BofA SECURITIES

Consumer Finance

Additional thoughts on the COF-DFS merger and looking at network synergies

Rating Change

28 February 2024

Equity
United States
Consumer Finance

Mihir Bhatia
Research Analyst
BofAS
+1 415 436 3553
mihir.bhatia@bofa.com

Jason Kupferberg
Research Analyst
BofAS
+1 646 855 1961
jason.kupferberg@bofa.com

Nathaniel Richam-Odoi
Research Analyst
BofAS
+1 646 855 1607
nate.richam-odoi@bofa.com

Cassie Chan
Research Analyst
BofAS
cassie.chan@bofa.com

Caroline Latta
Research Analyst
BofAS
caroline.latta@bofa.com

Network and merchant connectivity play

The strategic rationale for Capital One's (COF) acquisition of Discover (DFS) is the Discover network. COF has called the tying of the issuer business with a network, so an issuer can deal directly with merchants the 'Holy Grail.' In addition to the near-term economic benefits (and COF has identified $1.2B of those), operating its own network should enable COF to develop even more competitive card offerings, as well as, lead to lower fraud and higher authorization rates. We explore these issues in more detail below. Longer-term, this is a big strategic positive for COF that provides loads of incremental optionality, in our view. The combination could yield differentiated and unique offerings that will be difficult for others to replicate. COF expects the deal to close in late '24/early 25, subject to closing conditions, regulatory approvals and approval by each company's shareholders.

Some pushback to the pro-competitive argument

In our conversations, many investors pointed out that boosting volume on the Discover network will improve its competitive position viz a via Visa and Mastercard. Boosting the Discover network also gives Capital One a reasonable pro-competitive case to make in its discussions with regulators. While we mostly agree, we do note that COF will remain a large Visa / Mastercard customer, likely for many years, which could limit its desire to lower pricing or directly compete with them. We also note the movement of debit to the Discover network will result in higher merchant discount fees, a potential negative for competition and lower consumer prices.

Valuing the debit interchange benefit to COF

We estimate ~$6.2B of the deal value is driven by COF earning better economics on its debit card purchase volume (Durbin interchange exemption) and converting debit cards to the Discover network would add approx. $650M of incremental revenue for Capital One. This is consistent with COF's commentary that the bulk of the $1.2B in network synergies will come from the debit side. On the credit side, we believe moving selected portfolios to the Discover network will enable Capital One to earn incremental merchant acquiring ($55-$118M) and network fee revenue ($105M).

Management teams more optimistic than investors

In our conversations at BofA's Financial conference, management teams were more optimistic that a transaction would eventually go through than investors, though there were some questions about how long the regulatory review could take. Most investors and management teams appreciated the strategic rationale for COF (network play), though some did question the price paid and network synergy rationalization timing. The key question we heard was why would COF owning the network, improve its acceptance.

Move to No Rating for DFS; Maintain Buy on COF

We are moving to No Rating for DFS (previously Buy) and maintaining a Buy rating for Capital One. We believe DFS shares are no longer trading on fundamentals. Investors should no longer rely on our prior investment opinion or price objective for DFS. For Capital One we maintain a positive outlook on near-term credit trends and we also like the strategic fit of acquiring a network.

Refer to important disclosures on page 12 to 16. Analyst Certification on page 11. Price Objective Basis/Risk on page 11. **12664929**

Timestamp: 28 February 2024 05:25AM EST

The Holy Grail: Network + issuer + merchant relationships

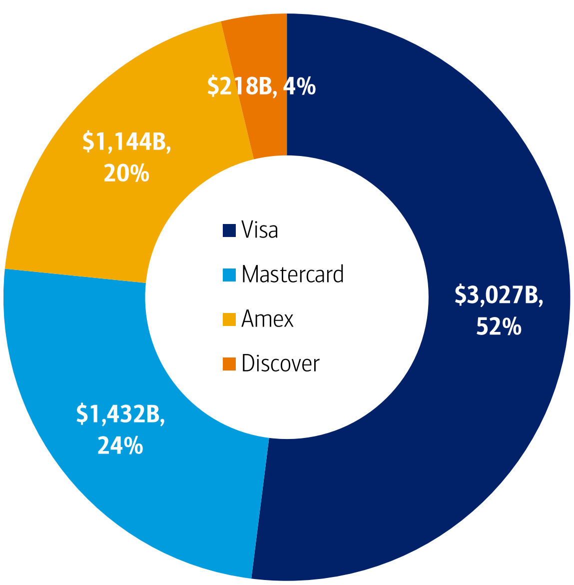
> "We have always had a belief that the Holy Grail is to be able to be an issuer with one's own network so that one can deal directly with merchants." – Richard Fairbank, COF CEO

Capital One (COF) emphasized on the merger call that acquiring the Discover network and becoming a vertically integrated global payments platform, was a "game changing strategic" opportunity. We and many investors we have spoken with agree. While the potential economic benefits are meaningful – and COF has identified $1.2B of those by 2027 (discussed below) – there could also be meaningful improvements in fraud/authorization rates, deeper connections with merchants enabling customized offers, and future use cases from having direct relationships with consumers and merchants.

