A Work Project, presented as part of the requirements for the Award of a Master Degree in Economics / Finance / Management from the NOVA – School of Business and Economics.

Visa inc. and global payments industry – a part of equity resarch

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A Project carried out on the Master in (Finance) Program, under the supervision of:

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Abstract

Visa is the market leader in the global payments industry. The steady development towards cashless payment, digital and innovative payment options is constantly increasing. Visa's unique positioning in a special 4 party system allows a significant lead, which has to be maintained in view of increasing competition and macroeconomic risk factors. The forecasting of Visa's financials is based on the assumption of a positive development. This is justified by Visa's resilience in the industrial landscape and the effective further development of the business model. This allows visa to demonstrate good profitability and resilience also in terms of share price

Keywords: Payment industry, VISA, Financial Services, Macroeconomics

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This report is part of the Visa inc. equity research report (annexed), developed by Sophia Erdmann and Andreas Gerhardt and should be read has an integral part of it.

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Introduction

The purpose of the report is to evaluate the Visa share and to provide a buy, hold or sell recommendation with reference to the month of September 2023. For this purpose, a shareholder return is determined, taking into account transactions with shareholders and capital gains. The report is intended to explain Visa's fundamental business model and to show the composition and historical development of the main business drivers. This is followed by a detailed examination of the ownership structure. Furthermore, Visa's position in the payments industry is explained and brought into relation with its peers, on which a detailed overall analysis is based. The overall analysis consists of a discounted cash flow method. Here, the most important parameters and forecasts are developed, which are based, among other things, on value drivers, revenue streams and the cost of capital. The latter is explained in more detail as the discount rate. Due to turbulent macroeconomic conditions in view of the interest rate change policies of central banks and increasing geopolitical tensions, an outlook is provided as a framework for all assumptions in the overall analysis. The resulting risks of change are related to both the Visa business model and the valuation model throughout the report. The latter is specifically shown through a sensitivity and scenario analysis by describing the share price change through possible changes in the discount rate as well as the growth rate.

This part of the report covers parts of the entire report. Specifically, it includes the Company overview, the macroeconomic outlook, the cost of capital calculation, the valuation and a final recommendation

Company Overview

Corporate Profile

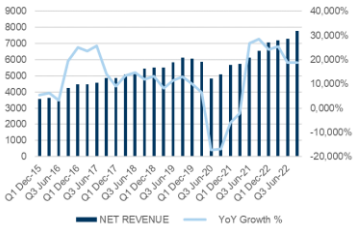
Visa Inc. is a public company, based in Foster City, California (USA). Visa is the leading global provider of electronic funds movement technology and the largest financial technology brand globally. The company employs approximately 21,500 people worldwide and is led by Alfred F. Kelly (CEO) and Ryan McInerney (President).

The company provides services in more than 200 countries to individual customers, merchants, financial institutions, and governments. Through the **VisaNet** processing network, the company provides a wide range of services such as authorization, clearing, and settlement services for fast and reliable transactions around the world.

Through Bank of America's first consumer credit card program for small to mid-sized businesses, Visa was founded in 1958. The first growth-based international expansion occurred in 1974. In 1975 Visa introduced the debit card and in 1976 control of the program was transferred to a consortium composed of the issuing banks, which renamed the program to "Visa."

In 2008, the company managed one of the largest IPOs in history. The Stock is now listed on the New York Stock Exchange (NYSE) with the Ticker “V”. In 2016, Visa completed the acquisition of Visa Europe, making it one of the **world's largest payment processors** with products available on all major devices.

Figure 1: Visa Net Revenue and YoY Growth in %

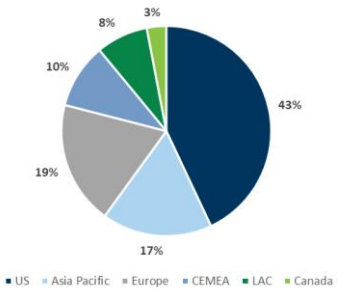


Source: Refinitiv as of 12.12.2022

Financial Development

According to long-term observations, Visa was able to record steady net revenue growth until the first quarter of 2020. The only observable period of negative growth was from the second quarter of 2020 to the first quarter of 2021 (see Figure 1). It is visible that Visa experienced a revenue slump due to the COVID-19 pandemic, however, revenues recovered strongly and now exceed pre-pandemic levels with a twelve-month end in September 2022 of **$29.3 B**, a **22% YoY increase**. The pandemic substantially accelerated the long-term secular growth drivers of cash displacement and e-commerce penetration.

