Amortized	342	321	325	988	549	620	612	612	612	612	612
Non-Current Financial Assets	886	<b>79</b> 1	756	2,433	698	675	680	680	680	680	680
Investments in Associates	100	136	129	365	111	88	84	84	84	84	84
Fixed Assets	1,884	1,904	1,892	5,680	1,749	1,727	1,739	1,730	1,721	1,713	1,704
Goodwill	12,496	12,456	12,336	37,288	12,336	12,336	12,336	12,336	12,336	12,336	12,336
Non-Current Other Assets	1,247	2,026	2,119	5,392	2,246	2,947	2,960	2,960	2,960	2,960	2,960
Non-Current Assets	16,955	17,634	17,557	52,146	17,689	18,393	18,411	18,402	18,393	18,385	18,376
Total Liabilities	4,710	3,858	4,539	13,107	4,508	4,978	4,677	4,733	4,790	4,848	4,908
Suppliers and Other Accounts Payable	1,765	1,946	2,123	5,834	2,154	2,147	2,289	2,345	2,402	2,460	2,520
Deferred revenues	553	525	505	1,583	933	1,120	676	676	676	676	676
Shor.term Tax Payables	534	605	869	2,008	472	447	484	484	484	484	484
Other Short-Term Financial Liabilities	671	139	125	935	-	-	-	-	-	-	-
Current Liabilities	3,523	3,215	3,622	10,360	3,559	3,714	3,449	3,505	3,562	3,620	3,680
Leases and Other Financial Liabilities	-	332	470	802	431	-	-	-	-	-	-
Bank Loans	443	134	-	577	-	-	-	-	-	-	-
Bank Loans and other Financial Liabilities	744	177	447	1,368	273	614	1,228	1,228	1,228	1,228	1,228
Other Long-Term Financial Liabilities	-	-	-	-	245	650	-	-	-	-	-
Non-Current Liabilities (Long-Term)	1,187	643	917	2,747	949	1,264	1,228	1,228	1,228	1,228	1,228
Equity	26,066	27,421	29,343	82,830	30,637	30,269	30,470	31,396	31,974	32,287	32,709
Common Stock	18,028	18,028	18,028	54,084	18,028	18,028	18,028	18,028	18,028	18,028	18,028
Share Premium	1	1	1	3	1	1	1	1	1	1	1
Accumulated Profits and Reserves	5,927	6,966	8,358	21,251	9,088	8,440	8,504	9,299	9,822	10,095	10,475
Other Comprehensive Income	1,239	1,480	1,748	4,467	2,125	2,436	2,492	2,492	2,492	2,492	2,492
Non-Controlling Interest	871	946	1,208	3,025	1,395	1,364	1,445	1,576	1,631	1,671	1,712
Liabilities + Equity	30,776	31,279	33,882	95,937	35,145	35,247	35,147	36,129	36,764	37,135	37,617

Source: Team Analysis & Company Data

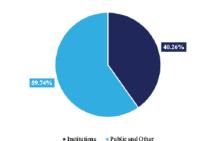
#### 2. Consolidated Balance Sheet (Common Size) In Millions of MXN 2018 2019 2020 2021 2022 Total Assets 100.00% 100.00% 100.00% 100.00% 00.00% 100.00% 100.00% 100.00% 100.00% 100.00% 100.00% Cash & Cash Equivalents 38.52% 36.15% 42.36% 39.10% 43.72% 42.88% 42.72% 43.92% 44.51% 44 65% 44.91% Accounts Receivable and Other Receivables 5.44% 6.85% 5.35% 5.87% 4.90% 4.41% 4.52% 4,78% 5.10% 5.49% 5.88% 1.20% 0.61% 0.43% 0.43% 0.95% 0.64% 0.52% 0.43% 2.12% Tax Receivables 0.43% 0.43% 44.91% 43.63% 48.19% 45.65% 49.67% 47.82% 47.62% 49.06% 49.97% 50.49% 51.15% Current Assets Long-Term Accounts Receivable-Amortized 1.03% 1.03% 1.56% 1.76% 1.74% 1.66% 1.65% 1.63% 1.11% 0.96% 1.69% 2.53% Non-Current Financial Assets 2.88% 2.23% 2.54% 1.99% 1.91% 1.93% 1.88% 1.85% 1.83% 1.81% Investments in Associates 0.32% 0.43% 0.38% 0.38% 0.32% 0.25% 0.24% 0.23% 0.23% 0.23% 0.22% Fixed Assets 6.12% 6.09% 5.58% 5.92% 4.98% 4.90% 4.95% 4.79% 4.68% 4.61% 4.53% Goodwill 40.60% 39.82% 36.40% 38.86% 35.10% 34.99% 35.10% 34.15% 33.55% 33.22% 32.80% Non-Current Other Assets 4.05% 6.48% 6.25% 5.62% 6.39% 8.36% 8.42% 8.19% 8.05% 7.97% 7.87% Non-Current Assets 55.09% 56.37% 51.81% 54.35% 50.33% 52.18% 52.38% 50.94% 50.03% 49.51% 48.85% Total Liabilities 15.30% 12.33% 13.39% 13.66% 12.83% 14.12% 13.31% 13.10% 13.03% 13.06% 13.05% Suppliers and Other Accounts Payable 5.73% 6.22% 6.26% 6.08% 6.13% 6.09% 6.51% 6.49% 6.53% 6.63% 6.70% 1.49% 1.65% 3.18% 1.87% 1.84% 1.82% 1.80% 1.68% 2.65% 1.92% 1.80% Deferred revenues Shor.term Tax Payables 1.74% 1.93% 2.56% 2.09% 1.34% 1.27% 1.38% 1.34% 1.32% 1.30% 1.29% Other Short-Term Financial Liabilities 0.37% 0.00% 0.00% 2.18% 0.44% 0.97% 0.00% 0.00% 0.00% 0.00% 0.00% Current Liabilities 11.45% 10.28% 10.69% 10.80% 10.13% 10.54% 9.81% 9.70% 9.69% 9.75% 9.78% Leases and Other Financial Liabilities 0.00% 1.06% 1 39% 0.84% 1 23% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Bank Loans 1.44% 0.43% 0.00% 0.60% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Bank Loans and other Financial Liabilities 2.42% 0.57% 1.32% 1.43% 0.78% 1.74% 3.49% 3.40% 3.34% 3.31% 3.26% 1.84% Other Long-Term Financial Liabilities 0.00% 0.00% 0.00% 0.00% 0.70% 0.00% 0.00% 0.00% 0.00% 0.00% Non-Current Liabilities (Long-Term) 3.86% 2.06% 2.71% 2.86% 2.70% 3.59% 3.49% 3.40% 3.34% 3.31% 3.26% Equity 84.69% 87.66% 86.59% 86.33% 87.16% 85.87% 86.69% 86.90% 86.97% 86.95% 86.96% Common Stock 58.57% 57.63% 53.20% 56.37% 51.29% 51.14% 51.29% 49.90% 49.04% 48.55% 47.93% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00% Share Premium 0.00% 0.00% Accumulated Profits and Reserves 19.26% 22.27% 24.66% 22.15% 25.86% 23.94% 24.20% 25.74% 26.71% 27.19% 27.85% 5.16% 6.05% 6.90% 6.71% 6.62% Other Comprehensive Income 4.03% 4.73% 4.66% 6.91% 7.09% 6.78% Non-Controlling Interest 2.83% 3.02% 3.56% 3.15% 3.97% 3.87% 4.11% 4 36% 4 44% 4.50% 4.55% Liabilities + Equity 99.99% 99.99% 99.98% 99.99% 99.99% 99.99% 100.00% 100.00% 100.00% 100.00% 100.00%

