

Payments, Processors & IT Services

What's on tap for C4Q23?

Earnings Preview

MA's '24 guide should be roughly in-line

Visa (V) reports on 1/25 and Mastercard (MA) reports on 1/31. Overall, we are comfortable with consensus C4Q forecasts for both companies based on the leading indicators we track (Exhibit 7). We anticipate MA's initial F24 guidance to be roughly in-line with BofAe/Street at 11%/12% growth. Jan. MTD metrics will also be in focus, and our 1Q estimates are below the Street (Exhibit 5). Variables to watch include tougher 1H cross-border comps, diminished FX volatility, and client incentives. Though V/MA remain well-owned, we don't expect much stock price volatility around the prints.

V: Anticipate solid qtr, and reiterated F24 outlook

Last quarter V guided to F24 (Sept) net revenue growth of high-single-digit (HSD) to low double-digits, HSD opex growth, and EPS growth in the low-teens. At this early junction of the fiscal year, and given macro/consumer spending trends since the last earnings call have remained pretty sturdy, we do not expect V to materially change its F24 guidance. Our F1Q ests are in-line with consensus. V could also provide an update on its proposed share exchange program, which is scheduled to be voted on at the 1/23 annual meeting.

Leading indicators suggest largely stable C4Q trends

Average US card issuer volume growth was 4.7% in 4Q, stable vs. C3Q, with credit volume growth accelerating and debit volume growth decelerating modestly. PCE growth remained steady at 2.3% in 4Q (QTD through Nov). First Data SpendTrend growth remained relatively stable at 4.1% in 4Q vs. 4.3% in 3Q. Retail sales showed slight improvement in the US/UK/EU. Gas prices declined 8% (-6.3% q/q), improving from -10% y/y in 3Q. FX volatility declined 1.3% q/q and 33% y/y (vs. 30% in 3Q).

We maintain a slight preference for V vs. MA

Maintain Buy rating on both V/MA, given recession resilient/diversified models, secular tailwinds, and competitive moats. We have a slight preference for V based primarily on relative valuation and largely de-risked F24 estimates. MA now trades at a 16% premium to V on C24 P/E (vs. 9%/13% premium over the past 3/5 years, respectively). We believe this gap could narrow, though we recognize that MA's smaller base/greater international exposure may position MA for modestly faster normalized top-line growth. Note V has more debit exposure than MA, and debit spending is generally more resilient in an economic downturn. We roll out F26 rev/EPS ests for MA of \$35.0B/\$19.02.

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FX: foreign exchange

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Previewing C4Q23 Results

Review of guidance, recent commentary, and estimate changes

Visa

Analysis of C4Q

V reports on 1/25. Overall, we believe that constant-currency results will likely be in-line. Last quarter, Visa provided an outlook for certain line items. For F1Q, adjusted net revenue growth is expected to be in the mid-upper single digit range, with an approximately 0.5% headwind from exchange rates.

V expects non-GAAP operating expense growth in the high-single-digits (1.5% FX benefit). The tax rate is expected to be 19.5%-20.0% in F1Q. Altogether, F1Q adj. EPS growth is expected to be in the upper mid-single digits with minimal impact from FX.

On their 10/24 earnings call, V disclosed that it would no longer provide mid-quarter business updates. However, during the F4Q23 earnings call, V did provide intra-quarter total US payment volumes, US credit and debit volumes, processed transactions, cross-border volumes, and cross-border volumes ex. intra-Europe through October 21 (summarized in Exhibit 1).

Exhibit 1: Visa Intra-Quarter Operating Metrics through 10/21/23

During the F4Q23 earnings call, V provided key metrics QTD through October 21

	F4Q23	QTD Thru 10/21	F1Q24	
			BofAe	Consensus
US Payment Volume	6.0%	5.0%	6.0%	6.1%
US Credit Volume	5.5%	5.0%	6.0%	n/a
US Debit Volume	6.5%	5.0%	6.0%	n/a
Cross-border Volume (ex. Intra-Europe)	18.0%	19.0%	n/a	n/a
Transactions	10.0%	10.0%	10.0%	9.8%

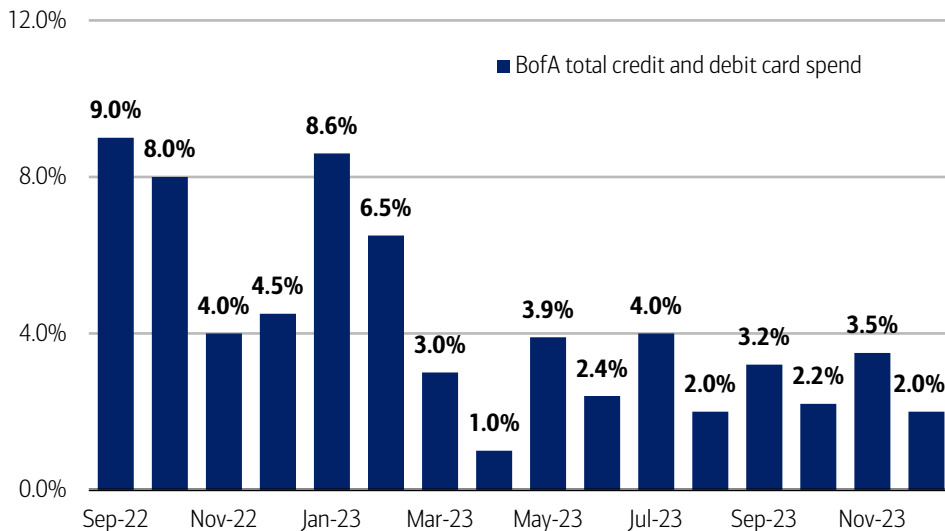
Source: Company filings, BofA Global Research estimates

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We note that BAC credit and debit card data showed December payment volumes growth of 2.0% y/y vs. 3.5% y/y in November and 2.2% y/y in October (see Exhibit 2). For more on BAC card spending data, and a detailed explanation of the methodology, disclaimers, and limitations regarding BAC card data, please see the latest [Consumer Checkpoint](#) report.

Exhibit 2: BAC total credit and debit card spending

BAC total credit and debit card spending decelerated to 2.0% in December vs. 3.5% in November



Source: BAC internal data

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In C4Q, on average among the issuers we track, credit accelerated modestly while debit decelerated slightly, with overall credit growth still stronger than debit. On average, the large US issuers (JPM, BAC, USB, C, WFC) saw total volume growth of 4.7% y/y in C4Q, stable vs. C3Q and up vs. 3.8% y/y in C2Q. Average credit volumes (JPM, BAC, USB, WFC) grew 6.9% y/y in C4Q vs. 6.4% in C3Q. Debit volume growth decelerated slightly to 4.9% in C4Q vs. 5.2% y/y in C3Q.

Below, we summarize our/Street estimates for Visa, followed by additional details (Exhibit 3).

Exhibit 3: Summary of Visa estimates for BofAe/Street – F1Q24, F2Q24 and F2024

BofA F1Q24 revenue and EPS estimates are relatively in-line with Consensus

	F1Q24					F2Q24					F2024				
	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons
Service Revenue (\$M)	3,896	3,896	0.0%	3,896	0.0%	4,188	4,188	0.0%	4,116	1.8%	16,432	16,432	0.0%	16,271	1.0%
Service Revenue Growth	11.0%	11.0%		11.0%		11.1%	11.1%		9.1%		10.8%	10.8%		9.8%	
Data Processing Revenue (\$M)	4,231	4,231	0.0%	4,274	-1.0%	4,222	4,222	0.0%	4,247	-0.6%	17,696	17,696	0.0%	17,809	-0.6%
Data Processing Growth	10.6%	10.6%		11.7%		10.6%	10.6%		11.2%		10.6%	10.6%		11.6%	
International Revenues (\$M)	3,133	3,133	0.0%	3,054	2.6%	3,079	3,079	0.0%	3,081	-0.1%	13,217	13,217	0.0%	13,103	0.9%
International Revenue Growth	12.0%	12.0%		9.2%		12.0%	12.0%		12.1%		13.6%	13.6%		13.7%	
Other revenues	675	675	0.0%	671	0.6%	672	661	-1.6%	658	0.5%	2,949	2,871	-2.6%	2,851	0.7%
y/y growth	15.0%	15.0%		14.3%		22.0%	20.0%		19.5%		19.0%	15.8%		14.8%	
Client incentives	(3,366)	(3,366)	0.0%	(3,341)	0.7%	(3,429)	(3,426)	-0.1%	(3,390)	1.1%	(14,393)	(14,370)	-0.2%	(14,083)	2.0%
% of Total Gross Revenue	28.2%	28.2%		28.1%		28.2%	28.2%		28.0%		28.6%	28.6%		28.1%	
Net Revenues (\$M)	8,569	8,569	0.0%	8,542	0.3%	8,731	8,724	-0.1%	8,690	0.4%	35,902	35,846	-0.2%	35,858	0.0%
Net Revenue Growth	8.0%	8.0%		7.6%		9.3%	9.2%		8.8%		9.9%	9.8%		9.8%	
Adjusted EPS	\$2.35	\$2.35	0.0%	\$2.34	0.4%	\$2.37	\$2.38	0.2%	\$2.35	1.2%	\$9.94	\$9.91	-0.3%	\$9.89	0.2%
EPS Growth	7.8%	7.8%		7.5%		13.3%	13.5%		12.2%		13.4%	13.0%		12.8%	
Global Payment Volume (\$B)	3,294	3,294	0.0%	3,283	0.3%	3,219	3,219	0.0%	3,209	0.3%	13,470	13,470	0.0%	13,443	0.2%
Global Payment Volume Growth	9.3%	9.3%		8.9%		9.0%	9.0%		8.6%		9.2%	9.2%		8.9%	