Figure 2: Visa total Volume breakdown by geography, March 2022



Source: Refinitiv as of 12.12.2022

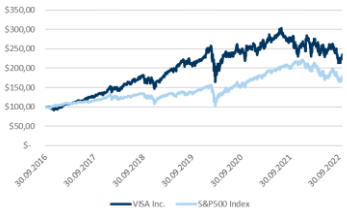
Looking at Visa's Gross Profit there is a positive development from **$24,105 B in 2021** (10.34% increase from 2020) to an annual gross profit of **$29,310 B** in 2022 (21.59% increase from 2021). The figures resulted from recovering spending trends in consumer payments and cross-border travel into 2022 after the COVID-19 pandemic.

The majority of Visa's revenue comes from its consumer-to-business (C2B) electronic payments, but the company's business portfolio is increasingly diversifying with important contributions from value-added services and other types of money flows, such

as person-to-person (P2P), business-to-consumer (B2C), government-to-consumer (G2C) and business-to-business (B2B). Since the pandemic, these have recorded high double-digit growth. Last year, 5 billion transactions were processed through Visa's real-time direct transfer platform **Visa Direct**, with the US market accounting for the largest share of **43%**. This is followed by Asia Pacific with **17%**, Europe and Europe with **19%** (see Figure 2).

Visa's cumulative total stock performance over the period Sept. 30, 2016 - Sept. 30, 2022, was well above the S&P 500 Index, indicating that the stock has performed strongly for investors to date.

Figure 3: Stock performance vs. S&P 500

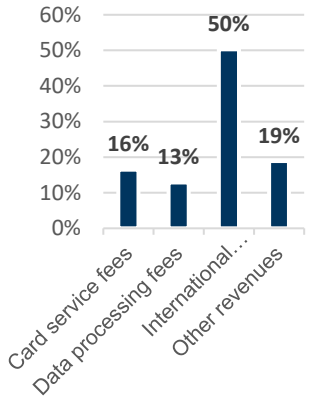


Source: Refinitiv as of 18.10.2022

Revenue Streams & Client Incentives

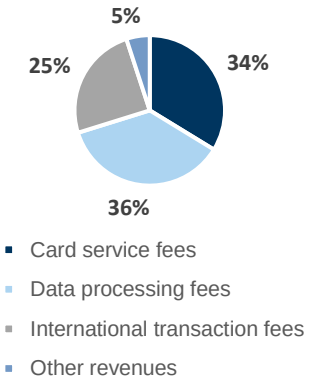
To understand the business model with the following business driver, it is important to know that Visa is not a financial institution. Visa does not issue cards, grant credit, or set rates and fees for account holders. Consequently, Visa does not bear any credit risk with respect to these products. Visa makes money by participating in a four-party model. This basically consists of **1. A bank issuing a Visa card** to a **2. customer**. The customer usually makes payments with this Visa card to a **3. Merchant**. The merchant has his account on which he receives the payment at a **4. Aquiring Bank**. Now the customer either pays his credit card bill to the issuing bank or it is deducted directly from his account. The payment is then forwarded to the aquiring bank via the issuing bank. The aquiring bank then forwards the money to the merchant at a discount rate, thereby generating sales revenue. Based on this discount rate, the merchant does not receive 100 percent of the payment, but a fraction is retained as a fee. This fee creates a pool, which is divided into revenues for the issuing bank, the acquiring bank, and ultimately Visa. Visa particularly creates value in four different ways in this system where one can derive its four different revenue streams:

Figure 4: Revenue stream growth YoY



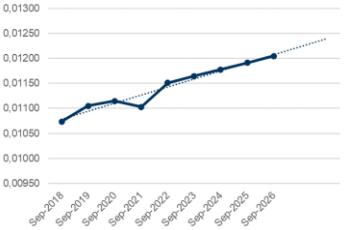
Source: Company Data

Figure 5: Total gross revenue Breakdown by revenue streams



Source: Visa public financial disclosure

Figure 6: Volume Pricing estimates



Source: Company Data

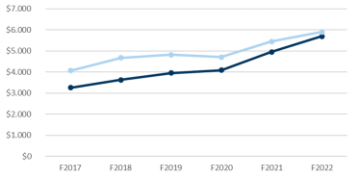
1. Service revenues:

These are services that support all four parties in their use of Visa payment services around the world. These account for **34%** of total revenue in 2022. This year Card service Revenues amounted **USD 13.4 Bn**, an increase of **16%** compared to the previous year. This revenue stream can be calculated by a basis point value pricing (**11.7 bps in F2022**) times the transaction volume (**11.46 bn in F2022**). The **average pricing for the volume** was **11.3 bps** in the years 2017 to 2022. In other words, the higher the transaction value, the more revenue Visa makes. The share of international transaction volume has been slightly higher than U.S. volume in recent years, but this appears to be tending to converge (see Figure 7).

2. Data processing revenues:

Data processing accounts for the largest share of total revenue at **36%** in 2022. Revenue

Figure 7: Card Service Fee (Payment Volume USA dark blue vs. Rest of the World)



Source: Company Data

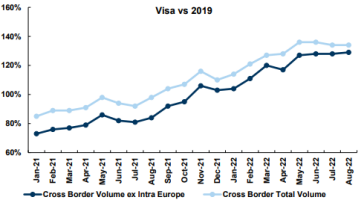
from this business driver is generated through authorization, clearing, settlement, value-added services, network access, and other maintenance and support services worldwide. In 2022, revenues of **USD 14.4 Bn** were recorded. This represents an increase of **13%** compared to the previous year. A closer look at the data processing revenue streams reveals that internationally generated revenues are growing faster than those generated in the USA. This is due to the fact that Visa's penetration in the U.S. market is much higher than in other countries of the world. We therefore tend estimate greater growth potential in emerging areas such as Asia and Latin America (see industry overview).

3. International Transaction fees

This revenue driver recorded revenues of **USD 9.8 Bn** in 2022. This represents a **25%** share of Visa's total revenue with a strong increase of **50%** compared to the previous year due to ongoing recovery from the COVID-19 pandemic e.g., less travel restrictions.

International transaction revenues include revenues from cross-border transaction volume and currency conversion activities. For example, when a payment is made by a customer from the U.S. in the U.K. for British pounds (through a foreign Acquiring Bank), higher discount rates accrue from merchants to the acquiring bank because Visa processes international payments and must transfer dollars in pounds to pay the payer's dollars in pounds to the acquiring bank through the issuing bank. Visa earns a spread on this transaction during the currency conversion.

Figure 8: The cross-border recovery has stalled in recent months



Source: Company Data as of Aug. 2022

4. Other revenues

Other revenue includes value-added services, license fees for use of the Visa brand or technology, account holder services fees, certification, licensing, and card benefits. This revenue driver accounts for **5%** of Visa's total revenue. In absolute numbers, this equates to USD **1.6 Bn** in 2022 (**19%** YoY growth).

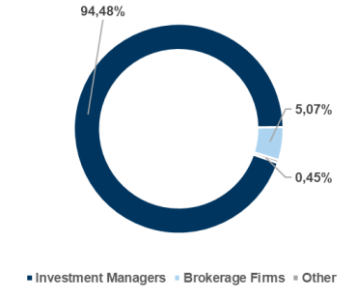
Client Incentives

To obtain the net revenues, client incentives are deducted from gross revenue. Incentives are determined annually based on a percentage of estimated gross revenue. They consist of payments to customers of financial institutions, retailers and strategic partners to incentivize growing payment volumes in the four-party system (for example, through a payback system) and to drive Visa's product adoption and innovation. In 2022, these amounted to **USD 10.3 bn**, a **YoY change of 23%**, while **26%** as of gross revenues.