Bulking up the Discover Network

Capital One expects to move $175B of purchase volume and 25M cards to the Discover network by 2027. Such a move would materially boost the Discover network. Currently the Discover Network is the smallest US credit card network by some distance in terms of purchase volume with only 4% share (Exhibit 1). By number of cards, the Discover network is about even with American Express (Amex, AXP) at ~66M cards, well below Visa and Mastercard, both 300M+ (Exhibit 2). Clearly moving 25M cards and $175B+ of volume to the Discover network will boost its scale which is important because networks are scale businesses.

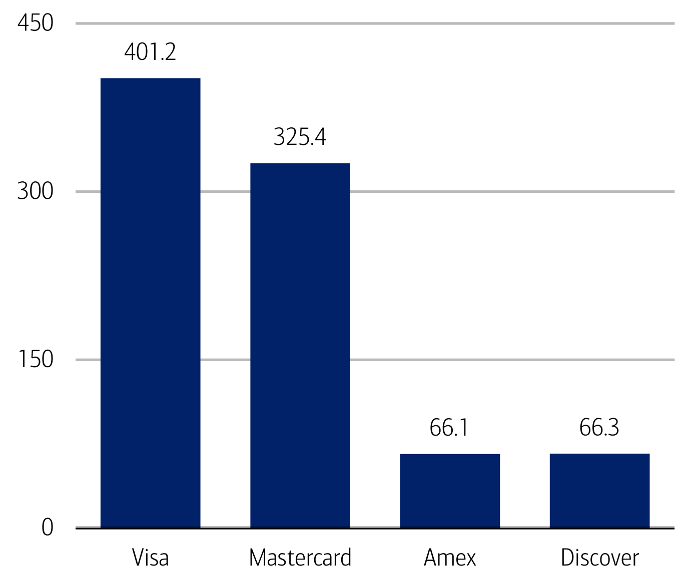
Exhibit 1: Discover is the smallest credit network by some distance
2023 US General Purpose Credit Card Purchase Volumes by Network



Source: Nilson reports, BofA Global Research,
Note: Amex and Discover volume includes debit and pre-paid

BofA GLOBAL RESEARCH

Exhibit 2: Discover is about even with Amex in number of cards
2023 US General Purpose Credit Cards (million)



Source: Nilson reports, BofA Global Research

BofA GLOBAL RESEARCH

Operating a network is scale business, with large fixed costs and high incremental margins. Adding $175B of volume and 25M new cardholders to the network over the next three years, should provide scale benefits including higher visibility with consumers and merchants, as well as, higher profitability from efficiencies. Longer-term, if COF can grow the Discover network internationally, it could conceivably move it's entire

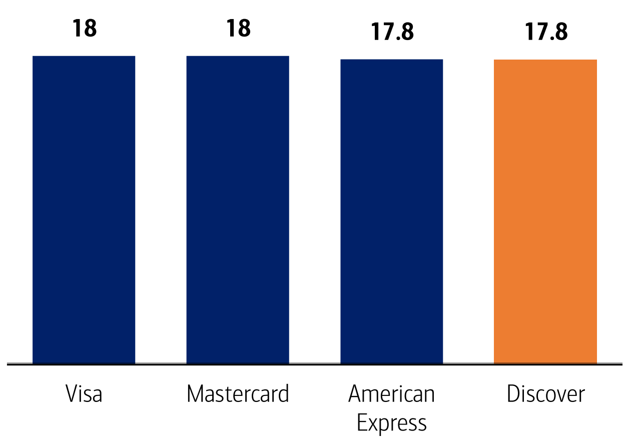
$606B of domestic card purchase volume to the Discover network. We do note that even moving 100% volume to Discover, would still result in the Discover network being smaller than Amex and Mastercard, and lagging Visa.

Perception is reality.. can COF change perceptions?

In the U.S., the reality is that Discover has achieved near parity with Visa and Mastercard in terms of both the number of merchants enabled for acceptance and the number of merchants actively accepting Discover cards (Exhibit 3). However, the legacy perception of acceptance still persists. Case in point, at the recent BofA Financial Conference, we were struck by the number of conversations we had with finance sector investors and bank management teams that pointed to DFS' weak acceptance footprint in the US as a potential issue Capital One would need to overcome. If sophisticated financial investors were unaware the acceptance gap had been closed, clearly there is still a long way to go in educating the public at large.