Exhibit 3: Summary of Visa estimates for BofAe/Street – F1Q24, F2Q24 and F2024

BofA F1Q24 revenue and EPS estimates are relatively in-line with Consensus

	F1Q24					F2Q24					F2024				
Processed Transactions (M)	57,763	57,763	0.0%	57,635	0.2%	55,076	55,076	0.0%	55,472	-0.7%	233,836	233,836	0.0%	235,101	-0.5%
Processed Transaction Growth	10.0%	10.0%		9.8%		10.0%	10.0%		10.8%		10.0%	10.0%		10.4%	

Source: Bloomberg, Visible Alpha, BofA Global Research estimates

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- **Payment Volumes:** Our estimate for global payment volume is 9.3% y/y (vs. the Street at 8.9% y/y), reflecting relatively stable underlying trends vs. F4Q, consistent with management commentary. Our estimate reflects roughly flat FX. V generates ~50% of volumes outside of the US, which we believe experienced modest FX headwinds since the F4Q call due to lower fuel prices and a stronger USD (down 3.3% y/y in 4Q23 vs. down 4.6% in 3Q23).
- **Service Revenues:** Our service revenue growth forecast of 11% in F1Q is unchanged, and in-line with consensus. Of note, V's Service Revenues are calculated on prior quarter payment volume (i.e., F3Q23 Services revenues are calculated on F2Q23 payment volumes, whereas MA recognizes these revenues on current quarter volumes).
- **Processed Transactions / Data Processing Fees:** We are modeling 10.6% y/y growth in F1Q, slightly below consensus at 11.7%. Of note, a portion of Visa's value-added services business is also in the Data Processing revenue line.
- **International Revenue:** Our F1Q International Transaction (cross-border) revenue growth is 12%, ahead of the Street at 9%. We believe this metric likely benefitted from solid trends in cross-border travel, offset by less FX volatility and stronger USD.
 - Of note, V saw a -7.6% delta between International Transaction revs and x-border const-curr vols ex. intra-Europe in F4Q23 and -7.9% for F3Q23, and -7.5% for F2Q23. During its intra-quarter update on the F4Q23 call, V reported that x-border const-curr vols ex. intra-Europe grew 19% QTD through October.
- Based on all the above assumptions and changes, are comfortable with our F1Q net revenue growth forecast of 8.0% y/y, in line with the Street at 7.6% y/y and guidance for upper mid-high-single-digit growth. We believe that V likely saw in-line performance in its overall underlying business.

Analysis of F24

Visa provided initial F24 guidance during their F4Q23 earnings call (Exhibit 4), which called for net revenue growth in the high-single-digit to low double-digits. Growth is expected to be lowest in F1Q, improving each quarter throughout the remainder of the year.

V's revenue growth outlook also assumes cross-border travel ex. intra-Europe will grow in the low-20% in constant-currency, or a 4-5% improvement each quarter relative to 2019 levels (largely from recovery in China). Client incentive y/y growth is expected to grow slightly less than the 19% growth in F23.

For F24, operating expense growth is expected to be in the high-single-digits (HSD to low double-digits const-curr). Growth is expected to be higher in F2Q/F3Q due to the Olympics. Altogether with \$250M-\$300M non-operating expenses, and a 18.5%-19.0% tax rate, EPS growth is expected to be in the low-teens for F24 (inclusive of a 0.5% FX headwind).

As a reminder, Visa's top-line performance in a given quarter is slightly more predictable than Mastercard, as Visa calculates Service Revenue (about a third of total gross

revenue) using payment volume from the previous quarter, meaning F3Q23 Service Revenue is calculated using F2Q23 payments volume.

Exhibit 4: Summary of Fiscal 2024 Guidance

Visa provided initial F24 outlook during the F4Q23 earnings call

	F1Q	F2Q	F3Q	F4Q	F24
Revenue Growth					
	Guidance	Guidance	Guidance	Guidance	Guidance
Cross-border Travel ex. intra-Europe y/y	Low 20% y/y in constant dollars, or 4-5pt improvement each quarter compared to 2019 levels				
Client incentives	n/a	n/a	n/a	n/a	Y/y growth slightly less than the 19% growth in FY23
FX Headwinds*	0.5% headwind				1% headwind
Net Revenue Growth	<i>Upper mid-to-high single-digits adjusted</i>	<i>Q1 is expected to have lowest adj. y/y net revs growth, improving throughout the year</i>		<i>Q4 highest adj. growth rate</i>	<i>High single-digit to low double-digits reported</i>
Expense Growth					
Operating expense growth (reported)	<i>High-single-digits (1.5% FX benefit)</i>	<i>Olympics yr so bigger ramp in Q2/Q3</i>	<i>Olympics yr so bigger ramp in Q2/Q3</i>	<i>n/a</i>	<i>High single-digit in nominal (HSD to low DD adj; 1.5% FX benefit)</i>
EPS Growth					
Non-operating expenses	n/a	n/a	n/a	n/a	\$250M - \$300M
Tax Rate	19.5% - 20%	n/a	One-time tax benefits in 2H		18.5% - 19%
EPS growth	upper mid single-digits w/ minimal FX impact	n/a	n/a	n/a	low-teens with 0.5% FX headwind to nominal

Source: Company Filings, BofA Global Research

*Assume currency volatility moderates slightly from F4Q23 levels, but remains relatively stable throughout the year

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Mastercard

Analysis of C4Q

MA reports on 1/31. For 4Q, reported net revenue growth guidance is for low double-digits (LDD), including ~0-1% FX tailwind. BofAe/Street are in-line at 11%. From an opex standpoint, 4Q growth is expected to be at the high-end of high-single-digits, with BofAe/Street at 9%.

MA also expects other income/expense of ~\$85M, and 18-19% tax rate for 4Q. Altogether, our adj. EPS estimate of \$3.06 is slightly below Consensus at \$3.08.

In Exhibit 5 below, we summarize estimates for Mastercard, followed by additional details. We note there may be some variability with our estimates vs. consensus given MA's recent modification of the presentation of its disaggregated revenues (see our 2/15/23 [10-K + new revenue presentation non-event for shares](#) note for more details).

Exhibit 5: Summary of Mastercard estimates for BofAe/Street– 4Q23, 1Q24, and F2024

BofAe 4Q23 estimates are in line with Consensus

	F4Q23					F1Q24					F2024				
	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons	Prior BofAe	Current BofAe	Current vs. Prior (%)	Cons	BofAe vs. Cons
Domestic Assessments	2,455	2,455	0.0%	2,476	-0.9%	2,562	2,504	-2.3%	2,479	1.0%	10,836	10,674	-1.5%	10,699	-0.2%
y/y growth	10.8%	10.8%		11.8%		13.7%	11.1%		10.0%		12.4%	10.8%		10.5%	
Cross-Border Assessments	2,239	2,239	0.0%	2,202	1.7%	2,163	2,126	-1.7%	2,142	-0.7%	9,887	9,809	-0.8%	9,639	1.8%



Exhibit 5: Summary of Mastercard estimates for BofAe/Street– 4Q23, 1Q24, and F2024