Ownership Structure

Visa succeeded with its record IPO in March 2008 a pricing of $17.9 billion or $44 a share. Thus, they became the largest IPO ever at that time, surpassing the record of

Figure 9: Institutional ownership structure breakdown

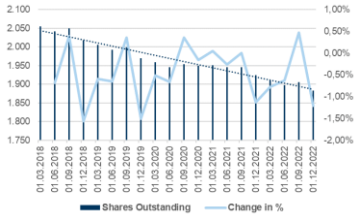


Source: Refinitiv as of 25.11.2022

AT&T with USD $11 billion. As of 25.11.2022, **1,883 billion outstanding shares** represent a market capitalization of **USD 402,672 billion**. Furthermore Visa shows a free float rate of **99.86%** with **1,625 Bn free float traded shares**. Outstanding shares are largely held by institutions with **98.62%** of which 94.48% are held by investment managers and 5.07% by brokerage firms. Individual stakeholders such as corporations, individual investors or others together hold **0.45%** (see Figure 9). Regionally, North America accounts for **77.63%** of all shares outstanding, followed by Europe at **18.76%,** Asia/Pacific at **2.97%,** Middle East with **0.17%,** Latin America at **0.02%** and Africa with **0.14%,** which is relatively aligned with Visa's regional revenue presence.

As of 26.11.2022 the top 5 investors consist of 1. The Vanguard Group, Inc with 144.32M shares (8.83%), 2. BlackRock Institutional Trust Company with 76.90M shares (4.7%), 3. State Street Global Advisors with 70.6M shares (4.33%), 4. T. Rowe Price Associates with 51.26M shares (3.41%) and Fidelity Management & Research Company with 46.1M shares (2.82%).

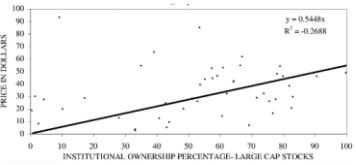
Figure 11: Wtd avg shares out. (basic) (mn)



Source: macrotrends.net

The large proportion of institutional shareholders has many advantages, but also disadvantages. According to Osagie, Osho and Sutton in the Journal of Business & Economics Research, the positive effect on the share price of a higher proportion of institutional investors was found to be particularly strong for large cap stocks. Typically, Visa's share price is boosted when large investment funds, pension funds or hedge funds become interested in the company and increase their ownership and supports the share price, but at the same time there is also the risk that institutional investors, who have high "firepower", i.e., access to large sums of money, also withdraw positions. The potential exit or rebalancing mechanisms result in increased volatility for the share price.

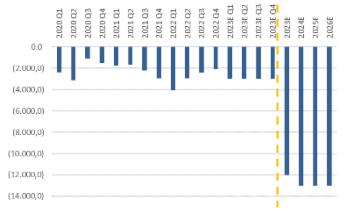
Figure 12: Influence of institutional shareholders on share price



Source: J. E. Osagie, G. Osho, Cynthia L. Sutton in Business, Economics Journal of Business & Economics Research

In the past, Visa has shown an average share buyback of 9% by quarter since beginning of 2020. This trend is expected to continue at an increased rate. In Q4 2022 Visa announced a share buyback of **12 Bn USD** for 2023. The looming global recession should provide a stronger incentive for Visa to buy back shares at a relatively favourable price.

Figure 13: Share Buyback by Quarter and Forecast in years (Values in mln.)

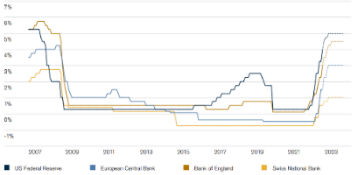


Source: Company data & own estimations

Macroeconomic Outlook

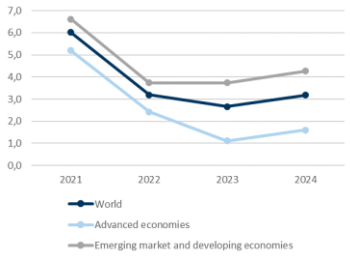
After years of advancing globalization through stable international relations and trust, geopolitics, exacerbated by the Russia-Ukraine conflict, is playing an increasingly important role in terms of economic and financial prospects. Despite initial tensions between the US and China in 2017 regarding tariffs and trade under former US President Trump, a steady deglobalization in trade is now emerging, intensified by the Ukraine conflict. Now, policymakers around the world fear increased risks that the global economy will enter a slowdown. The sharp rise in energy costs, especially in Europe, has lead already to strong inflation, forcing central banks to curb it by raising interest