Source: Team Analysis & Company Data

### **16. Economic Proyections**

Mexico's economic projections	2023	2024	2025	2030
Real GDP Growth	3.15%	1.91%	2.08%	2.23%
CPI Inflation YoY	4.70%	3.95%	3.81%	3.63%
Tipo de Cambio	17.67	18.67	19.37	n/a
Interest Rates	11.19%	8.88%	n/a	n/a

### **18. Grupo BMV Ownership Type Mix**

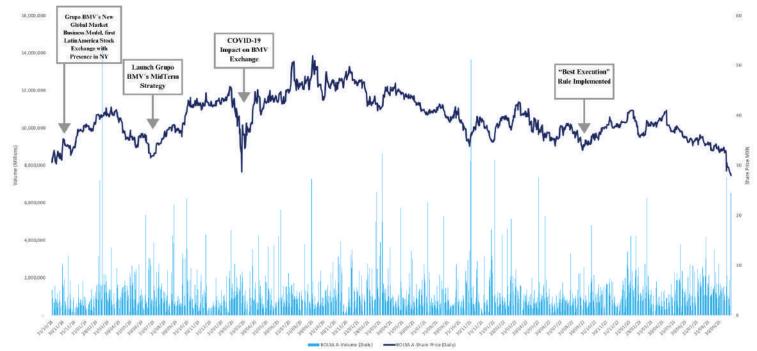


Source: Banxico's "Surveys on Economic Expectations" Report Sept 2023

	<b>3.</b> C	Conse	olida	ted	Casł	ı Flo	W				
In Millions of MXN	2018	2019	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E
Income Before Taxes	2,069	2,065	2,287	2,334	2,541	2,380	2,495	2,613	2,749	2,896	2,326
Depreciation and Amortization	84	230	208	232	220	223	228	223	228	235	244
Other Operating Activities	(7)	(7)	19	-	-	-		-	-	-	-
Cash Flow from Income Before Taxes	2,146	2,288	2,514	2,567	2,760	2,603	2,723	2,837	2,977	3,131	2,570
Cash Flow From Operating Activity											
Changes in Working Capital	443	276	922	572	745	241	976	1,338	271	(83)	124
Taxes Paid	(491)	(619)	(679)	(749)	(682)	(637)	(817)	(851)	(893)	(939)	(771)
Net Cash Flow From Operating Activities	1,611	1,647	1,895	1,796	2,155	1,952	2,164	2,356	2,068	2,089	2,061
Cash Flow From Investment Activity											
Capital Expenditure	(63)	(84)	(40)	(79)	(87)	(200)	(150)	(100)	(80)	(65)	(70)
Investment in LED	-	(14)	(7)	(11)	(19)	(32)	(7)	(7)	(7)	(7)	(7)
Divdends Received	(10)	-	-	-	-	(10)	-	-	-	-	-
Net Cash Flow From Investing Activities	1,538	1,548	1,848	1,706	2,049	1,709	2,007	2,249	1,981	2,017	1,984
Cash Flow From Financing Activity											
Bank Loan, Leases and Provisions	(635)	(89)	(135)	(143)	(136)	(135)	(140)	(148)	(148)	(149)	(151)
Dividends Paid to Controlling & Non-Controllir	-954.8	-1124	-1134	-1342.3	-1329	-1479.8	-1500	-1500	-1550	-1550	-1550
Capital Reduction	-	-	-	(196)	(363)	(299)	(325)	(325)	(200)	(260)	(200)
Net Increase (Decrease) in Cash	(83)	336	579	26	218	(169)	42	276	83	58	84
Cash Balance at the Beginning of Period	2,847	2,764	3,100	3,679	3,705	3,923	3,754	3,796	4,072	4,155	4,213
Cash Balance at the End of Period	2,764	3,100	3,679	3,705	3,923	3,754	3,796	4,072	4,155	4,213	4,297

Source: Team Analysis & Company Data

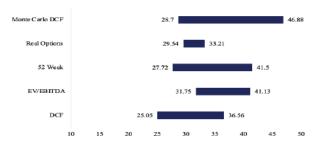




Source: Capital IQ, Team Analysis & Company Data

7. Valuation Summary & Football Field

CASE	DCF		52	Week Range	EV/EBITDA		Real Options		MonteCarlo DCF
High	\$	36.56	\$	41.50	\$	41.13	\$	33.21	28.70
Base	\$	30.81	\$	32.35	\$	36.45	\$	31.07	34.76
Low	\$	25.05	\$	27.72	\$	31.75		29.54	46.88



# **5. Pro Forma Assumptions**

Equity Revenue	Slow, but constant growth rate of its Equity revenue between 4-5%
Best Execution Regulation Impact on Market Share	The enactment of the "Best Execution" Rule in August 2022 had a notable impact on Grupo BMV's market share, resulting in a decline of 10%, from 94% in August 2022 to 84% in September 2022. This, in turn, contributed to a constant decrease in its revenue, commencing in Q3 2022 and extending through Q3 2023, with a cumulative decrease of 18% from Q2 2022 to Q2 2023.
Interest Rates Growth	The 180% rise in interest rates from 2021 to 2023 adversely affected Grupo BMV's Equity Revenue, making the stock market comparatively less appealing in contrast to the debt market. Bankico's interest rate projections anticipate an average of 11.19% for 2023 and 8.8% for 2024, indicating a favorable outlook for the equity market in 2024. Thus, we anticipate Grupo BMV's equity revenue to continue its decline in 2023 but recover in 2024, experiencing a steady 4% growth.
Positive Outlook for Local Markets	Despite the adverse macroeconomic conditions experienced in 2022, which led to a 16.83% reduction in the volume of local equity market trades, negatively impacting equity division revenue, an optimistic outlook concerning interest rates and FX rates for the later part of 2023 to 2028 resulted in a 60% increase in the traded volume of local equity markets. Therefore, we anticipate a recovering, slow but steady growth of equity revenue ranging between 4-5%.
Issuers Revenue	Slow growth between 3-4.5%
Bear Market Outlook	Unfavorable market conditions, a declining IPC performance, recent company delistings in the stock market, and a limited number of new listings have contributed to a bear market outlook, exerting an impact on Grupo BMV's revenue performance. The bear market outlook has had a more direct effect on the issuers division, which has reported consistent revenue declines since 2022. In the rocent addition of five new listings in the debt market in 2023 has partially offset the impact of recent delistings. Looking forward, we anticipate a gradual increase in listings for 2024-2028, primarily in the debt market, albeit at a slower pace, resulting in a slow but ascending growth trajectory for issuer' revenue for 2024-2028.
OTC SIF Icap Revenue	Constant increase between 4.5-5.5% except for 2023 and 2024
Interest Rates Growth	The sharp 180% increase in interest rates from 2021 to 2023 had an inverse effect on OTC SIF Icap revenue compared to Equity revenue, making the debt market more appealing to investors. Consequently, Grupo 1804V's OTC SIF Icap revenue increased. Based on Banxico's interest rate expectations as previously mentioned, we expect a continued elevated growth rate for DTC SIF Icap revenue for the remainder of 2023, followed by a more modest growth rate for 2024-2028.
CAPEX	
Outlook	Based on the comparison between Grupo BMV's FY2018-FY2023 average Capital Expenditures of \$MXN 70M with its 6M2023 significant Capital Expenditures of \$MXN 120M, considering Grupo BMV counts with four under-approval projects (mostly focused in strategic proyects focused on growth, regulatory approach and transformation lead us to expect), we forecast an increase for FY2024 capital expenditures followed by a gradual decrease for its FY2025-FY2028 Capital Expenditures, returning to its FY2018-FY2023 CAPEX levels.