BofAe 4Q23 estimates are in line with Consensus

	2023 E	2023 C		2023 E		2023 E	2023 C		2023 E		2023 E	2023 C		2023 E	
Transaction Processing Assessments	3,156	3,156	0.0%	3,242	-2.6%	3,153	3,084	-2.2%	3,126	-1.4%	13,617	13,539	-0.6%	13,867	-2.4%
y/y growth	11.5%	11.5%		14.5%		14.6%	12.1%		13.6%		12.9%	12.3%		12.7%	
Other Network Assessments	219	219	0.0%	225	-3.1%	246	246	0.0%	240	2.6%	1,078	1,078	0.0%	1,042	3.4%
y/y growth	15.0%	15.0%		18.7%		16.0%	16.0%		13.1%		16.0%	16.0%		11.3%	
Payment Rebates and Incentives	(4,074)	(4,074)	0.0%	(4,078)	-0.1%	(3,957)	(3,877)	-2.0%	(3,874)	0.1%	(17,459)	(17,303)	-0.9%	(17,228)	0.4%
% of Total Gross Payments Revenue	50.5%	50.5%		50.3%		48.7%	48.7%		48.7%		49.3%	49.3%		49.1%	
Net Revenues (\$M)	6,459	6,459	0.0%	6,474	-0.2%	6,360	6,342	-0.3%	6,418	-1.2%	27,915	27,844	-0.3%	28,052	-0.7%
Net Revenue Growth	11.0%	11.0%		11.3%		10.7%	10.3%		11.7%		11.6%	11.3%		12.2%	
Operating Expenses	2,861	2,861	0.0%	2,853	0.3%	2,648	2,648	0.0%	2,648	0.0%	11,627	11,627	0.0%	11,536	0.8%
y/y growth	9.3%	9.3%		9.0%		10.3%	10.3%		10.3%		10.3%	10.3%		9.5%	
Adjusted EPS	\$3.06	\$3.06	0.0%	\$3.08	-0.7%	\$3.16	\$3.16	-0.2%	\$3.23	-2.4%	\$14.04	\$14.02	-0.2%	\$14.25	-1.6%
EPS Growth	15.5%	15.5%		16.3%		13.0%	12.7%		15.4%		15.7%	15.5%		17.4%	
Global Payment Volume (\$B)	1,944	1,944	0.0%	1,926	0.9%	1,925	1,925	0.0%	1,873	2.8%	8,290	8,290	0.0%	8,100	2.3%
Global Payment Volume Growth	12.6%	12.6%		11.5%		12.8%	12.8%		9.8%		12.5%	12.5%		9.9%	
Switched Transactions (M)	38,204	38,204	0.0%	37,774	1.1%	37,009	36,197	-2.2%	35,857	1.0%	161,547	160,381	-0.7%	158,662	1.1%
Switched Transaction Growth	12.5%	12.5%		11.2%		14.0%	11.5%		10.5%		12.7%	11.9%		11.4%	

Source: BofA Global Research estimates, Bloomberg, Visible Alpha

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- Volumes:** We are modeling 4Q global payment volume growth of 12.6% y/y, slightly ahead of the Street at 11.5%. During the 3Q earnings call, MA disclosed that global switched volume growth was 11% QTD through 10/21, and FX was likely a modest tailwind (international represents ~60% of MA's volumes).
 - Our US volumes y/y growth estimate of 5.5% is in-line with the Street at 5.8%. US switched volumes growth was 5% y/y MTD through 10/21.
- Domestic Assessment Revenues:** We are forecasting Domestic Assessments Revenue growth for F4Q of 10.8% vs. the Street at 11.5%.
- Switched Transactions:** Our estimate for switched transactions growth remains unchanged at 12.5%, slightly ahead of the Street at 11.2. During the 3Q earnings call, MA disclosed that switched transaction growth was 12% y/y MTD through 10/21.
- Cross-Border Assessments:** Our F4Q Cross-Border Volume Revenue growth estimate of 25% is slightly ahead of the Street at 23%. Similar to V, we believe cross-border volume growth was likely robust, but low FX volatility and strengthening USD were likely headwinds.
 - Of note, MA saw a negative 2% delta between Cross Border volume rev growth and x-border vols ex intra-Europe (const-curr) last quarter, and -2%/-6% delta in 2Q23/1Q23. During the 3Q23 earnings call, MA disclosed that x-border volume growth ex. intra-Europe was trending at 22% MTD through 10/21.
- Overall, we are comfortable modeling overall 4Q net revenue growth of 11.0% y/y, in line with consensus at 11.3%. Our opex growth of 9.3% is also in-line with consensus/guidance. Our adj. EPS estimate of \$3.06 is slightly below the Street at \$3.08.

Thoughts on F24

We believe investors will be focused on Mastercard's initial 2023 guidance on the 4Q earnings call. We anticipate MA's initial F24 guidance to be roughly in-line with BofAe/Street at 11%/12% growth. For F24 opex growth, we are modeling 10.3% y/y vs. consensus at 9.5%, and we would expect MA to remain committed to staying nimble on opex depending on macro.

Valuation

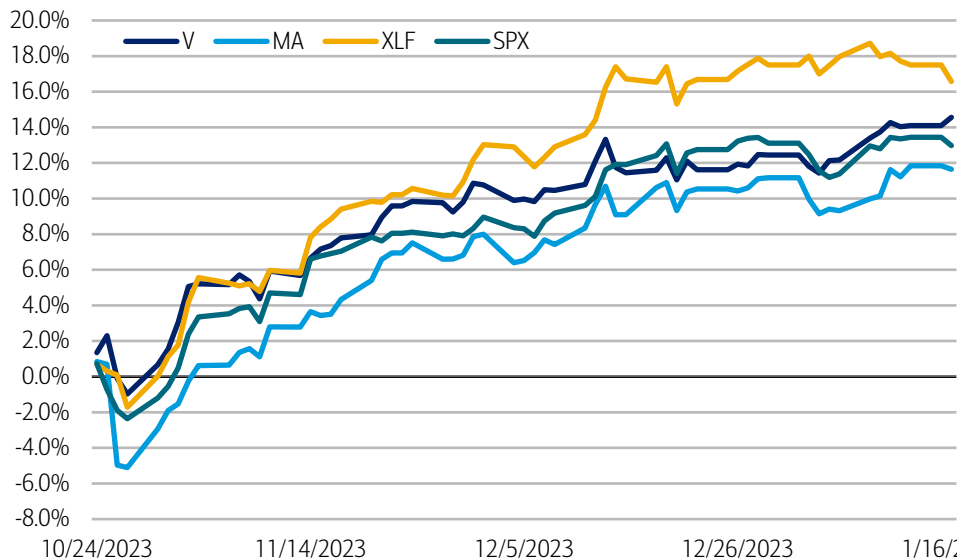
Since C4Q earnings in late October, V/MA are up 14.6%/11.6%. Relative to the XLF/S&P500, V/MA have collectively underperformed the XLF by 350bps and have performed in-line with the S&P500.

V/MA currently trade at a CY24 and CY25 P/E multiple of ~26x/30x and ~23x/26x, respectively. We note that V/MA could lag higher-beta stocks in more of a risk-on trading environment.

We maintain a bullish stance on V/MA in the context of their underlying growth profiles, business model quality, and P&L resiliency in an economic downturn. We have a slight preference for V, mostly due to valuation.

Exhibit 6: V/MA Performance Relative to SPX and XLF – Since C3Q Earnings

V/MA have outperformed both the XLF and the S&P500 since C3Q earnings



Source: Bloomberg, BofA Global Research

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Latest thoughts on Durbin credit card routing bill

On 6/7/23, Senator Durbin reintroduced the Credit Card Competition Act (CCCA). Our opinion that the CCCA has very little chance of becoming law given the lack of political support is unchanged. Passage likely becomes even tougher in an election year.

Even in the unlikely event CCCA becomes law, implementation will face challenges, and we believe consumers would suffer from diminished rewards programs. With that said, CCCA could represent an element of potential headline risk for V/MA this year, as Sen. Durbin will likely continue his efforts to get a vote on the bill, either as a stand-alone piece of legislation or as part of a broader legislative package.

For more on this topic please see our previously published notes:

- 7/27/23 [V/MA: Credit Card Competition Act - the plot thickens a little bit](#)



- 6/7/23 [V/MA: shares overreacting to re-introduction of CCCA bill](#)
- 3/22/23 [Takeaways from 2023 Virtual Payments Symposium](#)
- 8/10/22 [V/MA: Latest checks on Durbin credit routing bill](#)
- 7/27/22 “Payments Perspectives”: What could the new Durbin bill mean for V/MA/Payments?