Figure 14: Central Bank Rates and Forecast as of 20.10.2022



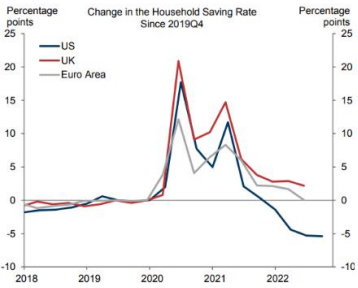
Source: Bloomberg

Figure 15: IMF Inflation forecast



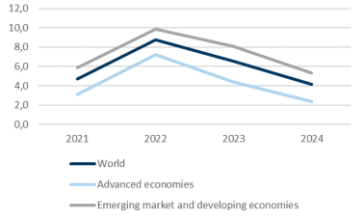
Source: IMF

Figure 16: Change in the Household Saving Rate since Q4 2019



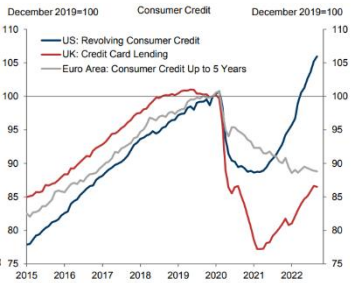
Source: Haver Analytics

Figure 17: Inflation development and forecast



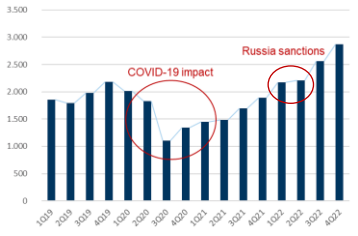
Source: IMF

Figure 18: Consumer Credits in US, UK and Euro Area



Source: Haver Analytics

Figure 19: Visa international transaction fees development



rates. The Federal Reserve is expected to continue to raise interest rates sharply. This could strengthen the U.S. dollar and increase the cost of imports and debt services for many countries.

The U.S. consumer-price index rose **8.2% YoY** in September 2022. The FED's countermeasures of **0.75 bp** in November strengthened the U.S. dollar and put pressure on other countries to also raise interest rates, which can be expected to slow down GDP growth. The IMF forecasts the U.S. economy will expand **1%** next year, down from **1.6%** this year. Thus, The Wall Street Journal put the average probability of a U.S. recession in the next **12 months at 63%,** saying with a weakening global economy, a strong dollar, and high interest rates, a global recession is very likely in the next year.

However, we think that the Euro area and the UK are already in a recession because of the real income hit due to high energy prices, but we expect a mild downturn, contrary to many opinions, as we believe that despite tighter financial conditions, disposable personal income has already taken its toll after the slump in the first half of 2022 and we therefore expect stronger growth in terms of GDP next year. According to Figure 16, the household saving rate in the U.S., the U.K. and the euro area fell significantly at the end of 2022, while consumer credit rose at the same time. This observation suggests that the development of credit card lending in particular as well as recovering payment volumes could have a positive impact on Visa's revenues.

We think that the central banks will be able to set inflation at acceptable levels. However, there are still some risks to consider:

One risk factor for Visas Revenue Streams are widespread strong geopolitical shocks. Another risk is that inflation remains stubborn and central banks have to tighten aggressively. In this case, a severe crisis in both Europe and the US would be unavoidable. Visa's business depends on the volume and number of payment transactions. These are influenced by consumers, governments, businesses, and their spending patterns through political, economic, health, and social events. On the one hand, Visa's business model has a kind of natural hedge against inflation, as smallest amounts of each transaction are cashed in as fees. On the other hand the risk of high inflation could hurt Visa by reducing trading activity in the U.S. and globally and therefore their number of transactions due to counteracting monetary policy. Visa is particularly vulnerable to international conflicts and restrictions (such as the war in Ukraine and the following sanctions against several countries). The geopolitical tendencies towards nationalism and protectionism in connection with economic sanctions can lead to trade restrictions and harm Visas Cross Border Volume and therefore international transaction fees as it was the case during the COVID-19 pandemic. Nevertheless, Visa was able to quickly overtake its pre-crisis level after such a crisis. Even through the adjustments in revenues with the russian sanction impact (see Figure 19), Visa still exceeded its

previous year's level, which is why we expect positive growth rates despite the current tense political and economic situation.