On the acquisition call, COF said their research shows high levels of customer satisfaction with the level of acceptance but reiterated that it is the perception of acceptance by non-customers that is lagging. To combat this misperception, COF is going to invest in the brand. As discussed above, the COF is also going to move 25M cards over to the network, including select credit card portfolios. As more consumers use their Discover cards and find acceptance universal, we expect perception will improve. We also expect COF to be aggressive with marketing campaigns and we would not be surprised to see a "what's in your wallet" style campaign to boost acceptance perceptions in the mind of the general public, before it moves major portfolios over to the Discover network.

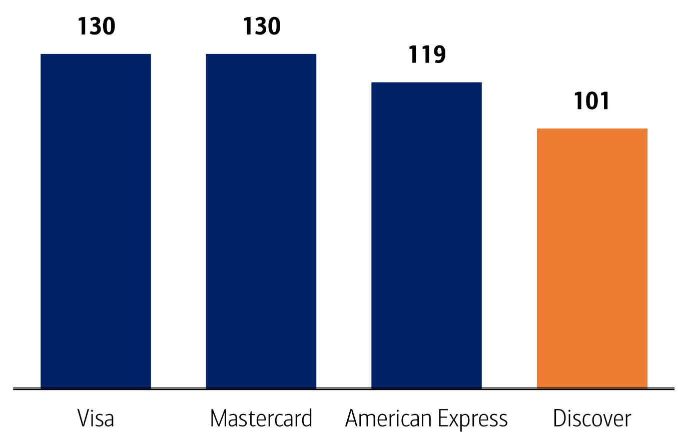
Exhibit 3: Discover has virtual parity with Visa, Mastercard in US
2023 US merchant acceptance locations (M)



Source: Nilson Reports, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 4: Discover does lag in international acceptance
3Q23 Global merchant acceptance locations (M)



Source: Nilson Reports, BofA Global Research

BofA GLOBAL RESEARCH

International could take some time

Internationally, acceptance on the Discover network does lag that of Visa/Mastercard (Exhibit 4). Discover has been making investments to grow both Discover and Diners Club acceptance internationally. That said, given the acceptance gap, we think it will be some time before COF can move its more travel oriented cards to Discover (e.g. venture). Currently, COF issues cards on both the V and MA networks. About 42% of COF's credit cards run on V and 58% on MA. Capital One has acknowledged that even though they are acquiring a network, Visa and Mastercard are going to remain important partners for COF for some time. The migration of volumes Discover to will be gradual so as not to disrupt cardholders.

Direct merchant relationships improve products

We believe COF can utilize Discover's network and merchant relationships to build customized offers for cardholders and improve its card offering. Discover through its network has direct relationships with large merchants in the US, as well as indirect relationships (through acquirers) with small and medium sized merchants. The network will also provide richer transaction data for COF which it can utilize to drive volume to merchants, lower fraud rates or increase authorization rates for transactions.

Capital One highlighted that an important component of its strategy has been to get close to merchants. Acquisitions like wikibuy (now Capital One Shopping) have been aimed at driving more volume to merchants and providing more interesting offers to its customers. This drives incremental purchase and loan volume to Capital One cards. By owning the network and establishing direct relationships, COF will be in a position to be even more creative – it could provide targeted offers, instant rebates, more card-linked offers, and also potentially enhance its private label / co-brand business.

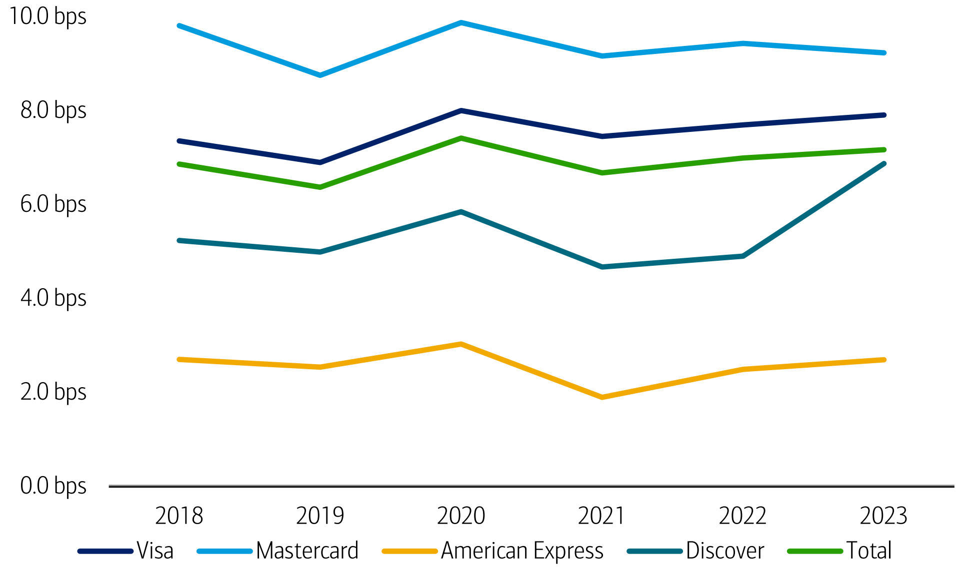
Premium products could benefit from direct exclusive offers

