Financial Sector SIM - Summer 2023 The Ohio State University

Andrew, Brady, Richard, Tejen, Vinay

Table Of Contents

- Overview
- Recap
- SIM Appraisal
- Buy/Sell thesis
- Recommendation
- Appendix





Recap from prior sector recommendation

- **Goal:** further diversify to de-risk our sector, balance of risk and reward in uncertain environment
- Overweight Banks & Financial Services
- Maintain rating: Underweight (-1.33%)
- Trim 44 Bps of FIS
- Add 22 Bps of V
- Add 11 Bps of MA
- Add 11 Bps of AXP





~

SPICE



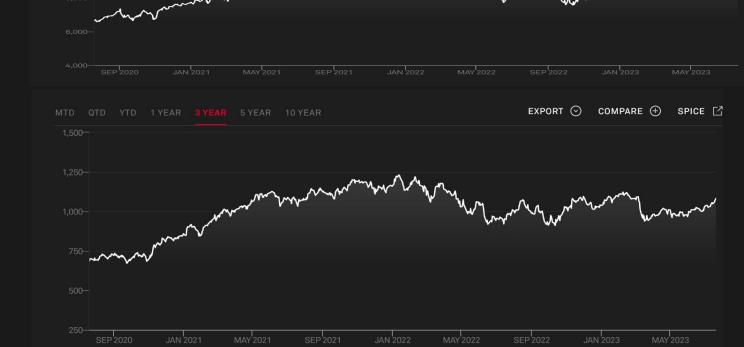
Overview

PERFORMANCE

As of Jul 20, 2023

9,748.10

13.50%



As of Jul 20, 2023

1,083.26

TABLE VIEW

16.38%

SIM Appraisal - June 2023

	-						ppraisai kecoru 30, 2023		COLLEGE OF BUSINESS	111		
Quantity	Security	Ticker	GIC Sector	Unit Cost	Total Cost	Market Price	Market Value	Unrealized Gain/(Loss)	Unit Income	Est. Ann. Income	%age Assets	Eq shares out
	STOCKS											
3,730	ALPHABET INC	GOOGL	Communicatior	37.85	\$141,186.03	119.70	\$446,481.00	\$305,295	-	\$0.0	4.33%	5,941.000
2,380	AMAZON.COM INC	AMZN	Cons Discr	66.17	\$157,474.13	130.36	\$310,256.80	\$152,783		\$0.0	3.01%	10,260.350
1,400	AMERICAN EXPRESS CO	AXP	Financials	127.84	\$178,975.33	174.20	\$243,880.00	\$64,905	2.40	\$3,360.0	2.37%	743.241
5,100	AMPHENOL CORP	APH	Info Tech	78.25	\$399,065.32	84.95	\$433,245.00	\$34,180	0.84	\$4,284.0	4.20%	595.319
2,926	APPLE INC	AAPL	Info Tech	64.80	\$189,599.20	193.97	\$567,556.22	\$377,957	0.96	\$2,809.0	5.51%	15,728.700
6,390	BANK OF AMERICA CORP	BAC	Financials	29.68	\$189,680.12	28.69	\$183,329.10	(\$6,351)	0.88	\$6,134.4	1.78%	7,969.153
620	BOSTON PROPERTIES INC	BXP	Real Estate	118.88	\$73,704.30	57.59	\$35,705.80	(\$37,999)	3.92	\$2,430.4	0.35%	156.836
5,080	BRISTOL-MYERS SQUIBB CO	BMY	Health Care	66.57	\$338,183.66	63.95	\$324,866.00	(\$13,318)	2.28	\$11,582.4	3.15%	2,100.847
1,660	CHEVRON CORP	CVX	Energy	146.02	\$242,397.60	157.35	\$261,201.00	\$18,803	6.04	\$10,026.4	2.53%	1,894.643
1,700	CITIGROUP INC	C	Financials	51.63	\$87,777.97	46.04	\$78,268.00	(\$9,510)	2.04	\$3,468.0	0.76%	1,946.752
1,520	DISCOVER FINANCIAL SERVICES	DFS	Financials	112.38	\$170,823.02	116.85	\$177,612.00	\$6,789	2.80	\$4,256.0	1.72%	253.946
1,620	DUPONT DE NEMOURS INC	DD	Materials	57.21	\$92,682.47	71.44	\$115,732.80	\$23,050	1.44	\$2,332.8	1.12%	459.017
770	ELEVANCE HEALTH INC	ELV	Health Care	453.51	\$349,201.50	444.29	\$342,103.30	(\$7,098)	5.92	\$4,558.4	3.32%	237.056
2,050	FEDEX CORP	FDX	Industrials	159.97	\$327,932.03	247.90	\$508,195.00	\$180,263	5.04	\$10,332.0	4.93%	251.352
4,390	FIDELITY NATIONAL INFORMATION	FIS	Financials	122.99	\$539,909.51	54.70	\$240,133.00	(\$299,777)	2.08	\$9,131.2	2.33%	592.437
7,490	GENERAL MOTORS CO	GM	Cons Discr	29.54	\$221,276.49	38.56	\$288,814.40	\$67,538	0.36	\$2,696.4	2.80%	1,390.123
1,510	JPMORGAN CHASE & CO	JPM	Financials	150.23	\$226,848.75	145.44	\$219,614.40	(\$7,234)	4.00	\$6,040.0	2.13%	2,922.289

	Securities Allocation		
Sector	S&P 500 Weight	SIM Weight	+/-
Information Technology	28.26%	27.04%	-1.22%
Health Care	13.42%	15.18%	1.76%
Financials	12.42%	11.09%	-1.33%
Consumer Discretionary	10.66%	8.11%	-2.55%
Consumer Staples	6.67%	8.83%	2.16%
Industrials	8.49%	8.26%	-0.23%
Energy	4.11%	6.46%	2.35%
Utilities	2.58%	0.86%	-1.72%
Materials	2.50%	3.18%	0.68%
Communication Services	8.39%	10.64%	2.25%
Real Estate	2.49%	0.35%	-2.14%
Total	100.00%	100.00%	0.00%

American Express (AXP) Overview

American Express Company is an integrated payments company that provides charge and credit card products, network services to processes and settle transaction, and travel related services to consumers and business customers around the world.

Three Primary Businesses:

- 1. Card Issuing Business
- 2. Merchant Acquiring Business
- 3. Card Network Business

Four Operating Segments:

- 1. U.S Consumer Services
- 2. Commercial Services
- 3. International Card Services
- 4. Global Merchant and Network Services

Competitive Advantage

AMER

EXPRES

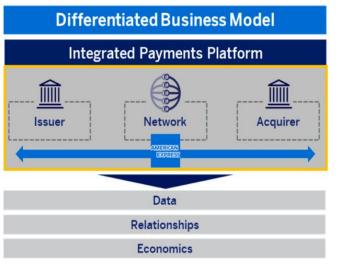


Figure 1: American Express's Differentiated Business Model. Source: American Express Co. Form 10-K; Dec 31, 2022

American Express (AXP) Market Share

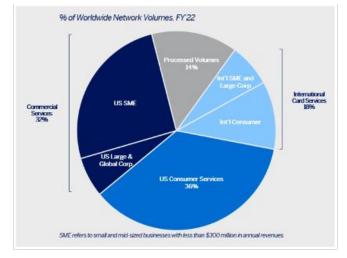


Figure 2: American Express's Worldwide Network Volumes in 2022 Source: American Express Co. Form 10-K; Dec 31, 2022

Credit Card Purchase Volume in 2022 (\$B)

AMERICA

EXPRES

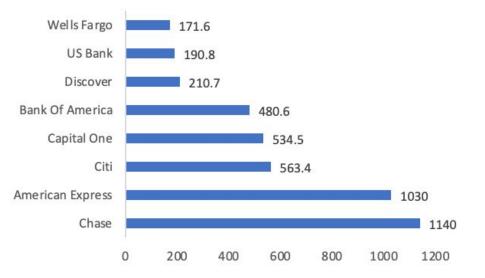


Figure 3: Credit Card Purchase Volume in 2022 Source: US News. The Biggest US Credit Card Companies (Nilson Report)

American Express (AXP) Business Analy

Growth Drivers

- Expansion into Asia-Pacific Market:
 - This market is projected to be the fastest growing worldwide at 9% CAGR.