Cost of Capital Estimation

Figure 20: Key Input Data

Key Input Data:	
Equity MRP	**6.00%**
Risk-Free Rate of Return	**4.20%**
Legal Tax Rate	**21.00%**
Target Debt/Equity Ratio	**56.48%**
net Debt	**3.93 b**

Source: Bloomberg, KPMG, VISA Annual Report

For discounting our projected cashflows (DCF), we need the cost of equity, the cost of debt, the tax rate, and the target capital structure to calculate the weighted average cost of capital (WACC).

First, we determined our key input factors:

Risk-Free Rate: For a relevant proxy to the risk-free rate, we use the 10-year U.S. government bond, as it is considered to have almost no default risk because it is backed by the U.S. government. Moreover, the bond is not as susceptible to inflation risk compared to a longer maturity.

Market Risk Premium: For the market risk premium, the published value of KPMG is assumed to be 6%. This seems to be a reasonable proxy to use in our model.

Net Debt to Equity & Tax Rate: For the calculation of the WACC, we assume a constant target net debt to equity ratio of **0.56**. For us, this results from the average of the market values of the last five years. Also, this value represents a reasonable industry average, especially because Visa, as one of the largest payment service providers, receives the largest weighting. The legal rate of **21%** in the USA is used as the tax rate.

Figure 21: First Cost of debt values

Cost of Debt:	
YTM Corporate Bond	5.31%
Loss given Default	56.70%
Probability of Default	0.08%
Cost of debt	**5.27%**

Source: Refinitiv & Moody´s

Cost of debt: We determine the cost of debt by two different methods. In the first method, we use the yield to maturity of a 15-year corporate bond issued by Visa, which according to Refinitiv has a YTM of 5.31%. From this we subtract the product of the Probability of Default, which according to Refinitiv is 0.08% for Visa, with the Loss Given Default, which according to Moody´s is 56.7% for the financial payment industry. We thus obtain a first value for the cost of debt of **5.27%**.

In a second step, we use the rating of AA- and Aa3 assigned to Visa by Moody's and S&P, respectively, which according to S. Schafer and I. Strebulaev implies a beta of 0.05. After calculation with the CAPM model, a value of 4.5% is calculated.

Figure 22: Second Cost of debt values

Cost of Debt:	
Rating	AA-/Aa3
Risk-Free Rate of Return	4.20%
Equity MRP	6.00%
Implied Beta Debt	0.05
Cost of debt (CAPM)	**4.50%**

Source: Moody´s, S&P, S. Schafer and I. Strebulaev, "Risk in Capital Structure Arbitrage

For the WACC calculation, the average of both methods of **4.88%** is used.

Cost of equity: For this purpose, the unlevered beta of the industry must be determined. For the average value, we used Visas and its peers raw beta. These were determined by regressing the returns of the respective companies against the S&P 500 index to explain how the returns move in relation to the representative market index. The S&P500 is generally a good benchmark, as it includes the 500 largest listed US companies (including Visa itself). Due to the weighting according to market capitalization, it is one of the most widely followed stock indices in the world and can therefore well reflect the

market movement in a liquid manner. The returns for the calculation of the raw betas were used in weekly granularity over two years to consider the systematic risk. As a next step the raw betas were unlevered according to their respective Debt to Equity ratio.