Summary analysis of BofA leading indicators

Exhibit 7: Analysis of BofA leading indicators

Collectively, we believe our leading indicators suggest stable to modestly improving operating trends in 3Q

Indicator	Summary
Bank Card Issuer/ Acquirer Volumes	<ul style="list-style-type: none"> Across the group of large US card issuers we track (JPM, C, WFC, BAC, USB), US volume grew 4.7% y/y in 4Q (stable vs. 3Q). Debit volume growth decelerated slightly to 4.9% y/y in 4Q (vs. 5.2% y/y in 3Q), whereas credit volume growth accelerated to 6.9% in 4Q (vs. 6.4% in 3Q).
First Data SpendTrend	<ul style="list-style-type: none"> SpendTrend's 4Q average Y/Y card volume decelerated slightly to 4.1% vs. 4.3% in 3Q23.
US Personal Consumption Expenditures (PCE)	<ul style="list-style-type: none"> PCE was relatively stable at 2.3% in 4Q (QTD through November), vs. 2.2% in 3Q23.
Retail Sales	<ul style="list-style-type: none"> United States – US retail sales (ex. auto) grew 3.3% y/y QTD through November, improving slightly vs. 2.5% y/y in 3Q23. UK – In 4Q (QTD through November), UK retail sales decreased -0.9% y/y vs. -2.1% y/y in 3Q. Europe – 4Q EU retail sales (QTD through November) slightly improved to -1.0% vs. -1.8% in 3Q. Brazil – QTD through November, Brazil retail sales were up 1.2% y/y vs. +2.7% in 3Q.
US Consumer Gas Prices	<ul style="list-style-type: none"> In 3Q, gasoline prices averaged \$3.92, down 8% y/y and down 6.3% q/q (vs. down 10% y/y and up 4.8% q/q in 3Q).
FX rates	<ul style="list-style-type: none"> On a y/y basis, based on 4Q23 average FX rates, the EUR increased 5.3% y/y vs. 8.1% y/y in 3Q (and was down 1.1% q/q) vs. the USD. The GBP strengthened 5.7% y/y vs. 7.6% in 3Q (and was down 1.9% q/q). The Brazilian Real weakened by 5.8% y/y vs. -6.9% in 4Q (and was up 1.4% q/q). The US Dollar Index was down 3.3% y/y in 4Q23, improving slightly vs. -4.6% y/y in 3Q23. Using the Deutsche Currency Volatility Index (CVIX) as a proxy, currency volatility decreased 33% y/y in 4Q23 (down 1.3% q/q) vs. -30% y/y in 3Q23.
International Travel	<ul style="list-style-type: none"> Total passenger demand was up 29.7% y/y in November vs. 31.2% in October and 30.1% y/y in September.

Source: BofA Global Research, Bloomberg, IATA

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Indicator #1: Issuer volume trends

4Q credit vol growth accelerated while debit decelerated

As seen in Exhibit 8, across the group of large US card issuers we track (JPM, WFC, BAC, and USB), average US credit volume grew 6.9% y/y in 4Q vs. 6.4% y/y in 3Q. WFC saw the highest y/y growth at 14.9%, followed by JPM at 7.9%, USB at 4.9%, and BAC at 0.0%. Average debit volume growth decelerated slightly to 4.9% y/y in 4Q vs. 5.2% y/y in 3Q.

Based on data from the large US card issuers (JPM, C, WFC, BAC, and USB), total US average volume grew 4.7% y/y, stable vs. 3Q. We are modeling V/MA US volume growth of 6.0%/5.5% for C4Q, which reflects relative stability from 6.0%/5.6% in C3Q.

Exhibit 8: Bank Card and Merchant Acquiring y/y Volume growth

In 4Q23, average credit card volumes grew 6.9% y/y, while average debit card volumes grew 4.9% y/y; total average volume growth was up 4.7% y/y

		3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
JP Morgan Chase	Credit sales vol growth	30.3%	29.0%	28.7%	21.2%	17.4%	12.1%	12.6%	8.4%	8.8%	7.9%
	Debit sales vol growth (implied)	17.8%	19.2%	8.0%	4.3%	4.7%	3.4%	5.2%	3.3%	5.3%	5.9%
	Total credit & debit sales vol growth	25.8%	25.7%	21.1%	15.3%	13.1%	9.3%	10.2%	6.8%	7.7%	7.3%
	Merch acquiring vol growth	16.0%	15.8%	15.2%	13.6%	15.8%	13.3%	14.0%	11.2%	11.9%	9.6%
Bank of America	US credit purchase vol growth	26.3%	26.2%	25.3%	17.1%	12.5%	5.9%	5.7%	1.4%	0.7%	0.0%

Exhibit 8: Bank Card and Merchant Acquiring y/y Volume growth

In 4Q23, average credit card volumes grew 6.9% y/y, while average debit card volumes grew 4.9% y/y; total average volume growth was up 4.7% y/y

		3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
US Bancorp	Debit purchase vol growth	17.3%	19.2%	9.0%	5.6%	6.2%	4.7%	5.8%	3.3%	5.0%	4.6%
	Total purchase vol growth	20.8%	22.0%	15.1%	10.1%	8.8%	5.2%	5.8%	2.5%	3.2%	2.7%
	Credit payment vol growth	23.2%	22.7%	22.3%	17.0%	10.9%	3.3%	5.4%	0.1%	1.4%	4.9%
	Debit payment vol growth	-5.2%	2.4%	-8.0%	-9.2%	-4.5%	1.7%	11.2%	8.4%	8.5%	7.3%
	Total payment vol growth	8.6%	13.2%	7.4%	4.7%	4.0%	2.6%	7.8%	3.5%	4.3%	5.9%
	Merch acquiring vol growth	31.1%	33.7%	33.9%	19.0%	9.4%	6.2%	10.3%	5.3%	6.3%	4.6%
Citigroup	Merch acquiring txn growth	23.4%	31.7%	36.9%	21.1%	11.7%	10.4%	12.8%	8.0%	6.6%	5.4%
	Total card vol growth (US)	24.0%	23.6%	24.5%	17.7%	13.9%	8.8%	8.5%	4.1%	3.7%	3.4%
Wells Fargo	Consumer credit payment vol growth	15.3%	20.1%	32.7%	27.5%	24.8%	17.5%	15.8%	13.0%	14.7%	14.9%
	Debit card purchase volumes (POS)	15.3%	16.2%	6.0%	2.6%	3.2%	1.3%	2.0%	-0.2%	1.7%	1.7%
	Total credit and debit vol growth	15.3%	16.9%	10.1%	6.7%	6.9%	4.3%	4.5%	2.3%	4.3%	4.4%
Avg Credit Vol Growth		23.8%	24.5%	27.2%	20.7%	16.4%	9.7%	9.9%	5.7%	6.4%	6.9%
Avg Debit Vol Growth		11.3%	14.3%	3.7%	0.8%	2.4%	2.8%	6.1%	3.7%	5.2%	4.9%
Avg Total Vol Growth		18.9%	20.3%	15.6%	10.9%	9.3%	6.0%	7.4%	3.8%	4.7%	4.7%

Source: Company filings, BofA Global Research

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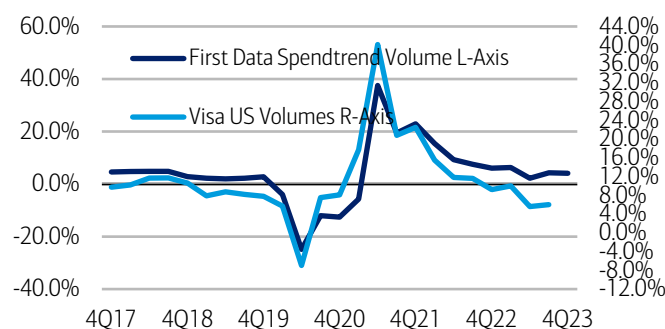
According to Nilson data, JPMorganChase's card portfolio is 90%+ Visa, while ~75% of cards issued at BAC and 90% at WFC are Visa branded. Conversely, Citi's portfolio skews more heavily toward Mastercard (~80%/20%, we believe). While we view recent issuer trends as a good proxy for broader industry volumes, we note that neither are perfect, as these banks card-issuing businesses are largely US-based (while roughly 50%/63% of V/MA's volume is outside the US).

Indicator #2: First Data SpendTrend data**US consumer spending decelerated slightly in 4Q**

Merchant acquirer/processor First Data (acquired by FISV in July 2019) releases same-store US consumer spending data on a monthly basis. SpendTrend's 4Q23 average Y/Y card volume decelerated slightly to 4.1% y/y vs. 4.3% y/y in 3Q23. While we recognize the potential for share shifts and merchant sector/mix, we believe SpendTrend is a reasonable proxy for the direction of overall US volume trends at V/MA (Exhibits 9-12).