• New Premium Customer Acquisition:

 Millennial and Gen Z customers are the fastest growing cohort in terms of spending the United States.

• Acquisition of Fintech:

 Purchase of Resy, Kabbage, Nipendo have attracted small business customers to the American Express Platform.

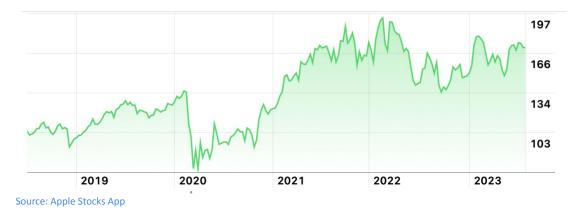
Headwinds

- Federal Interest Rates
 - AXP has \$40B in long-term debt and cost to service this debt will rise with higher interest rates
 - However, higher interest rates will also increase its net interest income.

• Loan Reserve and Delinquencies

- Restarting student loan payments, combined with higher interest rates is projected to result in higher delinquencies
- AXP is projected to increase its provision for credit losses to \$4B this year, negatively affecting its earnings

American Express (AXP) Financials



Takeaways:

- Shift towards Millenials and Gen Z customers
- Card Member Spending up 30% YoY
- Share price has risen 15.7% YTD
- Revenue and Profits projected to increase by ~15% annually over the next 5 years



AMERICA

EXPRES

Current Sim Weight: 237 BPS

American Express (AXP) Competition

	Price	Market Cap (\$B)	Quarterly Revenue Growth (YoY)	Quarterly Earnings Growth (YoY)	Operating Margin	Forward Annual Dividend Yield	Return on Equity (TTM)	P/E	P/B	P/S
AmEx	174.64	127.62	12.40%	-13.50%	18.37%	1.40%	29.90%	18.36	4.91	2.34
Visa	240.55	498.8	11.10%	16.70%	66.94%	0.76%	42.35%	32.16	12.93	16.22
Mastercard	397.8	371.62	11.20%	-10.30%	56.92%	0.58%	154.10%	39.78	69.72	16.58
PayPal	70.62	77.3	8.60%	56.20%	15.87%	N/A	13.37%	28.48	3.89	2.83
Discover	119.49	30.09	-3.50%	-21.40%	50.92%	2.39%	29.74%	8.04	2.27	2.27

AMERIC

EXPRES

Source: Yahoo Finance

Takeaways:

- 11-12% revenue growth for American Express, Visa and Mastercard
- American Express quarterly earnings growth was negative due to increased provision for credit losses
- American Express has the highest dividend yield
- MasterCard has highest ROE due to lower level of debt and managing the equity through buyback.



American Express (AXP) Valuation

Absolute Basis	High	Low	Average (5 yrs)	Current
P/E	29.93	12.55	19.46	18.36
P/B	5.19	3.16	4.59	4.91
P/S	3.31	2.1	2.59	2.34

Source: https://www.morningstar.com/stocks/xnys/axp/valuation

American Express (AXP) Valuation

Growth Rate: 3.5%

Discount Rate: 8.5%

Target Price: \$202.53

Implied Upside: 19%

Recommendation: BUY

Risk to Investment Thesis

- Transitory Post-Covid Travel Spending
 Boost
- Credit Losses and Delinquencies

American Express (AXP)											
Analyst: Tejen Shah				Terminal Di	scount Rate =	8.5%					
6/6/23					FCF Growth =	3.5%					
(000s)				Terrinina	i ei eiemai -	0.570					
Year	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	20318	2032E	2033E
real and a second se	LULJL	LULTL	LULUL	LULUL	LULIL	LULUL	LOLDL	LUJUL	LUJIL	LUJEL	LUJJL
Non Interest Revenues	\$ 49,842	\$ 54,826	\$ 60,308	\$ 66,038	\$ 71,651	\$ 77,025	\$ 82,031	\$ 87,363	\$ 93,042	\$ 98,159	\$ 103,067
% Growth		10.0%	10.0%	9.5%	8.5%	7.5%	6.5%	6.5%	6.5%	5.5%	5.0%
Interest Income	\$ 14,683	\$ 16,152	\$ 17,767	\$ 19,151	\$ 20,779	\$ 22,337	\$ 23,789	\$ 24,899	\$ 26,517	\$ 27,975	\$ 29,374
% Non-Interest Revenue	29.5%	29.5%	29.5%	29.0%	29.0%	29.0%	29.0%	28.5%	28.5%	28.5%	28.5%
Interest Expense	\$ 3,226	\$ 3,549	\$ 3,904	\$ 4,623	\$ 5,016	\$ 5,777	\$ 6,152	\$ 6,989	\$ 7,443	\$ 8,344	\$ 8,761
% Non-Interest Revenue	6.5%	6.5%	6.5%	7.0%	7.0%	7.5%	7.5%	8.0%	8.0%	8.5%	8.5%
Provision for Losses	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,259	\$ 4,621	\$ 4,968	\$ 5,503	\$ 5,838	\$ 6,576	\$ 6,937	\$ 7,284
%Sales	6.2%	5.6%	5.1%	5.0%	5.00%	5.00%	5.20%	5.20%	5.50%	5.50%	5.50%
Expenses	\$ 48,071	\$ 53,091	\$ 58,556	\$ 63,892	\$ 69,322	\$ 74,522	\$ 79,365	\$ 84,197	\$ 89,669	\$ 94,601	\$ 99,331
% Sales	74.5%	74.8%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Income Tax Provision	\$ 2,030	\$ 2,274	\$ 2,555	\$ 3,748	\$ 4,067	\$ 4,372	\$ 4,819	\$ 5,112	\$ 5,595	\$ 5,903	\$ 6,198
Tax Rate	22.0%	22.0%	22.0%	22.0%	22.0%	22.0%	23.0%	23.0%	24.0%	24.0%	24.0%
Net Income	7,198	8,063	9,060	8,667	9,403	9,724	9,981	10,126	10,275	10,350	10,867
% Growth		12.0%	12.4%	-4.3%	8.5%	3.4%	2.6%	1.5%	1.5%	0.7%	5.0%
Free Cash Flow	7,198	8,063	9,060	8,667	9,403	9,724	9,981	10,126	10,275	10,350	10,867
% Growth		12.0%	12.4%	-4.3%	8.5%	3.4%	2.6%	1.5%	1.5%	0.7%	5.0%
NPV of Cash Flows	62,126	38%									
NPV of terminal value	99,492	62%							T	erminal Value	224,949
Projected Equity Value	161,618	100%									
Free Cash Flow Yield	5.30%								Fi	ee Cash Yield	4.83%
Current P/E	18.9	16.8	15.0							Terminal P/E	20.7
Projected P/E	22.5	20.0	17.8								
Current EV/EBITDA	N/A	N/A	N/A						Termi	nal EV/EBITDA	N/A
Projected EV/EBITDA	N/A	N/A	N/A								
Shares Outstanding	798			Sensitivit	y Analysis \$184.31	7.5%	8.0%	Terminal Di 8.5%	scount Rate 9.0%	9.5%	10.0%
snares outstanding	798				\$184.31 3.30%	\$244.13	\$218.34	\$197.50	\$180.31	9.5% \$165.89	\$153.62
Current Price	\$ 170.22			Terminal	3.40%	\$244.15	\$218.54	\$197.50	\$180.51		\$153.62
Implied equity value/share	\$ 202.53			Growth	3.40%	\$252.59	\$224.78	\$202.53	\$184.31	\$169.13	\$156.27
Upside/(Downside) to DCF	\$ 202.33			Rate	3.60%	\$257.14	\$228.22	\$205.20	\$186.43	\$170.83	\$158.27
opside/(Downside) to DCF	19.0%				3.70%	\$261.93	\$231.82	\$203.20	\$188.62	\$172.59	\$159.09
					5.70%	\$201.93	2421.82	\$201.91	2100.02	\$1/2.59	\$123.0 <u>8</u>