COF has been focused on building out its offering in the super premium transactor space for many years (see: COF: Venturing into new territory; A deeper look at COF's super-premium card strategy 27 June 2023). Adding the Discover network and Diner's Club could provide it with a boost. Relationships with large merchants should enable COF to build customized offers for its premium card holders. It can also benefit internationally from Diner's Club brand and premium card holder base as it approaches merchants to build customized offers.

Lower fraud and better authorization rates

Capital One should be able to lower fraud rates on its cards by operating a three party network. Amex and Discover have long operated with lower fraud costs than Visa and Mastercard (Exhibit 5). This is likely driven by better data and the tying together of the network and issuance operations. Three-party networks, in which the roles of the network, issuing bank, and acquiring bank are consolidated, create a closed-loop network. As such, Discover and Amex get direct access to data at both ends of the transaction and the increased information drives better fraud rates. Both benefit from materially better fraud rates than the four-party networks due to this dynamic and further investments from Capital One may be able to drive Discover's fraud rates even closer to Amex.

Exhibit 5: Discover has lower fraud rates than V, MA due the nature of a three-party transaction
Net fraud losses as a % of total volume



Source: Nilson Reports, BofA Global Research

BofA GLOBAL RESEARCH

On the call, COF highlighted that the combination would allow them to provide better fraud management, higher authorization rates, and rich transaction data, particularly with COF's tech-savvy approach. This should in turn drive more sales for merchants. Better fraud detection should also drive better net charge-offs for the combined entity.

More data, less fraud could boost COF's small business offering

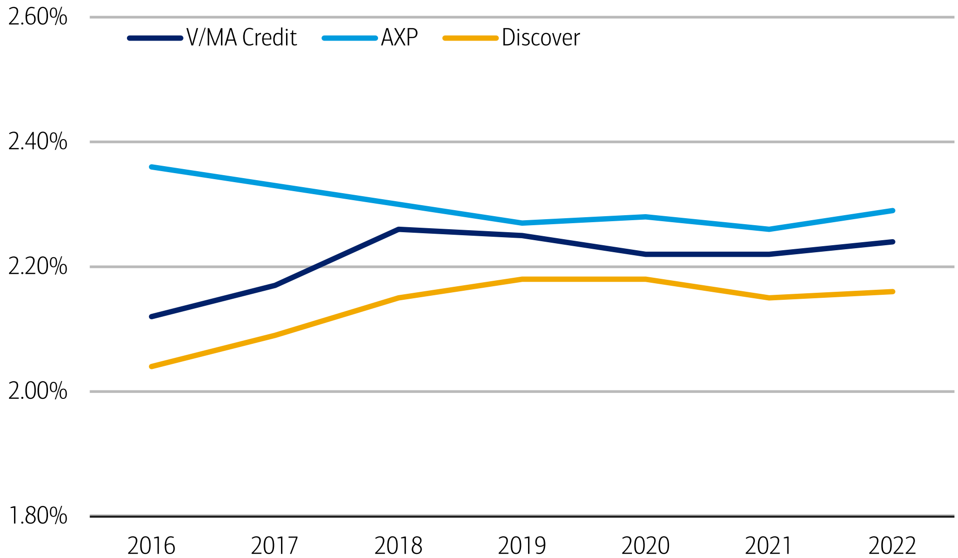
While there are a lot of factors driving Amex's strong market position in the small business card market, one important consideration is Amex's ability to offer "no credit limit" cards. We believe this functionality is driven by Amex's rich history in the segment and the transaction level data it is able to capture, in order to approve transactions as they occur. By owning a network, Capital One will get a similar level of data and over time should be able to replicate the transaction level approval capabilities of Amex. While Amex is likely to remain the market leader for many years, owning the network should enable Capital One to improve fraud and authorization rates. The richer transaction level data set could even, over time, enable true "no credit limit" cards for Capital One that will be difficult for bank competitors on four party networks to match.