Exhibit 9: FDC SpendTrend Volume Growth vs. V US Purchase Volume

SpendTrend card vol growth decelerated to 4.1% in 4Q23 vs. 4.3% in 3Q23

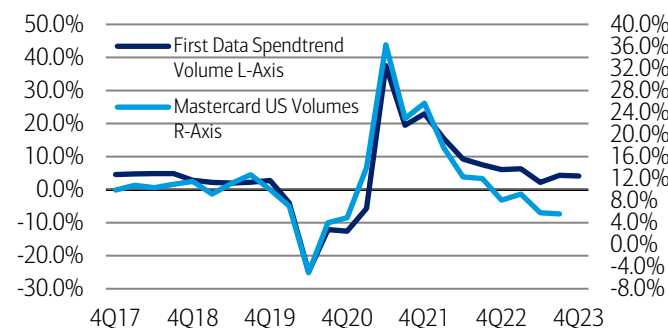


Source: Bloomberg, BofA Global Research

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Exhibit 10: FDC SpendTrend Volume Growth vs. MA US Purchase Volume

SpendTrend card vol growth decelerated to 4.1% in 4Q23 vs. 4.3% in 3Q23

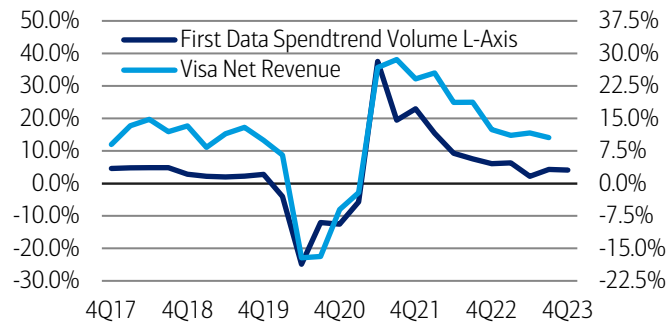


Source: Bloomberg, BofA Global Research

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Exhibit 11: FDC SpendTrend Volume Growth vs. V Net Revenue

SpendTrend card vol growth decelerated to 4.1% in 4Q23 vs. 4.3% in 3Q23

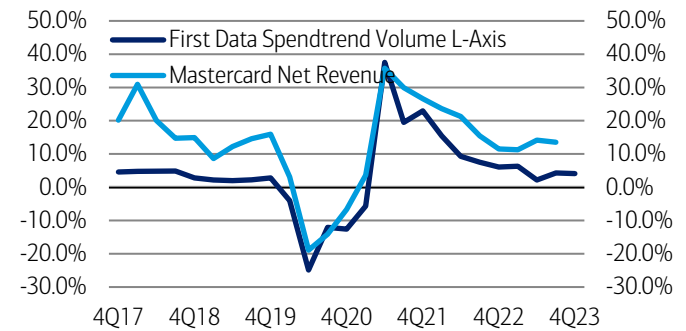


Source: Bloomberg, BofA Global Research

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Exhibit 12: FDC SpendTrend Volume Growth vs. MA Net Revenue

SpendTrend card vol growth decelerated to 4.1% in 4Q23 vs. 4.3% in 3Q23



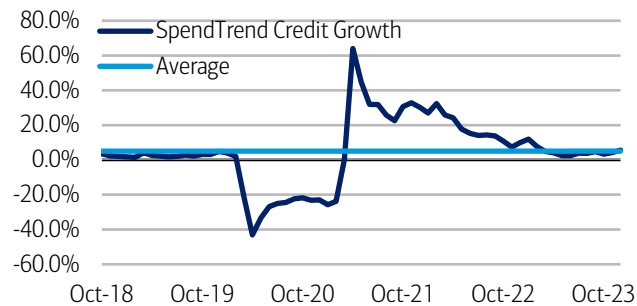
Source: Bloomberg, BofA Global Research

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Credit volume grew 4.4% y/y in 4Q23, accelerating slightly vs. 4.1% y/y in 3Q23. PIN debit volumes were relatively stable at -3.4% y/y in 4Q23 vs. -3.7% in 3Q23. Signature debit accelerated to 10.1% y/y in 4Q23 vs. 9.6% y/y in 3Q23, as shown in Exhibits 13-15.

Exhibit 13: FDC SpendTrend Credit Volume Y/Y Growth (By Month)

Credit volume grew 4.4% y/y in 4Q23 vs. 4.1% y/y in 3Q23

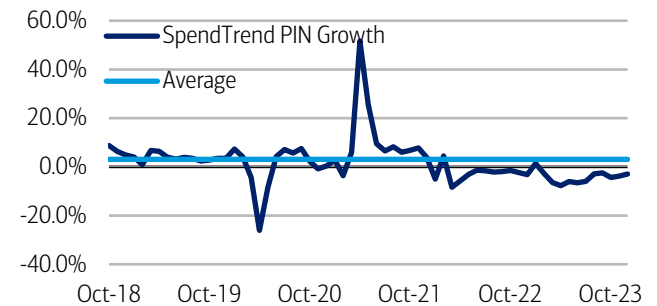


Source: Bloomberg, BofA Global Research

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Exhibit 14: FDC SpendTrend PIN Debit Volume Y/Y Growth (By Month)

PIN debit volume declined -3.4% y/y in 4Q23, vs. -3.7% in 3Q23

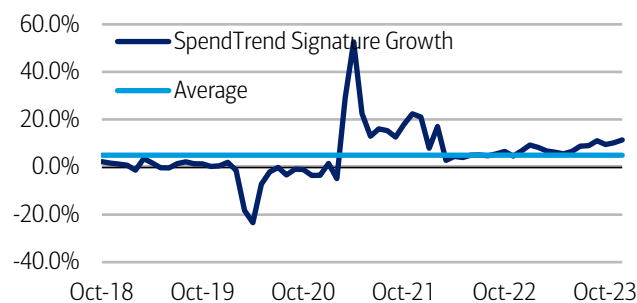


Source: Bloomberg, BofA Global Research

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Exhibit 15: FDC SpendTrend Signature Debit Volume Y/Y Growth (By Month)

Signature debit volume improved to 10.1% in 4Q23 vs. 9.6% y/y in 3Q23



Source: Bloomberg, BofA Global Research

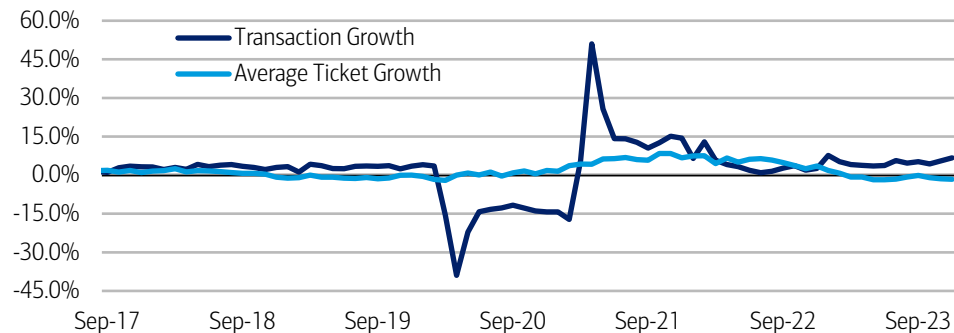
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We estimate approximately one-third of V/MA's revenues (and to a much larger extent merchant acquirers' revenues) are based on the number of transactions (rather than dollar volume of transactions). During the quarter, SpendTrend's overall transaction

growth was +5.6% in 4Q23, improving vs. +5.2% y/y in 3Q23 (Exhibit 16). SpendTrend's average ticket growth was -1.4% in 4Q23 vs. -0.8% in 3Q23.

Exhibit 16: FDC SpendTrend Transaction Growth and Average Ticket Growth (By Month)

Transaction growth was up 5.5% in 4Q23 vs. 5.2% in 3Q23



Source: Bloomberg, BofA Global Research

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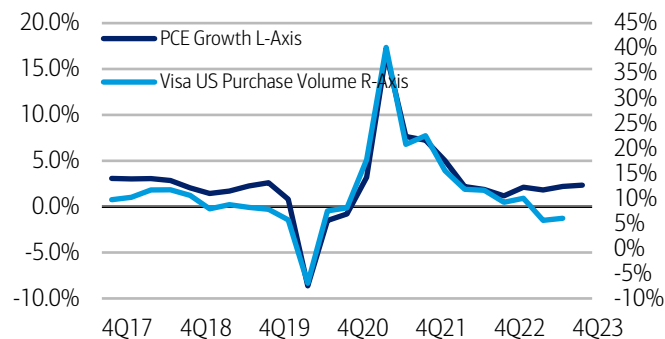
Indicator #3: Personal Consumption Expenditures (PCE)

Estimate PCE growth relatively stable in 4Q

The starting point for modeling volume growth at V/MA is personal consumption expenditure, or PCE (Exhibits 17-18). This is defined as the aggregate spending activity of consumers, which ultimately translates into purchase volumes over the networks. PCE grew 2.3% y/y in 4Q23 (QTD through November), improving slightly vs. the 2.2% y/y in 3Q23.