Mastercard (MA)



Sector: Financial

Industry: Credit Services

Market Cap: \$ 376 B

Shares Outstanding: 947.63 M

Dividend Yield: 0.57%

Beta: 1.11

Current Price: 397.49

52 Week High - Low: 404.0 - 276.87

Current Sim Weight: 0 BPS





	¢ .	Type \$	Rating \$	Outlook
Fitch Ratings ^[3]	(CRA	n.r.	n/a
Moody's Investors Service ^[4]	(CRA	Al	Stable
S&P Global Ratings ^[5]	(CRA	A+	Stable

Revenue breakdown >

Revenue streams and regions a business earns money from

By source/business 🕜

 \bigcirc

Period: 2022 By

By country 🕜



Period: 2022

Payment Network Value-added Services and Solutions

International United States North America



Growth and profitability >

Company's recent performance and margins



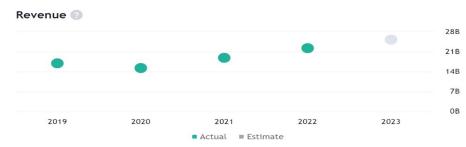


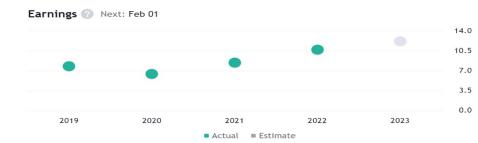
Dividend history 🕐



Estimates >

Revenue and Earnings forecasts and estimates accuracy







Back to basics

Strengths:

- Second most used card platform
- Outstanding profit margin (41%)
- Established global footprint
- Obsession over R & D

Weaknesses:

• Possible emergence of niche and international

competitors

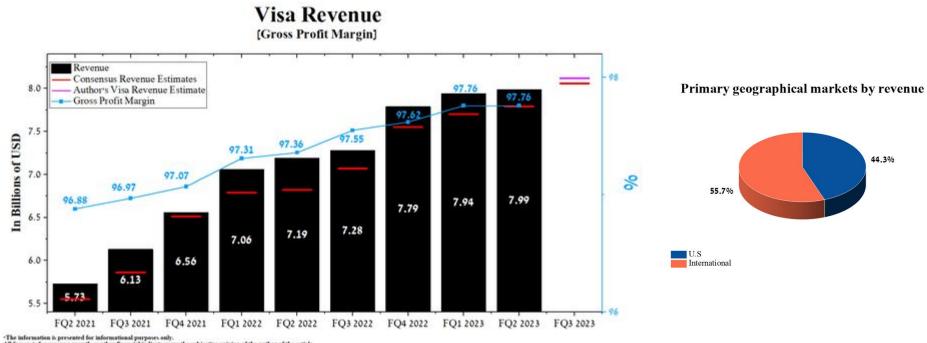
- Will crypto actually catch on and maintain stability? (possible opportunity)
- High operating expenses (R & D)

VISA						
+ Select Symbols +	Select Metrics		1D 5D	1M 6M YTD 1	Y 3Y 5Y 10Y	MAX
V 1,424.86% Price Return since 03/24/2008 (5593 days)	• SP500 915.91% Price Return since 07/26/1993 (10955 days)	• SP500-40 102.79% Price Return since 02/24/2014 (3436 days)				
1.5K%						An er av
1K%						Marte Marte
500%						mound Man
0%		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<u> </u>		
-500%	6	2001	2006	2011	2016	2021

Sector: Financial Market Cap: \$ 490.26 B Dividend Yield: 0.75% (FWD) Current Price: 239.25 4:00 PM 07/21/23

Industry: Transactions and Payment Processing Services Shares Outstanding: 2.05 B Beta: 0.94 (24M) 52 Week High - Low: 245.37 - 174.60

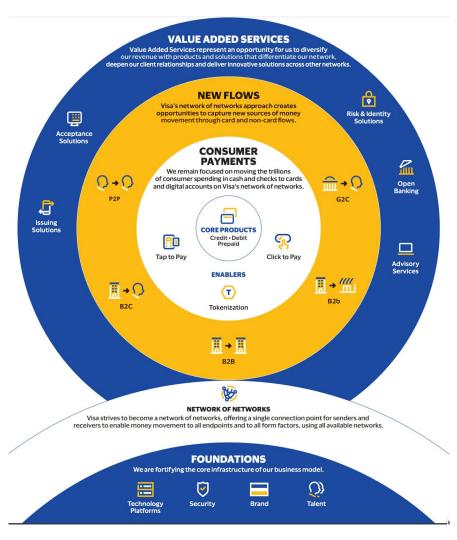




All forecasts for revenue growth or other financial indicators are the subjective opinion of the author of the article.

VISA

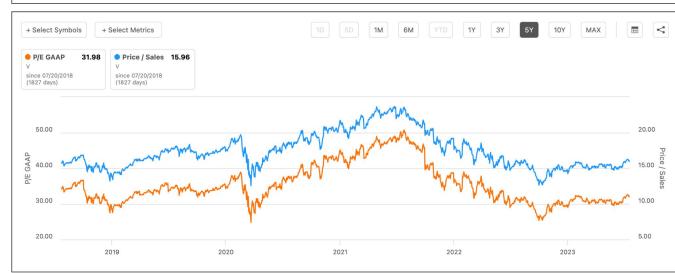
Business Strategy





1Y ЗY 5Y 10Y < MAX + Select Symbols + Select Metrics Revenue 30.98B Net Income 15.79B Gross Profit 97.68% V V since 09/30/2018 (1643 days) since 09/30/2018 (1643 days) since 09/30/2018 (1643 days) 16.00B 97.50% 28.00B G Net ross ju s 24.00B 14.00B Ξ 97.20% Profit Rev 12.00B 20.00B 96.90% 16.00B 10.00B 96.60% 2020 2022 2019 2021 2023

Financials & Valuations



	P/E FWD	5Y Average	P/B FWD	5Y Average	Dividend Yield
V	28.79x	32.28x	12.43x	10.80x	0.72%
Sector Median	10.02x		1.04x		3.64%