Cssh & Cash

Equivalent	
Cash Generative Company	It has come to our attention that in the fourth quarter, the company executed investments totaling 99 million pesos within the initial six months of 2023, with a specific focus on the segregation of post-trades infrastructure. As a consequence, we anticipate a low increase in cash in the last quarter of 2023 and the fiscal year 2024. Nevertheless, we project a subsequent recuperation in the years following 2024 as these investments mature and begin to yield returns.
Dividend Payout Ratio	Constant Dividend Payout Ratio of 80%
Increasing Earning Power	We expect a constant 80% dividend payout ratio for FY2024-2028 mainly explained by a significant 3Q2018 – 3Q2028 dividend payout ratio CAGR of 6.5%, maintaining an average payout ratio between 75% - 90% from 2018-2023
Accounts Payable	Growth rate between -3% - 3%
	Traditionally, suppliers and other accounts payable consistently commence each fiscal year with a liability that is lower than the previous year's closing balance, maintaining a stable or incrementally increasing pattern throughout the year. We have consistently adhered to this trend, utilizing rates varying from 3% to (-3%) depending on the quarter.
Interest Bearing	
Liabilities	Growth rate between 7% - 10% We have observed substantial fluctuations between the first quarters of different years. As a result, we have adopted a growth pattern characterized by year-over-year increments during first quarters, followed by a reduction in the remaining quarters. Subsequently, we have maintained a consistent growth rate of 10% for the first quarters and 7% or the second, third and fourth quarters.
Operating Expenses	Constant Growth between 5-5.5% , variation derived from investment proyects
Increase in Technology Updates	Updates in Grupo BMV's technological infraestructure and significant investments in technology led to an increase in technology expenses, with technology expenses ranking as the second-largest item contributing to total operating expenses. Expected 2023-2024 implementation of segregation of post-trade infraestructure, direct custody and electronic market proyects on technological progress predict an increase in technology operating expenses, thus, we anticipate a hightened technology expense growth of 5.5% in 2023-2024, followed by a consisten 5% growth rate for 2025-2028.
Comprehensive Financing Income	Constant Growth between 10-10.65%
Interest Rates Growth	The increase in Mexico's interest rates has led to an interest gain increase (Ej. 115 Million mxn gain 302022-322023); offsetting the adverse impact of exchange rate losses on comprehensive financing income. Based on previously

Source: Capital IQ, Team Analysis & Company Data

iterest Rates	The increase in Mexico's interest rates has led to an interest gain increase (Ej. 115 Million mxn gain 3Q2022-322023);
rowth	offsetting the adverse impact of exchange rate losses on comprehensive financing income. Based on previously
	mentioned Banxico's interest rate expectations, which indicate a negative outlook for its interest gains (losses), we
	anticipate low interest gains.
eso Appreciation	Grupo BMV's financial performance, particularly with respect to comprehensive financing income, has been adversely

CENTERD UNDER STRANDAL Derformance, particularly with respect to comprehensive financing income, has been adversely andfected by significant exchanger are to lesser sexulting from Peso apprecision (e.g., a) at million mon loss from Q3 2022 to Q3 2023). Projections for the USD/MXN exchange rate in 2023, 2024, and 2025 indicate a decreasing trend, with expected rates of 17.67, 18.67, and 19.37, respectively; indicating a favorable outlook for exchange rate gains for 2024-2028.