Exhibit 17: PCE Growth vs. V US Purchase Volume

PCE grew +2.3% y/y QTD through November vs. 2.2% in 3Q23

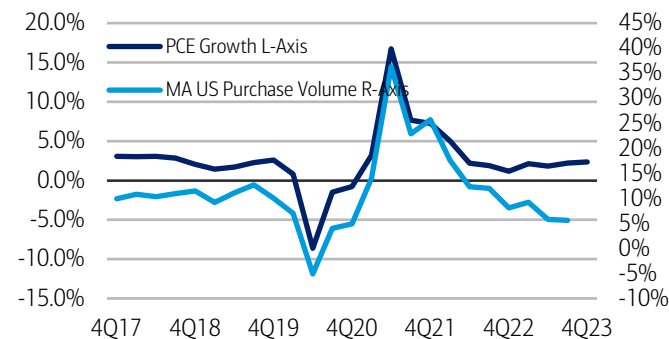


Source: Bloomberg, BofA Global Research

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Exhibit 18: PCE Growth vs. MA US Purchase Volume

PCE grew +2.3% y/y QTD through November vs. 2.2% in 3Q23



Source: Bloomberg, BofA Global Research

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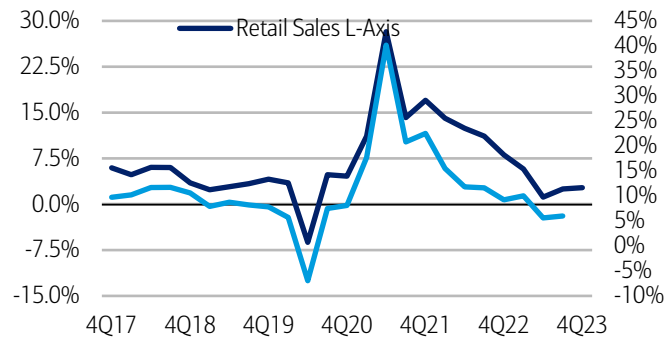
Indicator #4: Retail Sales (Ex. autos)

US retail sales improved modestly in 4Q

US retail sales (ex. auto) grew 3.3% in 4Q23, improving modestly vs. 2.5% y/y in 3Q23 (Exhibits 19-20). We believe retail sales serves as a reasonable proxy for the health of the overall consumer. We note that retail sales data reflect all tender types, while V and MA continue to see a secular shift to electronic payments from cash, even in the US.

Exhibit 19: US Retail Sales (ex. Auto) vs. V US Purchase Volume

US retail sales grew 3.3% y/y in 4Q23, vs. 2.5% y/y in 3Q23

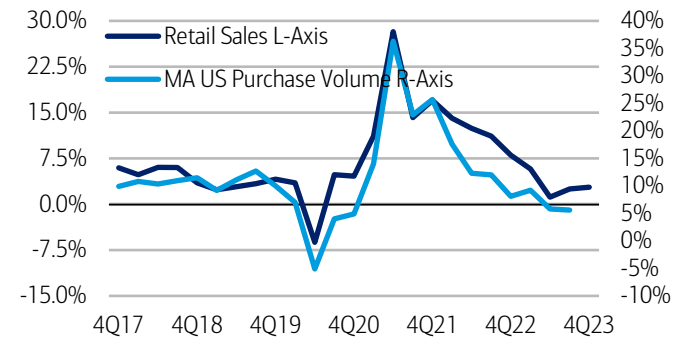


Source: Bloomberg, BofA Global Research

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Exhibit 20: US Retail Sales (ex. Auto) vs. MA US Purchase Volume

US retail sales grew 3.3% y/y in 4Q23, vs. 2.5% y/y in 3Q23



Source: Bloomberg, BofA Global Research

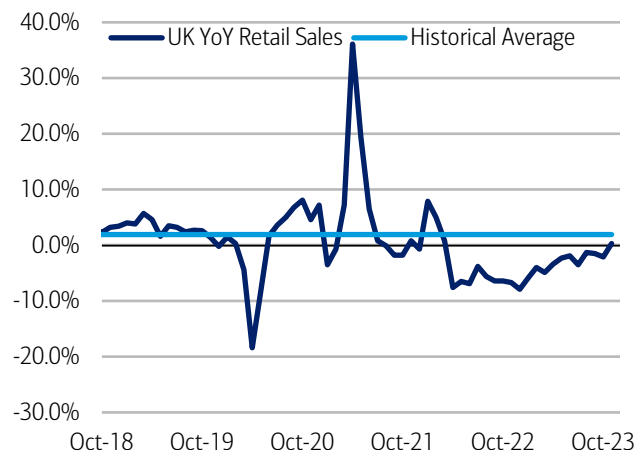
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4Q retail sales were slightly improved in the UK/EU

In 4Q (QTD through November), UK retail sales (Exhibit 21) y/y growth improved slightly to -0.9% vs. -2.1% in 3Q23. EU retail sales (Exhibit 22) in 4Q (QTD through November) improved slightly to -1.0% (vs. -1.8% in 3Q23). For perspective, V/MA generate approximately 19% and 31% of their purchase volume from Europe, respectively.

Exhibit 21: UK Retail Sales Growth

UK retail sales growth improved slightly to -0.9% y/y QTD through November

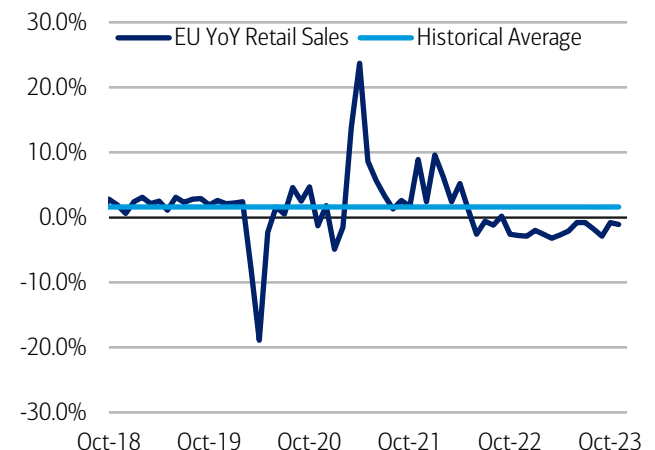


Source: Bloomberg, BofA Global Research

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Exhibit 22: EU Retail Sales Growth

EU retail sales growth improved slightly to -1.0% y/y QTD through November



Source: Bloomberg, BofA Global Research

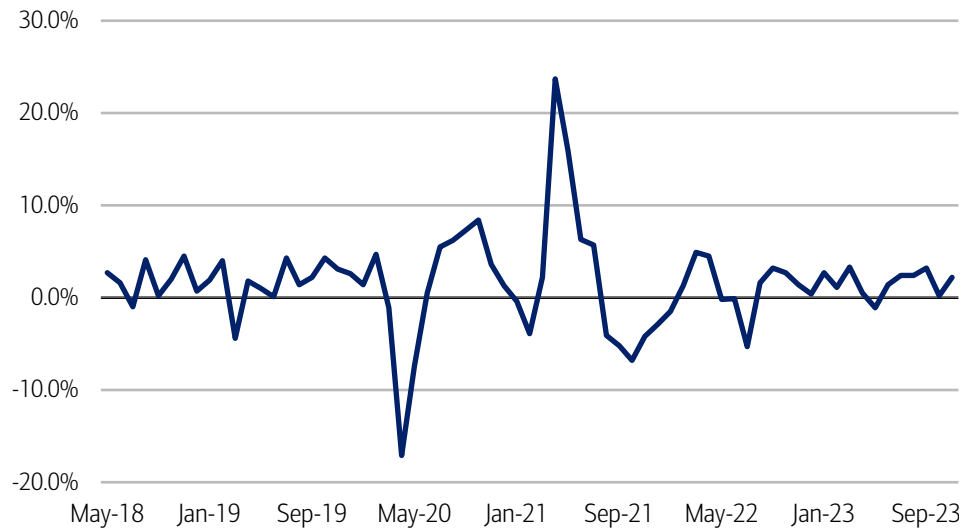
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Retail sales in Brazil improved in 4Q (QTD through Nov)

Latin America remains a key growth vector for the payments industry and represents a relatively under-penetrated market. In 4Q (QTD thru November), Brazil retail sales y/y were up 1.2% y/y vs. +2.7% in 3Q23 and vs. +0.3% in 2Q23 (Exhibit 23). Latin America represents ~7% of purchase volume for V/MA, with Brazil accounting for the largest piece.