VISA (V)											Те	erminal Discou	int	Rate		11.00%						
											Те	erminal FCF G	row	th Rate		0.00%						
Year	202	3 E	202	4 E	202	5 E	202	26 E	202	27 E	20	028 E	202	29 E	20	30 E	203	31 E	20	32 E	20	33 E
Revenue	\$	32.534.10	¢	36.112.85	\$	40.085.26	\$	44,494.64	s	49,389.05	\$	54.821.85	\$	60,852.25	\$	67.546.00	\$	74,976.06	\$	83,223,43	\$	92,378.01
% growth	φ	52,554.10	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%	φ	111.00%
Operating Income	\$	20,893.07	\$	23,191.34	\$	25,742.43		\$28,476.57		\$31,608.99		\$35,085.98		\$38,945.44		\$43,229.44		\$47,984.68		\$53,262.99		\$59,121.92
Operating Margin		64.22%		64.22%		64.22%		64.00%		64.00%		64.00%		64.00%		64.00%		64.00%		64.00%		64.00%
Non-Operating Income	\$	(738.54)	\$	(819.78)	\$	(909.95)	\$	(1,010.03)	\$	(1,121.13)	\$	(1,244.46)	\$	(1,381.35)	\$	(1,533.29)	\$	(1,701.96)	\$	(1,889.17)	\$	(2,096.98)
% of revenue		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%		-2.27%
Income Before Taxes	\$	20,154.53	\$	22,371.56	\$	24,832.48		\$27,466.54		\$30,487.86		\$33,841.53		\$37,564.10		\$41,696.15		\$46,282.72		\$51,373.82		\$57,024.94
Taxes	\$	3,627.82	\$	4,026.88	\$	4,469.85		\$4,943.98		\$5,487.82		\$6,091.48		\$6,761.54		\$7,505.31		\$8,330.89		\$9,247.29		\$10,264.49
Tax Rate		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%		18.00%
Net Income	\$	16,526.71	\$	18,344.68	\$	20,362.63		\$22,522.57		\$25,000.05		\$27,750.05		\$30,802.56		\$34,190.84		\$37,951.83		\$42,126.53		\$46,760.45
% growth				111.00%		111.00%		110.61%		111.00%		111.00%		111.00%		111.00%		111.00%		111.00%		111.00%
NPV of Cash Flows		\$164,799.96									Те	erminal Value				\$425,095.03						
NPV of Terminal Value		\$425,095.03									Fr	ee Cash Yield				11.00%						
Projected Equity Value		\$589,894.99									Те	erminal P/E				9.090909091						
FCF Yield																						
Current P/E		28.79									Cı	urrent Price				\$240.74						
Projected P/E		35.69									Im	nplied equity v	alu	e/share		\$287.75						
											U	pside (Downsi	de)	to DCF		19.53%						
Shares Outstanding		2050																				

VISA

Strengths

- Largest US credit card network
- Payment volume (transaction times, ticket size) has been stable around 7-8%
- Ticket sizes still 15% higher than pre-COVID levels ¹
- Innovations VISA Direct ² and New Flows ³
- Cross-border payment growth

Period	Total Growth (Nominal USD)	Total Growth (Constant USD)	Ex. Intra-Europe ⁽¹ Growth (Constant USD)
3 Months Ended			
Mar 31, 2023	19%	24%	32%
Dec 31, 2022	11%	22%	31%
Sep 30, 2022	21%	36%	49%
Jun 30, 2022	28%	40%	48%
Mar 31, 2022	31%	38%	47%
12 Months Ended			
Mar 31, 2023	19%	30%	39%

- 1 https://finance.yahoo.com/news/visa-inc-nyse-v-q1-150706844.htm
- 2 <u>https://developer.visa.com/capabilities/visa_direct</u>
- 3 <u>https://annualreport.visa.com/business-overview/default.aspx</u>

4 - https://www.justice.gov/opa/pr/visa-and-plaid-abandon-merger-after-antitrust-division-s-suit-block

5 - https://www.federalreserve.gov/paymentsystems/fednow_about.htm

Weaknesses

- Regulatory risks (Dodd-Frank Act provisions have halved interchange fee rates to 0.76%)
- Failed M&A with Plaid causing additional scrutiny ⁴
- Challenges from CBDC and new payment systems like FedNow ⁵
- Opex growth

(Source: SEC filings from	Visa, Mastercard, Ame	rican Express and Discover)
---------------------------	-----------------------	-----------------------------

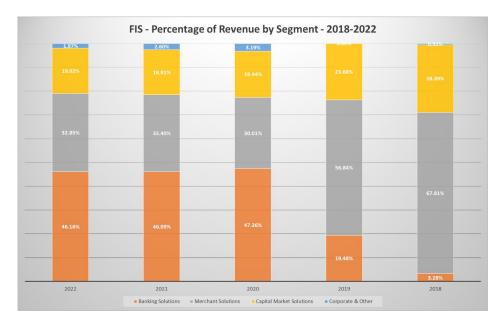
Credit Card Networks Based on Purchase Volume (in Billions)

Year	Visa	Mastercard	American Express	Discover	Total Purchase Volume (In Billions)
2021	\$2,405	\$1,085	\$897	\$182	\$4,569

ë i s

Fidelity Information Services (FIS) "... is a leading provider of technology solutions for merchants, banks, and capital markets firms globally. Our over 55,000 employees are dedicated to advancing the way the world pays, banks and invests by applying our scale, deep domain expertise and data-driven insights. We help our clients use technology in innovative ways to solve business-critical challenges and improve the experience for their customers." (**source**: annual reports)

Merchant Solutions	Banking Solutions	Capital Market Solutions	Corporate and Other
Provides traditional point-of-sale payment processing for merchants Provides card-not-prese nt capabilities for digital marketplace	Core Processing and ancillary applications solutions; digital solutions; fraud, risk management and compliance solutions	Applications for record keeping, data and analytics, trading, financing, and risk management	Relate to corporate marketing, corporate finance and accounting, human resources, legal, and amortization of acquisition-related intangibles and other costs, such as acquisition and integration expenses



SIM	Student Investment Management					Fisher Colle Student Investment Portfolio Ap	ate University ge of Business t Management P opraisal Record 30, 2023	ortfolio		HIO STATE UNIVERSITY HER COLLEGE OF BUSINESS			
Quantity	Security	Ticker	GIC Sector	Unit Cost	Total Cost	Market Price	Market Value	Unrealized Gain/	Section 1		nn. Income %age Assets	out (1	Market Cap In Millions \$) Beta
4,390	FIDELITY NATIONAL INFORMATION	FIS	Financials	122.99	\$539,909.51	54.70	\$240,133.00	(\$	299,777)	2.08	\$9,131.2 2.33%	592.437	32,406.3 1.11
4,390	FIDELITY NATIONAL INFORMATIO	N	FIS							FIDELITY NATIONAL I		FIS	2.33%
	MERCK & CO INC		MRK	Oua	<u>antity</u> : #7	,				TARGET CORP	1 010/07/10/1	TGT	2.30%
3,970	UNITED AIRLINES HOLDINGS INC		UAL	<u>Qu</u>	<u>anticy</u> . <i>In i</i>					JPMORGAN CHASE &	co	JPM	2.13%
3,730	ALPHABET INC		GOOGL							UNITED AIRLINES HO	22	UAL	2.13%
2,926	APPLE INC		AAPL										and the second second second
2,850	WALMART INC		WMT							BANK OF AMERICA CO		BAC	1.78%
2,380	AMAZON.COM INC		AMZN							DISCOVER FINANCIAL		DFS	1.72%
2,280	NXP SEMICONDUCTORS NV		NXPI							WALT DISNEY CO/TH		DIS	1.44%
	FEDEX CORP		FDX			-		C A		STEEL DYNAMICS INC		STLD	1.16%
	TARGET CORP		TGT			Perce	entage	of Asset	ts:	DUPONT DE NEMOURS	5 INC	DD	1.12%
	NVIDIA CORP		NVDA				-			NEXTERA ENERGY INC		NEE	0.86%
	META PLATFORMS INC		META			IVIIQ		he Pack	ζ	TYSON FOODS INC		TSN	0.79%
1,700	CITIGROUP INC		C							TRANSDIGM GROUP I	NC	TDG	0.78%
1,690	MICROSOFT CORP		MSFT							CITIGROUP INC		C	0.76%
1,660	CHEVRON CORP		CVX							SCOTTS MIRACLE-GR	O CO/THE	SMG	0.52%
1,660	WALT DISNEY CO/THE DUPONT DE NEMOURS INC		DIS DD							RAYTHEON TECHNOL		RTX	0.44%
A share the second s	TYSON FOODS INC		TSN								JGIES CORF		0.37%
1,520	DISCOVER FINANCIAL SERVICES		DFS							MOSAIC CO/THE		MOS	20 S.
	JPMORGAN CHASE & CO		JPM							BOSTON PROPERTIES	INC	BXP	0.35%
1,400	AMERICAN EXPRESS CO		AXP	4 200		TONAL INCODAL	TION	FIC		(4000 777)			
a second and a second	NEXTERA ENERGY INC		NEE	4,390		TIONAL INFORMA	NON	FIS		(\$299,777)			
1,100	MOSAIC CO/THE		MOS	1,660	WALT DISNEY			DIS		(\$72,677)			
1,100	STEEL DYNAMICS INC		STLD	860		ACLE-GRO CO/T	HE	SMG		(\$60,549)	Unre	<u>alized</u>	
	UNITEDHEALTH GROUP INC		UNH	1,800	TARGET COR	P		TGT		(\$48,178)		00: #1	
860	SCOTTS MIRACLE-GRO CO/THE		SMG	8,100	KROGER CO/	THE		KR		(\$41,076)	LOSS	<u>es</u> : #1	
770	ELEVANCE HEALTH INC		ELV	620	BOSTON PRO	PERTIES INC		BXP		(\$37,999)			
620	BOSTON PROPERTIES INC		BXP	910	UNITEDHEALT	TH GROUP INC		UNH		(\$25,341)			
460	RAYTHEON TECHNOLOGIES CORP		RTX	1,600	TYSON FOOD	SINC		TSN		(\$14,897)			
90	TRANSDIGM GROUP INC		TDG	5,080	10.10 F 31 10 T 10 5	ERS SQUIBB CO		BMY		(\$13,318)			
		_	_	1,700	CITIGROUP I	-		C		(\$9,510)			
				1,100	MOSAIC CO/			MOS		(\$7,744)			5
				1,510	JPMORGAN C			JPM					
								2.572.5157		(\$7,234)			
				770	ELEVANCE HE			ELV		(\$7,098)			
				6,390	BANK OF AME	ERICA CORP		BAC		(\$6,351)			