Figure 23: Key Inputs of Peer Group

Company	Raw Beta	Cost of Debt	D/E	Beta Unlevered
VISA Inc.	**1.001**	**4.88%**	0.68	0.65
Mastercard Inc.	1.076	4.50%	2.29	0.38
FISERV Inc.	0.885	5.90%	0.75	0.56
PayPal Holdings Inc.	1.496	6.00%	0.54	1.05
Fidelity National Information Services	0.963	5.70%	0.42	0.72
Global Payments Inc.	1.106	6.30%	0.61	0.75
FleetCor Technologies Inc.	1.037	5.70%	3.24	0.29
WEX Inc.	1.177	5.70%	1.72	0.50
Affirm Holdings Inc.	3.291	7.40%	1.53	1.49
Western Union Company	0.735	7.40%	4.94	0.15
Euronet Worldwide Inc.	1.284	4.90%	1.69	0.55
ACI Worldwide Inc.	1.031	5.70%	0.90	0.60
Industry Average				**0.64**

Source: Refinitiv & Bloomberg

Relevering the industry average Beta Unlevered with the target net debt to Equity ratio of Visa, we obtain a value of **0.98**. For the cost of equity, the CAPM was used once again to receive a value of 10.10%.

Putting all obtained values into the WACC Formula, we obtain an estimation of 7.85%.

Figure 24: WACC Output

Output:	
Target Debt/Equity ratio	0.56
Relevered Beta	0.98
Cost of equity	10.10%
Cost of debt	4.88%
After-tax WACC	**7.85%**

Source: Own calculations

Valuation

Outcome

Figure 25: Price Estimation

Levered EV	534.097
Non Core Invested Capital	(8.990)
Net Debt	(2.973)
Transactions with Shareholders	(12.407)
Equity value	509.727
Basic shares outstanding	1.883
Estimated price 23'	**270,70**

Our valuation using the discounted cash flow method looks into the future up to the year 2031 by dividing the last projected core free cash flow with the WACC of **7.85%** less the long-term growth rate annual discounting with the WACC. After the adding of non-core invested capital and subtracting net debt, we obtain the equity value of **USD 509,727 bn** which is adjusted by the transactions with shareholders in 2023. After division with the basic shares outstanding, we get a target value of **270.70 USD** for the Visa share in September 2023.

Figure 26: Expected Return

Expected Return	
Share Price as of (14.12.2022)	213,04
Share Price as of (30.09.2023)	270,70
Capital Gains Yield	27,07%
Transactions w/ Shareholders in cash	12.406,7
Outstanding Shares	1.883
Transactions w/Shareholders (per Share)	6,59
Transactions Yield	3,09%
9-month Expected Return	**30,16%**

Source: Refinitiv & own calculations

Multiples

According to McKinsey (2005), the DCF valuation method is considered as one of the most accurate and flexible. Nevertheless, this method is based on influential factors such as the WACC and an accurate forecast, which can always be subject to error. Therefore, a multiples valuation method is an accurate complement for the determination of future returns. By comparing Visa with its peers, it becomes clear what the market expects from the industry and whether Visa is positioned above average in this market.

Figure 27: Visa and peers Multiples overview

Company	EV/Revenue	EV/EBITDA	P/E
Visa Inc	13.8x	19.7x	26.8x
Fleetcor Technologies Inc	5.5x	10.6x	14.6x
Fidelity National Information Services Inc	0.6x	1.7x	11.1x
Mastercard Inc	16.1x	24.5x	35.1x
WEX Inc	3.8x	12.1x	70.8x
Western Union Co	1.6x	5.9x	6.6x
PayPal Holdings Inc	3.1x	16.9x	36.5x
American Express Company	2.6x	46.5x	15.6x

In the multiples valuation, three multiple factors were examined: **1. EV/Revenue**, **2. EV/EBITDA 3. P/E ratio**. The first two reflect the effect of the capital structure.

Figure 28: Multiples industry average

	EV/Revenue	EV/EBITDA	P/E
High	16.1x	46.5x	70.8x
75th Percentile	4.7x	20.7x	35.8x
Average	**4.8x**	**16,9x**	**27.2x**
Median	**3.1x**	**12.1x**	**15.6x**
25th Percentile	2.1x	8.2x	12.9x
Low	0.6x	1.7x	6.6x

Source: Refinitiv & own calculations

The highest value is derived with the P/E multiple of **227.38 USD per share as of September 2023**. However, this share price would only indicate an expected return of **9.82%** over the next 9-months which is significantly lower than the value derived through the DCF valuation. Looking at the average EV/Revenue and EV/EBITDA multiples, the calculated values of **USD 76.23** and **USD 193.17** would result in a negative expected return for shareholders. However, the revenue and EBITDA multiple has the