Exhibit 23: Brazil Retail Sales Growth

QTD through November, Brazil retail sales were up 1.2% y/y vs. +2.7% in 3Q



Source: Bloomberg, BofA Global Research

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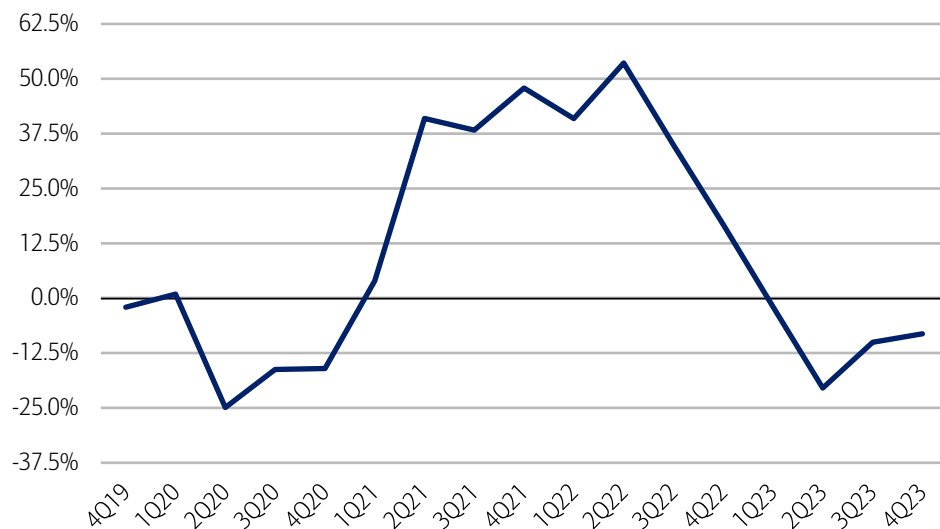
Indicator #5: Gasoline prices

Gas prices remained a y/y headwind in 4Q

In 4Q, gasoline prices averaged \$3.92, down 8% y/y (vs. down 10% y/y in 3Q), and were down 6.3% q/q (vs. up 4.8% q/q in 3Q – Exhibit 24). Gasoline purchases represent 7-9% of US purchase volume for V/MA.

Exhibit 24: Y/Y Change in Average Gas Price (By Quarter)

Gas prices averaged \$3.92 in 4Q23, down 8% y/y and down 6.3% q/q



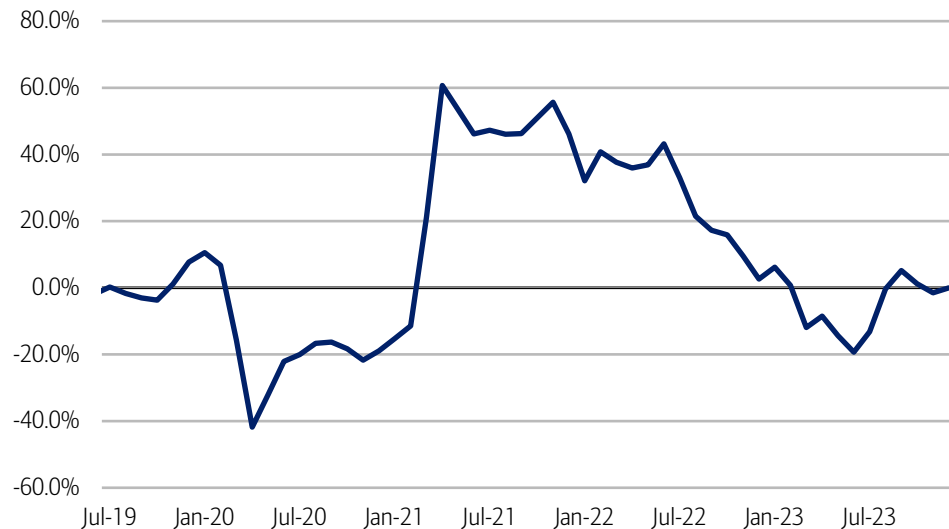
Source: Bloomberg, BofA Global Research

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First Data discloses volume growth at gas stations in their SpendTrend report, which as seen in Exhibit 25, revealed a flat y/y change in 4Q23 (QTD through November), representing an improvement vs. a 2.8% y/y decline in 3Q23.

Exhibit 25: FDC SpendTrend at US Gas Stations (Y/Y Growth by Month)

Spending volume at gas stations was flat y/y (QTD through November) vs. -2.8% y/y in 3Q



Source: Bloomberg, BofA Global Research

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Indicator #6: USD Exchange Rates

On a y/y basis, based on 4Q23 average FX rates, the EUR increased 5.3% y/y vs. 8.1% y/y in 3Q (and was down 1% q/q) vs. the USD. The GBP strengthened 5.7% y/y vs. 7.6% in 3Q (and was down 1.9% q/q). The Brazilian Real weakened by 5.8% y/y vs. -6.9% in 3Q (and was up 1.5% q/q).

As shown in Exhibit 26, the US Dollar Index was down 3.3% y/y in 4Q23 vs. -4.6% in 3Q23. The weaker USD helps V/MA's reported revs and has the opposite effect on opex.

Generally, during a normal macro backdrop, a weaker dollar supports cross-border travel into the US from countries whose currency is appreciated vs. the USD, which tends to have a greater impact on Visa's cross-border volume than Mastercard's, due to V's higher US market share, and the fact that V's US inbound cross-border business is twice the size of its US outbound business.

Exhibit 26: US Dollar Index

The US Dollar Index was down 3.3% y/y in 4Q23 vs. -4.6% in 3Q23



Source: Bloomberg, BofA Global Research

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Exhibit 27: DB CVIX Currency Volatility Index

Currency volatility decreased 33% y/y in 4Q23 vs. down 30% y/y in 3Q23



Source: Bloomberg, BofA Global Research

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FX volatility decreased y/y and q/q

Visa collects a small spread on its currency translation volume between countries in cross-border transactions, which is calculated based on currency volatility on any given day. MA does not price cross-border transactions this way and, accordingly, is not as sensitive to this currency volatility. Using the Deutsche Currency Volatility Index (CVIX) as a proxy (Exhibit 27), currency volatility decreased 33% y/y in 4Q23 (down 1.3% q/q) vs. -30% y/y in 3Q23.

Indicator #7: International travel**Travel catching up to pre-pandemic levels**

Visa and Mastercard collect cross-border fees for transactions in which the issuing bank and the merchant are in different countries (ie, a US consumer using their card at a UK merchant). Cross-border fees are traditionally higher than domestic fees, and alongside some amount of currency conversion revenue, the yield on cross-border volumes is much richer than for domestic transactions. As a result, cross border volumes remain a very closely tracked metric.

We focus on growth in international revenue passenger kilometers (RPK) as a measurement for passengers traveling between countries. The International Air Transport Association (IATA) provides data on passenger demand, and total passenger demand was up 30.1% y/y in September, 31.2% y/y in October, and 29.7% y/y in November. As a % of pre-COVID levels, global traffic was 91.3% in September, 98.2% in October, and 99.1% in November.

Price objective basis & risk**Mastercard Inc (MA, B-1-7, \$427.42)**

We utilize a 50/50 blend of 34x '24E GAAP EPS and our DCF model to calculate our 12-month price objective of \$484. Our multiple is a premium vs. the S&P500 given MA's above average earnings growth in a normalized environment, increased diversification, competitive positioning, secular tailwinds, and recession resilience. Our multiple is also slightly higher than its closest peer given MA grows faster, albeit off of a smaller base. Our discounted cash flow (DCF) analysis assumes a weighted average cost of capital of around 10% and a terminal growth rate of 4%.



Downside risks to our price objective are 1) weak consumer spending in the event of a macroeconomic downturn, 2) increased customer concentration and consolidation, 3) legislative and regulatory changes, 4) potential litigation settlements, which could include monetary damages, and/or result in changes in business practices, 5) loss of customer contracts due to increased competition or new entrants, including local/global payment networks, new start-ups and existing large and small technology companies, and 6) large fluctuations in the value of currencies/foreign exchange rates.

Visa Inc. (V, B-1-7, \$266.63)

We use a 50/50 blend of 30x C'24E EPS (GAAP) and our discounted cash flow (DCF) model to calculate our 12-month price objective of \$305. Our multiple is a slight premium to V's 5-year historical average, which we view the multiple as justified given Visa's growth profile, increased diversification, execution track record, and large addressable market opportunity. The key assumptions in our DCF model include a terminal growth rate of 3.5% and a weighted average cost of capital (WACC) of around 9%.

Downside risks to our price objective are 1) weak consumer spending in the event of a macroeconomic downturn, 2) increased customer concentration and consolidation, 3) legislative and regulatory changes, 4) potential litigation settlements, which could include monetary damages, and/or result in changes in business practices, 5) loss of customer contracts due to increased competition or new entrants, including local/global payment networks, new start-ups and existing large and small technology companies, and 6) large fluctuations in the value of currencies/foreign exchange rates.