Key Firm Developments 2019-present

- 2019 acquired WorldPay (payment services company) → revenue increased; stock price increased
- 2020 Covid pandemic
- 2021 consistently missed revenue targets, stock starts to sell and stock price enters free fall
- 2022 \$17 billion "Goodwill impairment" related to WorldPay acquisition (Merchant Services segment) → leads to negative revenue
- 2022 CEO exits earlier than planned; new CEO takes over promising changes (particularly, reduction in expenses)
- 2023 announce plans to spin-off Merchant Services into its own company in 2024
- Following Q1 results, many analysts revise guidance; believe stock is currently undervalued. (Long-term DCF does not align with this assessment.)

Firm	Current Price	EPS	P/E	P/S	P/B	P/FCF	ROE (%)
FIS	61.41	-28.18	0	2.56	1.34	15.29	-45.70
Comparisons							
Financials (Sector)			13.53	1.97	1.73		9.1
Payment Proc Services (Sub-Ind)			22.32		7.1		6.7
FLEETCOR Tech (FLT)	252.44	12.23	20.64	5.40	6.47	18.61	32.88
Fiserv, Inc (FI)	128.53	3.75	34.27	4.45	2.64	23.97	7.85

ë is



Discounted Cash Flow Valuation

Terminal DR	Terminal FCF Growth	Target Price	Upside/Downside
9.5%	05%	\$56.12	-8.80%
11.25%	1.25%	\$59.54	-19.5%
13%	2.75%	\$43.27	-29.7%



Recommendation

Current Price	Target Price	Downside	Recommendation
\$61.56	\$52.42	-17.17%	SELL

- Slowly reduce our holding of FIS by selling 44bps
- Use the 44bps for investment in more reliable companies that show evidence have having upside
- With analysts predicting a rally over the next year, we are leaving space for future classes to sell at higher price or recuperate losses if price recaptures its earlier value

<u>Risks</u>

- Uncertain macro environment
- Uncertain regulatory environment
- FIS historically unreliable regarding revenue targets; stock could drop further
- FIS turns a corner and stock drastically increases in price; we lose that value

Recommendation

/ \	—	-	2				• •
Stock	Redommendation	Price Today	Target	Weight	Proposal Weight	Expected Price Return (%)	Dividend Yield
BAC	HOLD	\$ 31.98	\$ 36.54	1.78%	1.78%	14%	3.00%
JPM	HOLD	\$ 154.95	\$153.30	2.13%	2.13%	-1%	2.58%
FIS	SELL	\$ 61.56	\$ 52.42	2.33%	2.00%	-15%	3.38%
DFS	HOLD	\$ 105.11	\$178.45	1.72%	1.72%	70%	2.66%
AXP	BUY	\$ 170.22	\$202.00	2.37%	2.47%	19%	1.41%
С	HOLD	\$ 47.05	\$ 53.05	0.76%	0.76%	13%	4.34%
V	BUY	\$ 239.25	\$271.50	0.00%	0.22%	13%	0.75%
MA	BUY	\$ 397.49	\$420.68	0.00%	0.11%	6%	0.57%
		1. S.					





BAC DCF Model

Bank Of America (BAC)	U	U	D			9		1	J	K	L
Analyst Andrew Thompson				Terminal Disc		10.7%					
5/27/2023				Terminal F	CF Growth =	3.0%					
Millions	 2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Year	2023E	2024E	2025E	20266	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Revenue	 100,499	100,058	103,244	106,532	109,728	113,019	116,410	119,902	123,499	127,204	131,020
% Growth		-0.4%	3.2%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Operating Income	32.557	32,881	34,214	34,942	35,991	37,070	38,182	39,328	40,508	41,723	42,975
Operating Margin	32.4%	32.9%	33.1%		32.8%	32.8%	32.8%	32.8%	32.8%		32.8%
Income Before Taxes	32,577	32,811	34,214	34,942	35,991	37,070	38,182	39,328	40,508	41,723	42,975
Taxes	4,561	4,594	4,790	4.892	5,039	5,190	5,346	5,506	5,671	5,841	6,016
Tax Rate	14.0%	14.0%	14.0%		14.0%	14.0%	14.0%	14.0%	14.0%		14.0%
Net Income from Cont Ops	28,016	28,217	29,424	30,050	30,952	31,880	32,837	33,822	34,837	35,882	36,958
Net Income	 28,016	28,217	29,424	34,942	35,991	37,070	38,182	39,328	40,508	41,723	42,975
% Growth		0.7%	4.3%	18.8%	3.0%	3.0%	3.0%	3.0%	3.0%		3.0%
Add Depreciation/Amort	5,025	5,003	5,162	5,327	5,486	5,651	5,238	5,396	4,940	5,088	5,241
% of Sales	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	4.5%	4.5%	4.0%	4.0%	4.0%
NPV of Cash Flows	211,436	51%									
NPV of terminal value	206,279	49%							Т	erminal Value	572,033
Projected Equity Value	 417,715	100%									
Free Cash Flow Yield	9.75%								Fr	ee Cash Yield	7.51%
Current P/E	10.3	10.2	9.8							Terminal P/E	13.3
Projected P/E	14.9	14.8	14.2								
Current EV/EBITDA	9.4	9.3	9.0						Termi	nal EV/EBITDA	13.2
Projected EV/EBITDA	12.9	12.8	12.3								
Shares Outstanding	8,986										
Current Price	\$ 31.98										
Implied equity value/share	\$ 46.48										
Upside/(Downside) to DCF	45.4%										
Debt	302,914										
Cash	237,462										
Cash/share	26.42										

BAC Ratios [May 2023]

Target Price

Absolute	Current	Current	Your	Target/	Target	Implied
Valuation	Stock	Multiple	Target	Current	Price *	Return #
	Price		Multiple			
P/E	27.09	8.14	11.87	1.458	39.5	45.8%
			(Median)			
P/B	27.09	0.86	1.16	1.349	36.54	34.9%
			(Median)			
P/S	27.09	2.26	3.26	1.442	39.06	44.2%
			(Median)			
P/FCF	27.09	8.36	7.36	0.880	23.84	(12%)
			(Median)			