# **6.** Comparable Financial Performance

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	Q2 2022	O2 2023	10Y Average
Net Margin (%)													
Grupo BMV	38.15	22.41	26.08	34.04	38,55	38.72	37.47	38.17	40.85	40.49	40.50	37.63	35.49
NYSE Group	15.90	31.73	38.17	31.69	54.46	39.93	37.16	34.61	56.79	19.83	30.60	42.32	36.03
BOVESPA	50.86	48.12	99.35	62.32	35.29	43.20	45.94	49.54	51.01	46.48	48.72	47.21	53.21
BVC	28.71	30.68	17.21	14.99	63.55	16.89	30.64	82.35	19.64	9.65	18.27	20.90	\$ 31.43
CME Group Inc	33.32	36.21	37.48	42.67	111.49	45.53	43.48	43.11	57.76	53.73	53.67	57.27	50.48
Singapore Exch Lim.	46.97	46.65	44.78	42.66	42.42	43.00	42.99	44.82	42.18	41.07	41.93	49.80	43.75
HKEX	52.30	52.55	61.86	52.12	56.62	58.88	57.68	60.39	60.33	55.11	51.13	58.16	56.78
Sector Average	38.03	38.34	46.42	40.07	57.48	40.88	42.19	50.43	46.94	38.05	40.69	44.76	43.88
EBITDA Margin (%	)												
Grupo BMV	39.97	37.54	48.92	51.83	50.13	51.01	50.92	52.97	54.25	54.89	61.19	55.13	49.24
NYSE Group	65.58	59.28	63.69	61.15	60.76	60.96	60.19	61.28	60.79	61.89	64.94	66.05	61.56
BOVESPA	69.52	63.61	64.02	61.60	51.01	52.57	58.29	65.78	69.00	63.36	74.28	63.21	61.88
BVC	47.24	42.66	33.45	33.58	26.71	27.15	35.35	32.71	30.02	28.20	38.77	46.35	33.71
CME Group Inc	64.54	64.80	66.99	68.09	68.86	67.99	64.29	64.25	62.99	67.19	68.03	68.34	F 66.00
Singapore Exch Lim.			59.10	55.36	53.71	52.27	52.48	52.92	53.19	55.86	58.77	58.46	54.36
HKEX	66.20	66.82	71.37	65.53	69.20	71.45	71.29	72.99	74.15	67.30	70.53	69.69	69.63
Sector Average	58.84	55.79	58.22	56.74	54.34	54.77	56.11	57.56	57.77	56.95	62.36	61.03	56.62
Current Ratio (x)													_
Grupo BMV	7.41	3.68	4.76	3.96	4.76	5.90	5.44	6.45	6.90	6.31	4.34	3.91	5.56
NYSE Group	1.00	1.00	0.97	0.98	0.99	1.01	0.99	0.99	1.01	1.05	1.04	1.10	1.00
BOVESPA	1.59	1.47	4.14	3.18	1.19	1.30	1.30	1.77	1.63	1.84	1.57	1.62	1.94
BVC	3.48	3.50	2.73	2.50	2.38	2.20	1.67	1.00	1.00	1.00	1.00	1.00	2.15
CME Group Inc	1.05	1.02	1.03	1.03	1.03	1.02	1.03	1.01	1.01	1.01	1.02	1.02	1.02
Singapore Exch Lim.	1.79	1.99	1.87	1.64	1.66	1.70	1.58	1.37	1.84	1.49	1.73	1.61	1.69
HKEX	1.13	1.04	1.07	1.08	1.07	1.10	1.11	1.09	1.08	1.08	1.06	1.10	1.09
Sector Average	2.49	1.96	2.37	2.05	1.87	2.03	1.87	1.95	2.07	1.97	1.68	1.62	2.06
D/E (%)													
Grupo BMV	0.72	11.45	17.96	14.33	10.03	NA	2.92	3.31	3.37	2.56	3.29	NA	7.40
NYSE Group	39.82	34.06	49.13	40.30	35.91	43.01	46.95	86.24	62.61	81.02	80.40	76.80	51.91
BOVESPA	8.57	9.27	14.53	32.05	24.34	19.37	18.65	31.67	65.25	62.92	63.30	57.57	28.66
BVC	NA	NA	0.76	0.65	0.65	4.80	5.05	7.40	5.22	16.37	16.45	8.99	5.11
CME Group Inc	13.50	10.09	10.85	10.97	9.96	16.95	16.82	15.45	14.69	14.69	14.19	14.05	13.40
Singapore Exch Lim.	NA	31.47	38.80	50.91	59.57	48.18	40.39						
HKEX	33.73	32.90	11.38	10.57	4.98	2.85	6.57	5.65	4.98	4.46	4.69	4.07	11.81
Sector Average	19.27	19.55	17.43	18.14	14.31	17.39	16.16	25.88	27.85	33.28	34.56	34.94	22.67
ROE (%)													·
Grupo BMV	14.35	10.08	13.66	18.27	20.67	22.45	20.80	21.92	22.65	23.73	23.76	20.79	18.80
NYSE Group	3.91	7.96	9.44	9.50	15.59	11.78	11.31	11.40	19.21	6.58	9.94	13.84	10.67
BOVESPA	5.59	5.15	11.80	7.73	5.98	8.46	10.76	16.63	20.10	19.80	20.57	20.49	11.20
BVC	22.32	25.25	23.43	25.32	34.73	9.07	8.92	11.18	6.38	4.37	7.70	11.30	17.10
CME Group Inc	4.59	5.36	6.01	7.50	19.01	8.12	8.12	8.02	9.81	9.92	9.51	11.27	8.65
Singapore Exch Lim.	39.02	35.39	36.73	35.51	33.60	34.12	35.76	40.34	33.78	30.75	30.93	38.04	35.50
HKEX	23.75	24.54	30.91	18.42	21.09	23.74	21.99	24.51	25.21	20.19	17.91	23.18	23.43
Sector Average	16.22	16.25	18.85	17.46	21.52	16.82	16.81	19.14	19.59	16.48	17.19	19.84	17.91
ROA (%)													F 13.46
Grupo BMV	8.13	7.82	11.07	12.56	12.56	14.15	13.85	14.81	14.45	15.13	15.39	12.82	12.45
NYSE Group	1.16	1.49	1.57	1.79	1.89	1.91	1.79	1.78	1.39	1.39	1.09	1.70	1.61
BOVESPA	3.39	3.02	3.35	3.05	3.23	3.99	5.24	7.80	7.93	7.02	7.13	7.37	4.80
BVC	13.79	15.36	14.39	16.46	5.40	5.40	5.15	0.10	0.04	0.03	0.04	0.05	7.61
CME Group Inc	2.22	1.76	1.79	2.03	1.98	2.19	2.17	1.67	0.97	1.01	0.98	1.32	1.78
Singapore Exch Lim.	4.07		14.69	13.52	14.59	13.09	12.11	12.80	13.59	14.62	9.64	10.12	13.03
HKEX	4.07	2.29	2.25	1.76	1.91	2.39	2.63	2.49	2.35	1.84	1.16	2.29	2.40
Sector Average	5.46	5.29	7.02	7.31	5.94	6.16	6.13	5.92	5.82	5.86	5.06	5.10	6.33

### **Financial Ratios Proyections & CAGR**

	FY2022	FY2023E	FY2024E	FY2025E	FY2026E	FY2027E	FY2028E	CAGR
Net Margin (%)	40.64%	38.63%	37.81%	37.81%	37.94%	39.07%	39.09%	-0.65%
EBITDA Margin (%)	61.05%	56.18%	56.77%	60.65%	60.92%	61.13%	61.27%	0.06%
D/E (%)	14.71%	16.45%	15.35%	15.07%	14.98%	15.02%	15.00%	0.33%
ROE (%)	5.44%	4.97%	5.10%	5.17%	5.33%	5.68%	5.88%	1.30%
ROA (%)	4.74%	4.26%	4.42%	4.49%	4.63%	4.94%	5.11%	1.26%
CAPEX/Revenue (%)	2.12%	5.14%	3.65%	2.33%	1.78%	1.38%	1.42%	-6.46%
ROIC (%)	15.65%	5.95%	9.21%	13.54%	18.43%	23.11%	22.11%	5.93%

Source: Capital IQ, Team Analysis & Company Data

### 8. DCF Valuation

Weighted I	OCF	Valuation	
FCFF	\$	32.47	30%
FCFE	\$	30.50	70%
Weighted Valuation	\$	31.09	100%

Following our strategic reasons towards our DCF valuation, we obtained a weighted valuation of \$31.57, assigning our \$MXN 34.08 FCFE target price a weight of 70% and our \$MXN 30.5 FCFF target price a weight of 30%.