Figure 29: Valuation with Multiples

VISA Valuation	EV/Revenue	EV/EBITDA	P/E
Implied Enterprise Value	158,929	379,113	443,535
Net Debt	2,973	2,973	2,973
Trans. w/ Shareholders	12,407	12,407	12,407
Implied Market Value	143,549	363,733	428,155
Shares Outstanding	1,883	1,883	1,883
Implied share price	**76.23**	**193.17**	**227.38**

Source: Refinitiv & own calculations

disadvantage that they are past related and underestimate future company development effects. For example, the valuation results may indicate that the peers have all benefited from the recovery after the COVID-19 pandemic and do not take into account that Visa has invested a correspondingly higher amount in client incentives to sustainably drive its business model.

Sensitivity Analysis

Figure 30: Sensitivity Analysis

		Growth Rate						
	270,70	2,30%	2,80%	3,30%	**3,80%**	4,03%	4,27%	4,50%
WACC	6,35%	300,05	333,09	376,96	438,04	475,57	521,50	579,02
	6,85%	264,95	289,78	321,61	363,86	388,72	418,06	453,23
	7,35%	236,82	256,00	279,92	310,58	328,05	348,16	371,57
	7,85%	213,76	228,92	247,40	**270,44**	283,27	297,76	314,27
	8,50%	189,25	200,69	214,33	230,86	239,84	249,81	260,95
	9,16%	169,43	178,28	188,64	200,93	207,49	214,67	222,58
	9,81%	153,07	160,05	168,11	177,51	182,45	187,81	193,64

Due to the fact that the model is based on some assumptions, it is important to perform a sensitivity analysis to see the effect of the changes at a glance. In the analysis performed, the sensitivity of the share price to changes in the terminal value growth rate and the WACC was investigated. In order to determine the range for the WACC in the sensitivity analysis, the main calculation factors were examined for plausible deviations. One important calculation factor for the WACC in the model is the market risk premium. According to frequent studies, this is usually assumed to be between **3 and 7%** (see Dimson/Marsh/Stauton 2003).

The current high volatility of the stock market due to geopolitical uncertainty increases the required risk premium for investors, which means that the cost of raising additional capital for a company increases (see Cochrane 2005). Based on our model, if we assume that the equity MRP rises to 7.1% and the Fed aggressively increases interest rate hikes with Rf to 6%, we obtain an upper value of **9.81%** for the WACC. Conversely, with our assumptions of 3.6% for MRP and the Fed's current interest rate level, we obtain a value of **6,35%** for the lower range. In summary, the WACC component shows that if the WACC changes from **7.85% to 8.50%,** for example, it would result in a decrease in the share price from **USD 270.44 to USD 230.86** (a decrease of **-14.6%**). At the same time, decreasing the WACC from **7.85% to 7.35%** would result in an increase in the share price to **USD 310.58** (a change of **+14.8%**). It is clear that, ceteris paribus, the share price reacts more strongly to a decrease in the WACC than to an increase.

If we look at the growth rate in the valuation, this is made up of the estimated long-term GDP growth worldwide and the long-term inflation rate. Based on the macroeconomic outlook, a range of **2.3%** (assumption of no inflation) to **4.5%** (assumption of 2.2% long-

term inflation on top) seems plausible. The share price responds more strongly to an increase in the rate. The share price increases from **USD 270.44 to USD 297.76** if the growth rate increases from **3.80% to 4.27%** (a change of **+10.1%**). Whereas, if the growth rate decreases from **3.8% to 3.3%** the share price only decreases to **USD 247.40** (a change of **-8.5%**).

Final Recommendation

In the past, the financial payment services industry showed a robust business model, stable finances and a rapid recovery after the pandemic subsided, especially in connection with COVID-19. Given the market leadership and the still strong growth potential especially in emerging market areas, we estimate that Visa will further strengthen its market leadership. The further success depends on Visa's ability to further innovate its products and service offerings according to changing consumer preferences towards digital, fast and secure payments. Our final recommendation is to **buy** this stock based on a share price of **USD 270.70** with a **9-month expected return** of **30.16%** for September 2023.