Current price: \$47.52 Closed: Jul 19, 5:00 PM EDT

- Last reported 10K on July 14 2023
 - Net Income \$2.9B
 - EPS \$1.33
 - TTS generated 15% of total revenue
 - Security Services revenue 15%
 - Market revenue down 13%
 - Investment Banking revenue 24% YoY
 - Wealth revenue **5**%
 - Expenses 19% YoY (\$13.6B)
- Efforts afoot to bending the cost curve
 - Modernize and automate infra
 - Close sales of remaining two Asia consumer franchises by year-end
 - Restart exit process in Poland
 - Adopt a leaner organizational model by reducing redundancies

Discount Rate	Terminal Rate	Target Price	Undervalued by
11%	0%	\$53.05	10%
7.5%	4%	\$376	87%

Master Card DCF

Analyst: Tejen Shah								Tormin-1	line	ount Rate =		8.5%										
	-						-			F Growth =		3.5%	-				-		-			
6/13/23							-	Termina	IFC	r Growth =		3.5%	-				-		-			
(000s)	-		-		_		-		-		-		-		_		-		-		_	
Year	_	2023E		2024E	_	2025E	-	2026E	-	2027E	-	2028E	-	2029E	_	2030E	-	2031E	-	2032E	_	2033
Revenue	\$	25,573	s	29.153	s	32,943	s	36,896	s	40,954	s	45,050	Ś	49,104	s	53.032	s	56,745	s	60,149	s	63.157
% Growth				14.0%		13.0%		12.0%		11.0%		10.0%		9.0%		8.0%		7.0%		6.0%		5.05
																			-			
Operating Income	\$	14,193		16,180	\$	18,283	\$	20,293	\$	22,525	\$	24,777	\$	27,007	\$	29,168	\$	31,210	\$	33,082	\$	34,736
Operating Margin		55.5%	-	55.5%		55.5%		55.0%		55.0%		55.0%		55.0%		55.0%		55.0%		55.0%		55.0
Interest Expense and Other (Income)	\$	(256)	\$	(292)	\$	(329)	\$	(369)	\$	(410)	\$	(450)	\$	(491)	\$	(530)	\$	(567)	\$	(601)	\$	(632
Interest and Other as % of Sales		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.0%		-1.09
Income Before Taxes	\$	14,448	\$	16,471	\$	18,613	\$	20,662	\$	22,934	\$	25,228	\$	27,498	\$	29,698	\$	31,777	\$	33,684	\$	35,368
Taxes	\$	2,312	s	2,635	s	2,978	¢	3,306	¢	3,669	\$	4,036	\$	4,400	\$	4,752	¢	5,084	\$	5,389	¢	5.659
Tax Bate	Ş	2,512		2,035	\$	16.0%	Ş	16.0%	\$	16.0%	\$	4,036	\$	16.0%	\$	4,752	Ş	16.0%	2	16.0%	2	16.05
Tax Note		10.076	-	10.076		10.076		10.076		10.076		10.076		10.076		10.076		10.076		10.076		10.0.
NetIncome	\$	12,137	\$ 1	13,836	\$	15,635	\$	17,356	\$	19,265	\$	21,191	\$	23,099	\$	24,946	\$	26,693	\$	28,294	\$	29,709
%Growth				14.0%		13.0%		11.0%	-	11.0%	_	10.0%		9.0%		8.0%	-	7.0%	-	6.0%		5.05
Free Cash Flow	Ś	12,137	\$ 1	13,836	Ś	15,635	Ś	17,356	Ś	19,265	Ś	21,191	Ś	23,099	Ś	24,946	Ś	26,693	Ś	28,294	Ś	29,709
%Growth	1			14.0%		13.0%		11.0%		11.0%	_	10.0%		9.0%		8.0%	-	7.0%		6.0%		5.05
NPV of Cash Flows	-	136.482		33%			-		-		-	_	-				-		-			
NPV of terminal value		271,995		67%														т	erm	inal Value		614,976
Projected Equity Value		408,476		100%																		
Free Cash Flow Yield		3.33%									_						-	- 1	ree	Cash Yield		4.83
Current P/E	-	30.0		26.3	_	23.3	-		-		-		-				-		Ter	minal P/E		20.7
Projected P/E		33.7		29.5		26.1	-		-		-						-		Ter	minarry c		20.7
Current EV/EBITDA	N//		N/A	23.5	N/		-		-		-					-	-	Termin	alFV	/EBITDA	N/	۵
Projected EV/EBITDA	N/A		N/A		N/		-		-		-						-	Termin		LOIDA		-
Shares Outstanding	-	971					_		_		_		_				_		-			
Current Price	\$	375.32					-		-		-		-				-		-			
Implied equity value/share	\$	420.68																				
Upside/(Downside) to DCF		12.1%									-						-					
			-				-		-		-		-				-		-			
Sensitivity Analysis							ninal	Disc ount F		000000000				1			_		-			
		\$375.32		7.5%		8.0%		8.5%		9.0%		9.5%		10.0%	_		-		-			
		3.30%			\$	455.69	\$	409.38		371.26	\$	339.35	\$	312.25			-		-			
		3.40%		522.38	\$	462.77	s	414.92		375.68	\$	342.93	\$	315.19			-		-			
Terminal Growth Rate		3.50%		532.11	\$	470.16	Ś	420.68		380.25	\$	346.62	\$	318.21								
		3.60%		542.34	\$	477.89	\$	426.67	\$	384.99	\$	350.44	\$	321.33								
		3.70%		553.11		485.98	S	432.91		389.92	Ś	354.39	Ś	324.55								

<u>FIS</u> DCF Model

Analyst: Richard Tinapple				Terminal Di	scount Rate =	11.001	1.25				
7/23/2023				Terminal	FCF Growth =	1.001					
(millions)											
Year	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Revenue	14,800	15,250	16,000	16,320	16,646	16,979	17,319	17,925	18,821	20,045	21,448
X Grault	14,000	15,250 3.84X	10,000 4.92X	10,520 2.8X	10,040 2.8X	10,010 2.8X	2.8X	11,025 3.5X	10,021 5.8X	20,045 6.5X	21,440
		2.842	4.363	6.64				3.34		6.24	
Cost of Revenue	9,468	9,756	10,236	9,792	9,655	9,339	9,525	9,859	10,352	11,025	11,796
An a X of Rea	64.8X	64.8X	64.8X	68.8X	58.8X	55.8X	55.8X	55.8X	55.8X	55.8X	55.83
Gross Profit	5,332	5,494	5,764	6,528	6,991	7,641	7,794	8,066	8,470	9,020	9,652
As . X . f R.	36.8X	5,404 55.8X	36.8X	0.02	42.8X	45.8X	45.8X	45.8X	45.8X	6.1X	45.83
SG&A Expenses	3,729	3,843	4,032	3,264	3,246	3,311	3,377	3,495	3,670	3,909	4,182
Au . X . f . r .	25.2X	25.2X	25.2X	28.8X	15.5X	45.5X	15.5X	45.5X	49.5X	49.5X	15.53
Asset Inpairments	167	172	180	155	158	161	165	170	179	190	204
Asset impairments AssXifka	1.1X	1.1X	1.1X	1.35X	1.35X	8.85X	1.35X	8.35X	1.35X	1.50 1.35X	1.15
Operating Income	1,436	1,479	1,552	3,109	3,587	4,168	4,252	4,401	4,621	4,921	5,265
As a X of Resear	5.7X	5.7X	5.7X	18.4X	24.6X	24.5X	24.5X	26.5X	26.5X	24.53	24.5X
Other Income	(451)	(465)	(488)	(408)	(333)	(255)	173	179	188	200	214
As 2 X of Research	-1.85X	-3.85X	-1.85X	-2.58X	-2.88X	-1.58X	1.80X	1.80X	1.882	1.00X	1.883
Earnings (loss) before income taxe	985	1,015	1,065	2,701	3,254	3,914	4,425	4,580	4,809	5,121	5,480
Tares	208	208	208	540	651	783	885	916	962	1,024	1,096
Tar Rale	200	200 28.5X	19.5X	28.8%	28.8X	28.8%	28.82	21.0	20.12	1,024 21.1X	1,036
							-				
Net Income	777	807	857	2,161	2,603	3,131	3,540	3,664	3,847	4,097	4,384
X Graulb		5.5X	6.2X	452.5X	28.5X	28.5X	15.1X	5.5X	5.8X	6.5X	7.83
		1,079.60								-	
NPV of Cash Flows	14,256	48%								Terminal Value	
NPV of terminal value	15,594	52%								l erminal Value	44,278
Projected Equity Value Free Cash Flow Yield	29,850	100%				-				Free Cash Yield	9.902
Free Cash Flow Tield	2.132	-				-				Free Gash Tield	9.904
Current P/E	46.9	45.2	42.5							Terminal P/E	10.1
Projected P/E	55.4	57.0	54.8								
Current EV/EBITDA	5.1	5.0	4.7						Ter	minal EV/EBITDA	4.8
Projected EV/EB/TDA	4.4	4.5	4.1								
Shares Outstanding	532										
0											
Current Price	\$ 61.56										
Implied equity value/share	\$ 50.42										
Upside/(Downside) to DCF	-18.12			-							
Debt	14,207										
Debt Cask	14,207 2,188										