## **8a. DCF Valuation FCFF**

	Act	ual			Fore	cas	t		Terminal			
	2021		2022	2023	2024		2025	2026		2027		2028
Revenue Growth Rate	\$ 0.00	\$	0.04	\$ (0.05)	\$ 0.06	\$	0.04	\$ 0.05	\$	0.05	\$	0.05
Revenue	\$ 3,924.25	\$	4,099.52	\$ 3,891.06	\$ 4,112.62	\$	4,292.65	\$ 4,487.29	\$	4,695.05	\$	4,918.85
Operating Expenses	\$ 1,747.30	\$	1,816.03	\$ 1,900.53	\$ 2,025.78	\$	2,127.07	\$ 2,233.42	\$	2,345.10	\$	2,462.35
Operating Exp Margin	44.53%		44.30%	48.84%	49.26%		49.55%	49.77%		49.95%		50.06%
Operating Income	\$ 2,176.95	\$	2,283.49	\$ 1,990.53	\$ 2,086.84	\$	2,165.58	\$ 2,253.87	\$	2,349.95	\$	2,456.50
Comprehensive Financing Inco	\$ 123.79	\$	260.81	\$ 366.61	\$ 395.31	\$	434.84	\$ 481.15	\$	531.68	\$	587.50
Taxes	\$ 601.94	\$	694.17	\$ 729.93	\$ 769.60	\$	802.55	\$ 834.65	\$	828.19	\$	879.40
Net Income	\$ 1,596.82	\$	1,666.16	\$ 1,490.94	\$ 1,548.75	\$	1,616.44	\$ 1,695.12	\$	1,825.80	\$	1,913.46
CAPEX	\$ 79.40	\$	87.10	\$ 200.10	\$ 150.00	\$	100.00	\$ 80.00	\$	65.00	\$	70.00
Change in CAPEX		\$	7.70	\$ 113.00	\$ (50.10)	\$	(50.00)	\$ (20.00)	\$	(15.00)	\$	5.00
Depreciation	\$ 232.40	\$	219.47	\$ 276.11	\$ 222.72	\$	223.36	\$ 229.72	\$	236.36	\$	245.16
Total Current Assets	\$ 43,801.00	\$	17,460.00	\$ 16,858.35	\$ 16,737.86	\$	17,725.96	\$ 18,371.53	\$	18,749.29	\$	19,239.24
Total Current Liabilities	\$ 10,360.00	\$	3,559.00	\$ 3,714.23	\$ 3,449.38	\$	3,504.95	\$ 3,561.88	\$	3,620.19	\$	3,679.91
Change in NWC	\$ (21.60)	\$	76.60	\$ 242.00	\$ 976.00	\$	1,338.00	\$ 271.00	\$	(83.00)	\$	124.00
Net Debt Issued	\$ (14,596.00)	\$	13,554.00	\$ 722.48	\$ (201.83)	\$	(795.56)	\$ (439.89)	\$	(157.89)	\$	(254.75)
Free Cash to the Firm												
Free Cash to the Firm				\$ 1,211.46	\$ 540.82	\$	283.93	\$ 1,438.40	\$	1,880.53	\$	1,751.05
Terminal Value of FCFF											\$	12,327.99
Total				\$ 1,211.46	\$ 540.82	\$	283.93	\$ 1,438.40	\$	1,880.53	\$	14,079.04
Intrinsic Value	\$ 32.47											

Source: Team Analysis & Company Data

## **8b. DCF Valuation FCFE**

							S	tage 1			Stage 2
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	202
Revenue	3,548	3,577	3,914	3,924	4,100	4,253	4,391	4,511	4,612	4,692	4,75
Rev Growth %		0.8%	9.4%	0.3%	4.5%	3.7%	3.2%	2.7%	2.2%	1.7%	1.29
Rev Growth %, Stage 1		1	Revenue Growt	h Adjustment	-0.50%						
Total Capital, Adj	20,136	20,133	20,261	20,401	20,554	22,189.55	22,908.69	23,536.59	24,064.02	24,482.95	
Total Capital Growth %		0.0%	0.6%	0.7%	0.7%		•				
Sales-to-Capital, Adj		0.18	0.19	0.19	0.20	0.19	0.19	0.19	0.19	0.19	
Net Income	1,376	1,335	1,491	1,597	1,666		•	•			
Net Income, Adj.	1,732	1,584	1,773	1,888	1,988	2,976	2,379	3,059	3,762	4,480	4,235.68
ROE		5.1%	5.4%	5.4%	2.0%		•				
ROE, Adj.		5.2%	5.8%	6.0%	6.2%						
ROE, stage 1			ROEI	mprovement	3.00%	9.2%	12.2%	15.2%	18.2%	21.2%	
ROE, stage 2			ROE I	ong-term adj.	-1.50%		•				19.79
FCFE		1,168	709	1,166	1,199						
FCFE, Adj.		1,417	990	1,458	1,521	1,540	1,748	2,508	3,299	4,112	3,376
Debt-to-Capital (δ), Adj.		13.5%	11.2%	12.6%	29.1%	12.3%	12.3%	12.3%	12.3%	12.3%	
Net Capex, Adj.		-84	-40	-79	-87						
∆ Non-Cash WC		276	922	572	745						
Equity Reinvestment, Adj.	0	166	783	431	467	1,435	631	551	463	368	859.3
Equity Reinvestment Rate	0%	10%	44%	23%	23%	48%	27%	18%	12%	8%	20.39
R&D Exp	356	249.01	281.337	291.5	321						
R&D Exp (2012-2016), estimated											
Unamort Amount		534	694	808	894						
R&D Asset	356	783	976	1,100	1,216						
R&D Amort Expense											
BV (Equity) Adj.	30,273	30,472	31,395	31,975	32,286	19,471	20,102	20,653	21,116	21,483	
g, Stage 1						•					
g, Stage 2 RI*ROE											4.005
Cost of Equity, stage 1						18.70%					
Risk Free Rate (10Y Treasury)						11.26%					
ERP, Damodaran						7.89%					
Beta						0.82					
Cost of Equity, stage 2											18.18
Risk Free Rate (10Y Treasury)											11.26
ERP, Damodaran											7.89
Beta, adj											0.88
				PV	FCFEs Stage 1	1,298	1,240	1,499	1,662	1,745	
					Stage 1 Val						7,445
					Stage 2 Val						23,810
					PV Stage 2						10,104
				Tot	al Value Equity						17,549
				# Shar	res Outstanding						575.285746
					Price per Share						\$30.5
					Spot (3-Nov-23)						\$29.2