Analyst Certification

I, Jason Kupferberg, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

The following company is a co-defendant with Bank of America Corporation and certain of its subsidiaries in the In Re Payment Card Interchange Fee and Merchant Discount Anti-Trust Litigation ("Interchange Litigation"): Visa. This report is not a statement by Bank of America Corporation or any of its subsidiaries or affiliates. This report reflects only the personal views of the BofA Global Research analyst who authored this report. He/she is in no way authorized to speak on behalf of Bank of America Corporation or any of its subsidiaries or affiliates in connection with the Interchange Litigation or any other litigation. This report was researched and prepared solely by the BofA Global Research analyst who authored this report. This report has not been discussed with, reviewed by, and may not reflect information known to, professionals in Bank of America and its affiliates involved in the Interchange Litigation or any other litigation. Any facts and views expressed herein that relate to the Interchange Litigation and the payment card business are based solely on public information, and not based on any information provided by Bank of America or any of its subsidiaries or affiliates, and reflect only the personal views of the BofA Global Research analyst who authored this report.

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BofA Securities is currently acting as a financial advisor to Promocion y Operacion SA de CV (Prosa) in connection with its proposed sale of its majority interest to Visa Inc, which was announced on December 15, 2023.

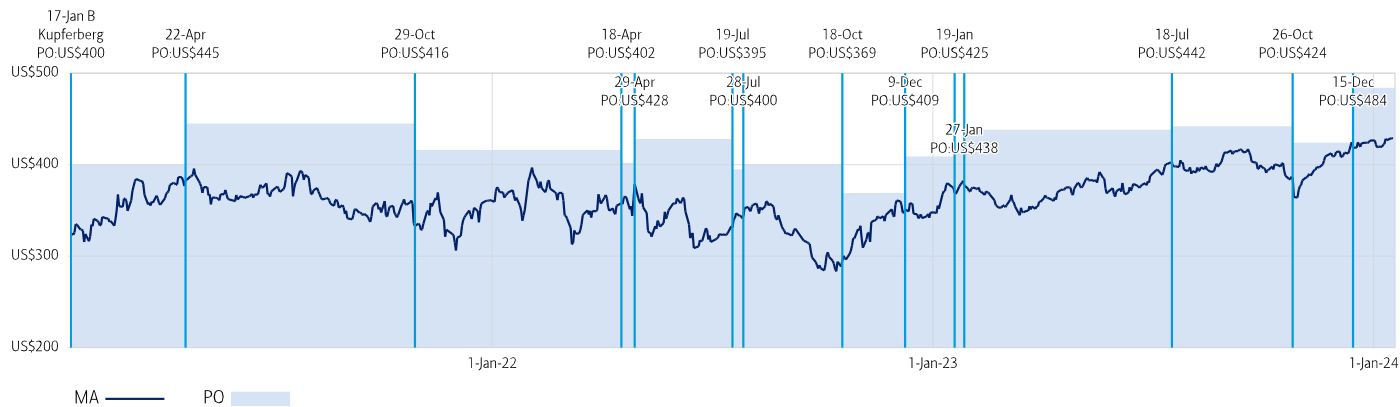


US - Payments, Processors, Specialty Finance and IT services Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Accenture Plc	ACN	ACN US	Jason Kupferberg
	American Express Company	AXP	AXP US	Mihir Bhatia
	Block Inc	SQ	SQ US	Jason Kupferberg
	Capital One Financial	COF	COF US	Mihir Bhatia
	Discover Financial	DFS	DFS US	Mihir Bhatia
	Enact Holdings	ACT	ACT US	Mihir Bhatia
	Essent Group	ESNT	ESNT US	Mihir Bhatia
	Fidelity National Information Services	FIS	FIS US	Jason Kupferberg
	Fiserv Inc	FI	FI US	Jason Kupferberg
	FleetCor Technologies Inc.	FLT	FLT US	Mihir Bhatia
	Flywire	FLYW	FLYW US	Jason Kupferberg
	Global Payments Inc	GPN	GPN US	Jason Kupferberg
	Jack Henry & Associates	JKHY	JKHY US	Jason Kupferberg
	Mastercard Inc	MA	MA US	Jason Kupferberg
	MGIC Investment Corp.	MTG	MTG US	Mihir Bhatia
	NMI Holdings	NMIH	NMIH US	Mihir Bhatia
	Nuvei	NVEI	NVEI US	Jason Kupferberg
	Nuvei	YNVEI	NVEI CN	Jason Kupferberg
	OneMain Holdings, Inc.	OMF	OMF US	Mihir Bhatia
	Shift4 Payments, Inc	FOUR	FOUR US	Jason Kupferberg
	Telus International	TIXT	TIXT US	Cassie Chan
	Telus International	YTIXT	TIXT CN	Cassie Chan
	Visa Inc.	V	V US	Jason Kupferberg
	WEX Inc.	WEX	WEX US	Mihir Bhatia
NEUTRAL				
	ADP	ADP	ADP US	Jason Kupferberg
	Affirm Holdings	AFRM	AFRM US	Jason Kupferberg
	Bread Financial Holdings Inc	BFH	BFH US	Mihir Bhatia
	DLocal	DLO	DLO US	Jason Kupferberg
	Globant SA	GLOB	GLOB US	Jason Kupferberg
	Marqeta	MQ	MQ US	Jason Kupferberg
	PayPal Holdings Inc	PYPL	PYPL US	Jason Kupferberg
	SoFi Technologies Inc	SOFI	SOFI US	Mihir Bhatia
	Synchrony Financial	SYF	SYF US	Mihir Bhatia
	Thoughtworks	TWKS	TWKS US	Jason Kupferberg
	Toast	TOST	TOST US	Jason Kupferberg
	TTEC Holdings	TTEC	TTEC US	Cassie Chan
UNDERPERFORM				
	CGI Inc.	GIB	GIB US	Jason Kupferberg
	CGI Inc.	YGIBA	GIB/A CN	Jason Kupferberg
	Cognizant Technology Solutions	CTSH	CTSH US	Jason Kupferberg
	Coinbase	COIN	COIN US	Jason Kupferberg
	DXC Technology	DXC	DXC US	Jason Kupferberg
	EPAM Systems	EPAM	EPAM US	Jason Kupferberg
	Paychex	PAYX	PAYX US	Jason Kupferberg
	Radian Group Inc	RDN	RDN US	Mihir Bhatia
	Rocket Companies, Inc.	RKT	RKT US	Mihir Bhatia
	TaskUs	TASK	TASK US	Cassie Chan
	Western Union	WU	WU US	Jason Kupferberg
RSTR				
	EngageSmart	ESMT	ESMT US	Jason Kupferberg

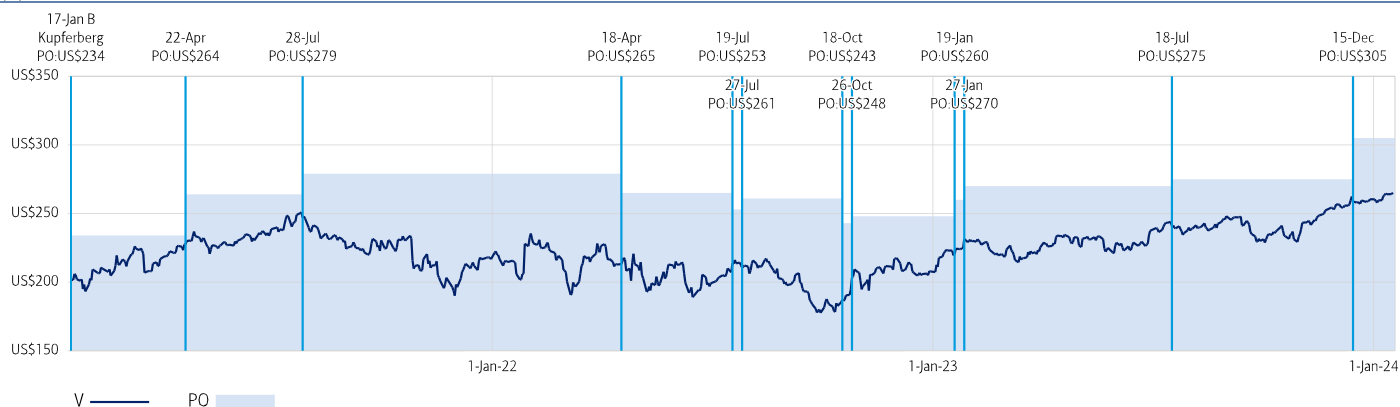
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Important Disclosures

Mastercard Inc (MA) Price Chart

B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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Visa (V) Price Chart

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Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships ^{R1}	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

^{R1} Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Underperform	N/A	≥ 20%

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