DFS DCF Model

Analyst: Richard Tinapple				Termin	al Discount Rate =	11.75%					
5/30/2023				Tern	ninal FCF Growth =	100%					
(millions)											
Year	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E
Interest Income	15,051	16,255	16,743	17,077	17,248	17,421	17,769	18,391	19,311	20,373	21,595
2 Growth		\$.0×	3.0×	2.0%	1.0%	1.0×	2.0%	3.5%	5.0%	5.5%	6.0%
	10.040	10.000	11.050		10 700	10.007	44.045	15 005	10.000	40.000	17.004
Net Interest Income	12,846	13,936	14,352	14,174	13,799	13,937	14,215	15,265	16,028	16,909	17,924
Ar a % of Interest income	\$5.35×	85.74×	\$5.72×	\$3×	\$0%	80×	\$0×	\$3%	\$3×	\$3×	\$3×
Provision for Credit Losses	4,214	5,120	4,521	4,269	4,312	4,355	3,909	4,598	4,828	5,093	5,399
Ar a % of int income	28.0%	31.5%	27.0%	25.0%	25.0%	25.0%	22.0%	25.0%	25.0%	25.0%	25.0%
Net Interest Income after Provision				0.005				40.007			40 505
for credit losses (Operating Income)	8,632	8,816	9,831	9,905	9,487	9,581	10,306	10,667	11,200	11,816	12,525
Oporating Margin	57.4%	54.2%	58.7×	58.0×	55.0×	55.0%	58.0%	58.0%	58.0%	58.0×	58.0%
Total Other Income	2,709	2,885	3,056	2,989	3,018	3,049	3,110	3,218	3,283	3,463	3,671
Other Income % of Interest Income	18.0×	17.8%	18.3%	17.5×	17.5%	17.5%	17.5%	17.5%	17.0%	17.0%	17.0%
Total Other Expenses	6,321	6,708	6,321	6,830.98	6,899.29	7,316.70	7,463.03	7,724.24	7,724.24	8,149.07	8,638.01
Expenses X of Interest Income	42.0%	41.3%	37.8%	40.0×	40.0%	42.0%	42.0%	42.0%	40.0%	40%	40.02
Income Before Taxes	5,019	4,993	6,335	6,062	5,606	5,313	5,953	6,161	6,759	7,130	7,558
Tazes	1,182	1,166	1,444	1,382	1,278	1,211	1,357	1,232	1,352	1,426	1,738
Tax Rato	23.6%	23.4%	22.8%	22.8%	22.8%	22.8%	22.8%	20.0%	20.0%	20.0%	23.0%
Net Income	3,837	3,827	4,891	4,680	4,328	4,102	4,595	4,929	5,407	5,704	5,820
%Growth		-0.32	27.8%	-4.32	-7.5×	-5.2%	12.0%	7.3%	9.7%	5.5%	2.0%
NPV of Cash Flows NPV of terminal value	27,314 18,003	60% 40%								Terminal ¥alue	54,680
Projected Equity Value	45,317	100%								rennnar Falue	34,000
Free Cash Flow Yield	14.38%	100%								Free Cash Yield	10.64%
Current P/E Projected P/E	7.0 #8	7.0 //.8	5.5 33							Terminal P/E	9.4
Current EV/EBITDA	4.0	3.9	3.5				-		Tor	minal EV/EBITDA	5.0
Projected EVIEBITER	6.2	61	5.4								5.0
Shares Outstanding	253.95										
Current Price	\$ 105.11										
Implied equity value/share	\$ 178.45						-		-		
Upside/(Downside) to DCF	69.8%										
Debt	18,160										
Cash	10,140										
Cashishare	39.93										

American Express DCF Model

							-				_							
American Express (AXP)					-		-								-			
Analyst: Tejen Shah				Terminal D	iscou	nt Rate =		8.5%							-			
6/6/23						Growth =		3.5%							-			
(000s)					1		1								1			
Year	2023E	2024E	2025E	20265		2027E		2028E		2029E		2030E	_	2031E		2032E		2033
							-											
Non Interest Revenues	\$ 49,842	\$ 54,826	\$ 60,308	\$ 66,038	\$	71,651	\$	77,025	\$	82,031	\$	87,363	\$	93,042	\$ 9	8,159	\$ 1	103,067
% Growth		10.0%	10.0%	9.5%	5	8.5%		7.5%		6.5%		6.5%		6.5%		5.5%		5.09
Interest Income	\$ 14,683	\$ 16,152	\$ 17,767	\$ 19,151	\$	20,779	\$	22,337	\$	23,789	\$	24,899	s	26,517	\$ 2	7,975	\$	29,374
% Non-Interest Revenue	29.5%	29.5%	29.5%	29.0%		29.0%		29.0%		29.0%		28.5%		28.5%		28.5%		28.59
Interest Expense	\$ 3,226	\$ 3.549	\$ 3,904	\$ 4,623	Ś	5,016	\$	5,777	\$	6,152	s	6.989	Ś	7,443	s	8.344	s	8.761
% Non-Interest Revenue	6.5%	6.5%	6.5%	7.0%		7.0%		7.5%		7.5%		8.0%		8.0%		8.5%		8.5
Provision for Losses	\$ 4,000	\$ 4,000	\$ 4,000	\$ 4,259	s	4,621	Ś	4,968	Ś	5,503	s	5,838	Ś	6,576	s	6.937	Ś	7,284
%Sales	6.2%	5.6%	5.1%	5.0%		5.00%	(5.00%		5.20%		5.20%		5.50%		5.50%		5.509
Expenses	\$ 48,071	\$ 53,091	\$ 58,556	\$ 63,892	\$	69,322	\$	74,522	\$	79,365	\$	84,197	\$	89,669	\$ 9	4,601	\$	99,331
% Sales	74.5%	74.8%	75.0%	75.0%	5	75.0%		75.0%		75.0%		75.0%		75.0%		75.0%		75.09
Income Tax Provision	\$ 2,030	\$ 2,274	\$ 2,555	\$ 3,748	\$	4,067	\$	4,372	\$	4,819	\$	5,112	\$	5,595	\$	5,903	\$	6,198
Tax Rate	22.0%	22.0%	22.0%	22.0%	5	22.0%		22.0%		23.0%		23.0%		24.0%		24.0%		24.09
Net Income	7,198	8,063	9,060	8,667	-	9,403	-	9,724		9,981	-	10,126	-	10,275	1	0,350		10,867
% Growth		12.0%	12.4%	-4.3%		8.5%	-	3.4%		2.6%	-	1.5%		1.5%		0.7%		5.09
Free Cash Flow	7,198	8,063	9,060	8,667	-	9,403	-	9,724		9,981		10,126	-	10,275	1	0,350		10,867
% Growth		12.0%	12.4%	-4.3%	i	8.5%	-	3.4%		2.6%		1.5%		1.5%		0.7%		5.09
NPV of Cash Flows	62,126	38%					-								-			
NPV of terminal value	99,492	62%												T	ermina	al Value	2	224,949
Projected Equity Value	161,618	100%																
Free Cash Flow Yield	5.30%													Fr	ee Cas	h Yield		4.83%
Current P/E	18.9	16.8	15.0		-		1								Term	inal P/E		20.7
Projected P/E	22.5	20.0	17.8															
Current EV/EBITDA	N/A	N/A	N/A											Termin	nal EV/	EBITDA	N/	A
Projected EV/EBITDA	N/A	N/A	N/A			100100												
Shares Outstanding	798			Sensitivi	Sensitivity Analysis \$184.31			7.5%		8.0%			inal Discount Rate 8.5% 9.0%		9.5%			10.0%
						3.30%		\$244.13		\$218.34		\$197.50		\$180.31		165.89	_	\$153.62
Current Price	\$ 170.22			Terminal	-	3.40%		\$248.26		\$221.49		\$199.97		\$182.28	1.00	167.48		\$154.93
Implied equity value/share	\$ 202.53			Growth		3.50%		\$252.59		\$224.78		\$202.53		\$184.31	2.5	169.13		\$156.27
Upside/(Downside) to DCF	19.0%			Rate	1	3.60%		\$257.14		\$228.22		\$205.20		\$186.43	11	170.83		\$157.66
• • • • • • • • • • • • • • • • • • • •																		