# 9. Relative Valuation

P/E	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023E	FY2024E
Grupo BMV	26.78	21.37	30.22	24.21	18.5	16.81	16.42	17.55	17.32	13.13	12.75	10.37
NYSE Group	23.5	48.3	27.27	22.32	24.68	18.39	23.75	26.19	28.03	17.71	40.34	17.72
BOVESPA	22.92	20.62	18.4	48.29	42.01	30.86	35.16	34.01	22.75	17.15	18.36	17.02
BVC	18.6	14.92	13.79	16.06	20.7	9.93	15.43	10.42	13.37	12.49	20.10	12.44
HKEX	34.28	38.52	43.62	31.34	41.1	37.67	33.88	42.66	49.4	38.33	33.95	38.33
Singapore	25.17	23.07	25.16	22.41	23.77	22.18	22.37	21.36	23.09	23.86	19.46	23.84
CME	24.59	26.08	27	25.71	27.69	15.25	33.48	28.75	36.12	27.31	24.52	27.24
Industry Average	25.12	27.55	26.49	27.19	28.35	21.58	25.78	25.85	27.15	21.43	24.21	20.99
Industry Median	24.59	23.07	27	24.21	24.68	18.39	23.75	26.19	23.09	17.71	20.10	17.72
Grupo BMV	26.78	21.37	30.22	24.21	18.5	16.81	16.42	17.55	17.32	13.13	12.75	10.37
Target Price	36.03											

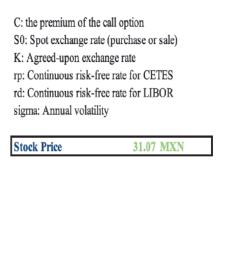
P/BV	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023E	FY2024E
Grupo BMV	3.57	2.95	2.92	3.14	3.22	3.39	3.45	3.8	3.51	2.99	2.83	2.45
NYSE	0.73	1.69	2.12	2.08	2.38	2.56	2.81	3.05	3.32	2.7	2.75	2.73
BOVESPA	1.27	1.1	1.04	1.54	1.81	2.01	3.18	4.16	4.05	3.58	3.91	3.67
COLOMBIA	NA	NA	3.3	3.19	4.09	2.04	1.54	1.27	1.21	0.93	1.15	0.77
HKEX	9.67	8.39	10.71	7.48	7.54	7.87	7.71	9.06	12.68	9.1	7.49	9.08
Singapore	10.03	9.07	9.63	8.71	8.43	7.91	8.34	8.3	8.3	6.96	6.44	6.92
CME	1.06	1.19	1.49	1.61	2.08	2.52	2.65	2.41	2.79	2.64	2.61	2.69
Industry Average	4.39	4.07	4.46	3.96	4.22	4.04	4.24	4.58	5.12	4.13	3.88	4.04
Industry Median	2.42	2.32	2.92	3.14	3.22	2.56	3.18	3.8	3.51	2.99	2.83	2.73
Grupo BMV	3.57	2.95	2.92	3.14	3.22	3.39	3.45	3.8	3.51	2.99	2.83	2.45
Target Price	33.79											

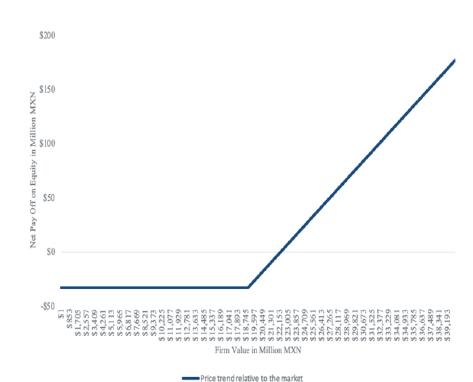
EV/EBITDA	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023E	FY2024E
Grupo BMV	20.6	16.95	14.1	11.89	10.56	10.33	11.34	11.66	10.16	8.06	8.05	5.73
NYSE	14.19	20.08	14.6	15.78	15.55	16.68	17.2	17.86	20.59	17.54	17.14	17.55
BOVESPA	16.2	14.21	13.59	17.09	27.32	25.16	31.16	27.18	16.07	12.81	14.52	12.76
COLOMBIA	13.17	10.13	6.85	6.67	6.69	10.96	9.59	6.6	10.37	7.42	5.98	7.37
HKEX	27.05	25.1	19.22	15.94	17.16	15.92	15.63	20.08	25.81	17.23	17.88	17.23
Singapore	17.69	16.02	18.51	16.28	17.26	15.91	16.41	15.51	17.09	17.32	16.13	17.32
CME	12.19	13.43	14.94	14.39	16.93	21.33	23.2	19.02	23.81	21.94	19.25	21.96
Industry Average	17.30	16.56	14.54	14.01	15.92	16.61	17.79	16.84	17.70	14.62	14.14	14.27
Industry Median	16.2	16.02	14.6	15.78	16.93	15.92	16.41	17.86	17.09	17.23	16.13	17.23
Grupo BMV	20.6	16.95	14.1	11.89	10.56	10.33	11.34	11.66	10.16	8.06	8.05	5.73
Target Price	41.13											

Source: Team Analysis & Company Data

# **10. Real Options**

### Black and Scholes Model for Calculating the Premium of an Option





# 11. WACC & Cost of Equity

WACC COMPUTATI	ON
Cost of Equity	
CAPM	17.69%
Risk Free Rate	11.25%
Expected Market Return	12.03%
Equity Risk Premium	7.89%
Industry Unlevered Beta	0.7296
D/E	0.0155
Marginal Tax Rate	30.8%
Levered Beta	0.82
Discounted Dividend Model	25.5%
Cost of Equity	18.70%
Cost of Debt	
Country Risk Premium	2.89%
Tax Rate	31%
Default Spread	2.00%
Risk Free Rate	11.25%
Cost of Debt	16.14%
WACC	
Weight of Equity	85.88%
Weight of Debt	14.12%
WACC	17.63%

Comparable c	ompany beta calculatio	n	Dividend Discount M
			Current Price MXN
Comparable company beta	calculation		Current annual dividen
Company name	Levered Beta	Relevered Beta	Dividend growth rate
Grupo BMV	0.71	0.71	Cost of Equity
CME Group	0.74	0.72	
BOVESPA	1.46	1.47	
BVC	0.27	0.27	ROE
Singapore Exch	0.81	0.80	Payout Ratio
HKEX	1.16	1.16	Dividend Growth Rate
Median	0.78	0.76	
Industry Univered Beta			Cost of Equi
Industry Levered Beta	0.7750		
Tax Rate	30.8%		CAPM
D/E Industry	0.09		Dividend Discount Me
Industry Unlevered Beta	0.73	•	Cost of Equity

29.29

2.30 <u>17.61%</u> 25.5%

22.01% 80.0% 17.61%

ity Weighting Rate

17.69%

25.46%

18,70%

Weighting

87%

13%

100%

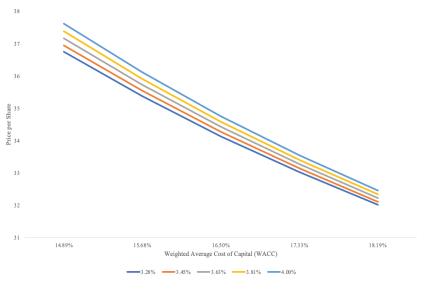
Cost of Equity: We used CAPM and Dividend Discount Model methods to calculate the costo of equity. Since Grupo BMV is a dividend paying company but doesn't pay exceptionally high dividends, we assign a weight of 13% to our weighted cost of capital and a weight of 87% to the CAPM method since we consider it the most relevant for calculating cost of equity. Beta: We calculated Grupo BMV's beta by obtaining the beta of each of Grupo BMV's comparable companies, unleavering them, and leavering them. We then unleavered the industry's average beta and leavered it with Grupo BMV's D/E ratio and corporate tax rate.

Source: Team Analysis & Company Data

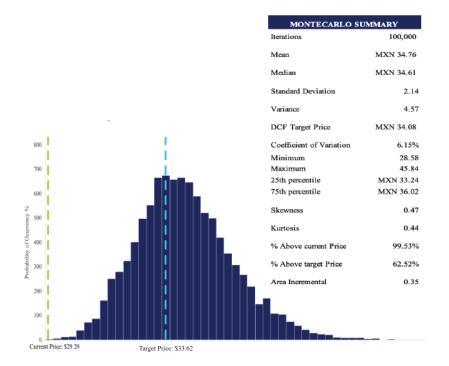
### **12.** Sensitivity Analysis

		Т	erminal G	rowth Rat	e	
	34.08	3.28%	3.45%	3.63%	3.81%	4.00%
	14.89%	36.75	36.95	37.16	37.38	37.62
WACC	15.68%	35.38	35.54	35.72	35.91	36.11
-M	16.50%	34.13	34.27	34.42	34.58	34.75
	17.33%	33.02	33.14	33.27	33.41	33.55
	18.19%	32.01	32.11	32.22	32.34	32.46

By running different combinations of the possible values of our key variables, the WACC and the Terminal Growth Rate, we were able to create a complete landscape of scenarios where the target price could go from the most optimistic estimate to the least favorable one. By choosing the middle ground between them, we found our most likely price indicator.



### **13. Monte Carlo Simulation**



Source: Team Analysis & Company Data

We conducted a 10,000 interation Monte Carlo simulation in order to asses the magnitude of the macroeconomic environment's impact on Grupo BMV's stock.

We specifically determined the following specific parameters that we consider affect Grupo BMV's stock:

- 1. Revenue Growth
- 2. Operating Expenses Margin
- 3. WACC

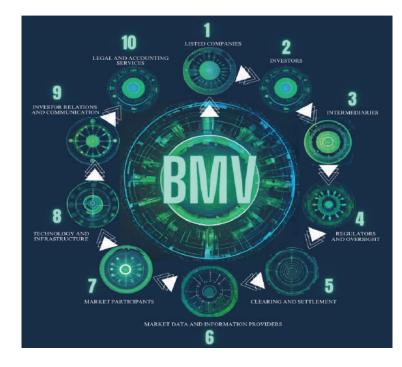
In order to randomly assing values to our determined parameters based on different scenarios, we determined their specific mean and standard deviation.

As seen in our montecarlo stadistics summary, 99.53% of the values tend to a probability of being above the current price, while 62.53% of the values tend to a probability of being above the target price of \$33.62, which alligns with our investment recommendation.

### 14. Value chain

#### The BMV value chain comprises several key components, including:

- 1. Listed Companies: Companies that choose to list their stocks on the exchange.
- Investors: Individual investors, institutional investors, and foreign investors who provide the necessary infrastructure for investors to buy and sell securities.
- Intermediaries: Brokerage firms and financial institutions that facilitate the trading process.
- 4. Regulators and Oversight: Regulatory agencies like the Comision Nacional Bancaria y de Valores (CNBV) and the Bolsa Mexicana de Valores itself, that oversee and regulate the operations of the stock exchange.
- Clearing and Settlement: A process for confirming trades, transferring ownership of securities, and handling the financial aspects of the transaction.
- 6. Market Data and Information Providers: Market data providers that disseminate real-time information about stock prices, trading volumes and other market data.
- 7.Market Participants: Traders and investors, including day traders, long-term investors, and market makers that play a crucial role in the liquidity and price formation of the securities listed on the BMV.
- Technology and Infrastructure: Advanced technology and infrastructure that support trading activities and ensure market integrity.
- Investor Relations and Communication: Listed companies that maintain good investor relations and communication to attract and retain investors.
- Legal and Accounting Services: Legal and accounting firms that ensure regulatory compliance, financial reporting, and handling legal matters related to listed companies and the stock exchange.



Source: Team Analysis & Company Data

# **17. Corporate Governance**

		BOARD OF DIRE	CTORS OVERVIEW		
Name	Independent	<b>Board</b> ternure	<b>Aain areas of experienc</b>	<b>Relevant Experience</b>	# of Boards
Marcos Alejandro Martínez Gavica	yes	8 years	Financial Services, Mergers and Acquisitions, Technology Platforms, Social Development	Citibanamex, Accival, Grupo Financiero Santander, Asociación de Bancos de México	2
Alberto Torras Martínez	yes	10 years	Financial Services, Mergers and Acquisitions, Technology Platforms, Social Development,	Founder of Grupo Alsea	4
Blanca A. Treviño de Vega	yes	4 years	Information Technology, Mergers and Acquisitions, Finance	Founder of Softtek	3
Claudia Jañez Sánchez	yes	1 year	Risk Management, Business Management, Mergers and Acquisitions, Strategic Planning	Former CEO of Dupont México and Latin America	4
Clemente Ismael Reyes - Retana Valdés	yes	4 years	Financial Services, Risk Management, Business Management, Accounting, Auditing, Information Security, Human Resources	Managing Director of Invex, Executive Director of Interacciones	4
Eduardo Valdés Acra	yes	5 years	Finance, Investment Banking Real Estate and Education	CEO and Managing Director of Grupo	2
Gina Díez Barroso Azcárraga	yes	8 months	Sector, Sustainability and Responsible Business	Diarq, Founder and CEO od Dalia Empower	2
Tania Ortíz Mena López Negrete	yes	2 years	Energy Sector, International Trade, External Affairs and	Managing Director of IENova	1
Álvaro Vaqueiro Ussel	no	4 years	Global Markets, Rates, FX, Capital Markets, Investment Banking	Director of Local Markets at Merrill Lynch	1
Edgardo Mauricio Cantú Delgado	no	6 years	Financial Services, Business Management, Mergers and Acquisitions, Portfolio Management	CEO and Managing Director of Vector Casa de Bolsa	1
Marcos Ramírez Miguel	no	4 years	Financial Services, Commercial Banking, Investment Banking, Risk Management	President of the Asociación Mexicana de Intermediarios Bursátiles, Executive Vice president of Grupo Financiero	2
Fomás Christian Ehrenberg Aldford	no	8 years	Financial Services, Investment Banking, Risk Management	Management positions at Citibanamex, BBVA, and Grupo Financiero Bx+	1
Carlos Bremer Gutiérrez	no	11 years	Financial Services, Mergers and Acquisitions, Business Management	Founder of Value Casa de Bolsa	2
Carlos Hank González	no	11 years	Financial Services, Infracstructure, Tourism and Food Sector	Grupo Financiero Interacciones, Grupo Hermes, Grupo Financiero Banorte, Gruma, and Grupo Televisa, among	4
Eduardo Cepeda Fernández	no	1 year	Financial Services, Risk Management, Investment Banking	CEO of J.P Morgan México	6
Eduardo Osuna Osuna	no	2 years	Mortgage Banking, Commercial Banking, Corporate Governance, Risk Management	Vice President and Managing Director Mexico	1
Ernesto Ortega Arellano	no	8 years	Capital Markets, Financial Services, Investment Investment Banking,	Diverse positions ar Inversora Bursátil Head of Loan Origination	1
Felipe García Ascencio	no	2 months	Financial Services, Debt Market, Derivatives	for Latam clients, Credit Suisse	1
Felipe García - Moreno Rodríguez	no	3 years	Investment Banking, Risk Management, Financial Services	Director at Morgan Stanley and Country Head at J.P Morgan México	1