Visa DCF Model

A1	 fix in milions, except per share date 	ta															
	А		в		с		D		E		F		G		н	E	
1	in milions, except per share data	202	25 E	202	4 E	202	23 E	202	22	202	21	202	!0	201	9	201	8
2	VISA (V)																
3	Consensus	S	40,270.00	\$	36,140.00	S	32,560.00										
4	Net Revenues	S	40,085.26	\$	36,112.85	\$	32,534.10	S	29,310.00	S	24,105.00	S	21,846.00	\$	22,977.00	\$	20,609.00
5	% growth		111.00%		111.00%		111.00%		121.59%		110.34%		95.08%		111.49%		
6	Operating Expenses																
7	Personnel	S	6,814.49	S	6,139.18	\$	5,530.80	S	4,990.00	S	4,240.00	S	3,785.00	S	3,444.00	\$	3,170.00
8	% of revenue		17.00%		17.00%		17.00%		17.02%		17.59%		17.33%		14.99%		15.38%
9	Marketing	S	1,827.89	s	1,646.75	\$	1,483.55	S	1,336.00	S	1,136.00	S	971.00	S	1,105.00	s	988.00
10	% of revenue		4.56%		4.56%		4.56%		4.56%		4.71%		4.44%		4.81%		4.79%
11	Networking and Processing	S	1,014.16	S	913.66	s	823.11	S	743.00	S	730.00	S	727.00	S	721.00	S	686.00
12	% of revenue		2.53%		2.53%		2.53%		2.53%		3.03%		3.33%		3.14%		3.33%
13	Professional fees	s	689.47	s	621.14	s	559.59	S	505.00	s	403.00	S	408.00	S	454.00	s	446.00
14	% of revenue		1.72%		1,72%		1.72%		1.72%		1.67%		1.87%		1.98%		2.16%
15	D&A	s	1,178.51	S		s	956.50	S		S		S		S		S	613.00
16	% of revenue	Ť	2.94%	Ť	2.94%	Ť	2.94%	Ĩ	2.94%	Ť	3.34%	~	3.51%	~	2.86%		2.97%
17	General and administrative	s	1,631.47	s	1,469.79	s	1,324.14	S	1,194.00	s	985.00	S	1,096.00	S	1,196.00	s	1,145.00
18	% of revenue		4.07%	•	4.07%	÷	4.07%	~	4.07%	•	4.09%	~	5.02%		5.21%		5.56%
19	Litigation Provision	s	1,186.52	s	1,068.94	s	963.01	S	868.00	S	3.00		11.00	S		S	607.00
20	96 of revenue	3	2.96%	\$	2.96%	Ŷ	2.96%	3	2.96%	3	0.01%	3	0.05%	3	1.74%	9	2.95%
20	Total Operating Expenses	s	14.342.84	s	12,921.51	c	11,641.03	c	10,497.33	c	8,301.34	•	7,765.35	•	7,976.33	c	7,655.34
		s	25.742.43	ə S	23,191,34	\$ S	20.893.07	S	18.812.67	S	15.803.66	S	14.080.65	S	15.000.67	S	12.953.66
22	Operating Income	3	25,742.43	2	23,191.34	\$	20,893.07	3	18,812.07	3	15,803.00	3	14,080.05	3	15,000.07	3	12,953.00
23	Non-operating Income (Expense)																
24	Interest Expense	S	(721.53)	S	(650.03)	S	(585.61)	S	(538.00)	S	(513.00)	S	(516.00)	S	(533.00)	S	(612.00)
25			-1.80%		-1.80%		-1.80%		-1.84%		-2.13%		-2.36%		-2.32%		-2.97%
28	Investment Income (Expense) and other	S	(188.40)	S	(169.73)	\$	(152.91)	S	(139.00)	S	772.00	S	225.00	S	416.00	S	464.00
27			-0.47%		-0.47%		-0.47%		-0.47%		3.20%		1.03%		1.81%		2.25%
28	Total non-operating Income (Expense)	S	(909.95)	\$	(819.78)	\$	(738.54)	S	(677.02)	S	258.98	S	(291.02)	S	(117.02)	\$	(148.03)
29	Income before Income Taxes	S	24,832.48	S	22,371.56	\$	20,154.53	\$	18,135.65	S	16,062.63	S	13,789.62	S	14,883.65	\$	12,805.63
30	Income tax provision	S	4,469.85	S	4,026.88	\$	3,627.82	S	3,179.00	S	3,752.00	S	2,924.00	S	2,804.00	S	2,505.00
31	Income tax pct		18.00%		18.00%		18.00%		17.53%		23.36%		21.20%		18.84%		19.56%
32	Net Income	S	20,362.63	S	18,344.68	s	16,526.71	S	14,956.65	S	12,310.63	S	10,865.62	S	12,079.65	S	10,300.63
33																	
34	Basic Earnings Per Share																
35	Class A C/S								7.01		5.63		4.90		5.32		4.43
36	Class B C/S								11.33		9.14		7.94		8.68		7.28
37	Class C C/S								28.03		22.53		19.58		21.30		17.72
38	08350010								20.05		22.33		13.30		21.30		11.72
39	Basic Weighted-Average Shares Outstanding																
40	Class A C/S								1,651		1.691		1,697		1,742		1,792
40	Class A C/S Class B C/S												1,697				
41									245		245				245		245
42	Class C C/S								10		10		11		12		12
	P71 4 1 5 P 4																
44	Diluted EPS																
45	Class A C/S								7.00		5.63		4.90		5.32		4.42
46	Class B C/S								11.31		9.13		7.94		8.66		7.27
47	Class C C/S								28.00		22.51		19.58		21.26		17.69
48																	
49	Diluted Weighted-Average Shares Outstanding	g															
50	Class A C/S								2,136		2,188		2,223		2,272		2,329
51	Class B C/S								245		245		245		245		245
52	Class C C/S								10		10		11		12		12