# 21. Scenario Analysis Summary

#### SCENARIO ANALYSIS SUMMARY

Key Driver	Pessimistic Scenario		Most-Likely Scenario		Optimistic Scenario	
Macroeconomic Circumnstand	e					
Interest Gain (Losses) Growth		20.00%		5.00%		-10.00%
Exchange Rate Gain (Losses) Growth		-30.00%		15.00%		30.00%
FX Rates	\$	17.47	\$	19.85	\$	22.23
Interest Rates		11.20%		10.00%		8.80%
Regulatory Framework						
Market Share		77%		84%		91%
Operation Performance						
New Listings (Equity + Debt)		4		7		10
Total Revenue Growth		4%		5%		6%
Operating Expenses Growth		6%		5%		4%
Macroeconomic Circumnstand	e					
CAPEX		-50		-5		50
Macroeconomic Circumnstand	e					
Cost of Equity		12.76%		11.60%		10.44%
Macroeconomic Circumnstance	e					
Terminal Growth Rate		3.00%		3.50%		4.00%
Grupo BMV Target Price	\$	25.05	\$	30.81	\$	36.56
Change from Current Price		-11%		10%		30%

Source: Team Analysis & Company Data

# 15. Pestel Analysis

Political	<b>Regulation and Oversight:</b> The operation of the BMV is subject to government regulations and oversight. Regulatory authorities, such as the National Banking and Securities Commission (CNBV) and the Ministry of Finance and Public Credit (SHCP), establish rules and regulations governing the securities market in Mexico. Policy decisions related to financial market regulation have a direct impact on the BMV and its operation. <b>Economic Policy:</b> Government economic policy, including decisions on interest rates, fiscal and monetary policies, can influence the performance of the BMV. For example, decisions by the Bank of Mexico (Banxico) on interest rates can affect financing costs and investors' appetite for financial assets, which directly impacts stock and bond prices on the BMV.
Economic.	<b>Corporate Financing:</b> The BMV provides Mexican companies with a platform to raise capital through the issuance of stocks and bonds. This allows them to fund expansion projects, acquisitions, and other business activities. Access to the stock market can be crucial for the growth and development of companies. <b>Investment:</b> The BMV offers investors the opportunity to purchase stocks and bonds of listed companies. Both individual and institutional investors can diversify their portfolios and seek opportunities for growth and returns. <b>Capital Market Development:</b> The BMV plays a significant role in the development of the capital market in Mexico. Through regulations and listing practices, it promotes transparency and investor confidence, which is crucial for attracting domestic and foreign investments.
Social.	<b>Financial Inclusion:</b> The BMV promotes financial inclusion by allowing a broad spectrum of investors to participate in the stock market. This includes institutional investors such as pension funds and investment funds, as well as individual investors who can buy stocks and bonds. Access to the stock market provides people with the opportunity to invest and grow their wealth over time. <b>Financial Education:</b> The BMV also contributes to the financial education of Mexican society through training and outreach programs. It provides information and resources on how to invest wisely and manage personal finances. This is essential for empowering individuals and helping them make more informed financial decisions. <b>Transparency and Trust:</b> The BMV promotes transparency and integrity in financial markets, which is essential for building trust among investors and society at large. A well-regulated and transparent stock exchange reduces the risk of financial abuses and contributes to a more ethical business environment.
Technological.	<b>Electronic Trading Platform:</b> The BMV operates an electronic trading platform that allows investors to buy and sell stocks and other securities electronically. This platform is based on advanced technology and provides fast and efficient trade execution. The adoption of electronic systems has largely replaced physical trading on the stock exchange. <b>Technological Innovation:</b> The BMV strives to stay at the forefront of technological innovation in financial markets. This may include the adoption of emerging technologies such as blockchain to improve the efficiency and security of operations.
Environmental.	Listing of Sustainable Companies: The BMV promotes the listing of companies that adopt strong environmental, social, and corporate governance (ESG) practices. Companies that demonstrate a commitment to sustainability and environmental responsibility can attract investors seeking ethical and sustainable investment opportunities. Disclosure Obligations: The BMV requires listed companies to disclose financial and non-financial information, including data related to their environmental and social performance. This disclosure is important for investors and other stakeholders to access relevant information for making informed decisions. Responsible Investment: The BMV promotes responsible investment and the integration of ESG factors in investment decisions. Investors and investment funds can use these criteria to assess and select investment opportunities aligned with their environmental goals.
Legal.	Securities Market Law: Mexico's Securities Market Law is the fundamental legal framework governing the operation of the BMV and other financial institutions in the country. This law establishes principles and regulations for the operation of financial markets and the protection of investors. Government Regulation: The National Banking and Securities Commission (CNBV) and the Ministry of Finance and Public Credit (SHCP) are the government authorities responsible for regulating and supervising the BMV. These entities have the authority to issue regulations and guidelines affecting the operation of the BMV and the companies listed on it. Compliance and Sanctions: The BMV and the listed companies are subject to a legal framework for compliance and sanctions. This includes the imposition of fines and penalties in case of regulatory violations.

Source: Team Analysis & Company Data

# **19. Relative ESG**

#### ESG LEADER

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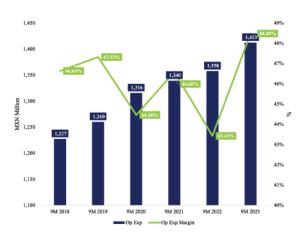
#### ENG AVERAGE Opentinual Rink Management Climat: Transition Risks - Compositie Score, 2010 Medium Rick Scenario BMV: 77/100 14.575 above arenge Human Capital Development & Talent - Expelopse Tamover Rate EMV: 19% 10.000 chune arenare

3.90% above average Human Rights - Published Human Rights Policy BMV: YES 100% of the industry responsed YES

#### ESG LAGGARD

Energy Management Board Composition Shareholders rights Sastainable Finance Executive Compensation Climate Transition & Physical Risks - Paris Alignament, Current Aligument BMV:> 5°C 3.45% of the industry is within 1.5-2°C

# 20. Operating Expenses & Margin



Source: Bloomberg, Capital IQ, Team Analysis