Would network competition lower pricing?

It is not immediately clear to us that Capital One owning Discover and boosting Discover network volumes will result in lower network pricing. Firstly, Capital One is likely to remain a large customer of Visa and/or Mastercard for many years given the lack of international acceptance on the Discover network. One of Visa/Mastercard's largest customers owning its own network, would no doubt improve Capital One's position in negotiations with Visa/Mastercard. However, it is not readily apparent why that should result in lower prices for all consumers or merchants. In addition, it is also not clear to us that Capital One will have much incentive to lower merchant fees given Discover acceptance is already at parity.

As seen in Exhibit 6, merchant processing fees have hovered around 2.30% for Amex, 2.25% for Visa and Mastercard and 2.15% for Discover for the last few years. We believe these differences are driven more by the type of card and spending mix than inherent differences in network prices. For example, an Amex Platinum card or a Chase Sapphire Reserve card likely carries higher fees than a 1% cashback card issued by the same issuers. As such, given Amex's premium mix it is not surprising to see it above peers. On the other hand, Discover network volume is likely driven by its strong cashback presence which likely carries lower pricing and it's overall rate is at the low-end. Arguably, when Capital One moves its rewards rich programs like Venture X to the Discover network, it will likely create a higher tier in the pricing algorithm (as it needs to fund the higher rewards). This would have the effect of increasing merchant processing fees on the Discover network (even if keeping overall levels stagnant).

Exhibit 6: Merchant processing fees have remained relatively stable across networks
Merchant processing fees in the United States (% of transaction value)



Source: Nilson reports, BofA Global Research

BofA GLOBAL RESEARCH

What Capital One is likely to do in a few years is an unknown at this time. That said, we have heard from many investors that the network benefits are so obviously pro-competitive and would improve Discover's market position viz a viz Visa and Mastercard. We do agree that boosting volumes and competitiveness of the Discover network could be a positive and to the extent COF can bring third party issuing to Discover, that would also increase competition among networks. However, we think the ground realities are more nuanced and worth considering.

Thinking through network synergies

Durbin exemption drives bulk of near-term synergies

We estimate ~$6.2B of the deal value is driven by COF earning better economics on its debit card purchase volume. Capital One highlighted that it expects to deliver $1.2B in network synergies by moving its debit portfolio and selected credit products to the Discover network. It also said that the majority of synergies are on the debit side in the near-term. Below we walk through our assumptions.

Understanding the Durbin exempt opportunity

The Durbin amendment, which regulates the interchange fees on debit transactions, mandates that debit interchange pricing for large issuers ($10B+ assets) cannot exceed $0.21 + 5% of the transaction value. However, the amendment does not apply to three-party networks like Discover. As a result of owning Discover, Capital One could issue Durbin-exempt debit cards, despite being over the $10B limit, boosting revenues on essentially the same cards / transactions.

$6.2B in deal value, $651M revenue lift

In 2022, COF had ~$58.5B of debit volume. We assume this grows to $70B by 2027. We note that COF highlighted the growth in the front book and said that would be an important factor (as opposed to moving back books). Our assumptions implies only 3.6% debit spend CAGR, which we think is achievable particularly if COF leans into growing deposits and checking accounts as it begins to earn higher debit interchange in 2025. Per the Federal Reserve, the average debit transaction that was subject to the interchange fee standard earned 0.48% as a percent of transaction value on the Mastercard network. However, on the Discover network, transactions that were exempt from the fee cap, earned 1.41% on average. The difference yields incremental revenues of $651M. This incremental revenue, could theoretically flow to the bottom line and would yield, $505M in incremental earnings. Utilizing the 12.3x current year estimate as a multiple that COF cited in announcing the merger, that implies the Durbin exemption is worth $6.2B (Exhibit 7).

Exhibit 7: We estimate $650M revenue upside from moving Debit transactions to Discover
Illustrative upside from converting all debit transactions to the Discover network

	2022 COF Debit volumes	$58,500 M
	Assumed 2027 Debit Volume	$70,000 M
	Average fee on MA network	0.48%
(1)	Implied interchange revenue	$336 M
	Average fee on Discover network	1.41%
(2)	Implied interchange revenue	$987 M
(2) - (1)	Revenue lift	$651 M
	Tax rate	22.50%
	After Tax revenue lift	$505 M
	Deal multiple (COF presentation)	12.3x
	Capital Value of Revenue lift	$6,206 M

Source: BofA Global Research estimates, Federal Reserve, Nilson

BofA GLOBAL RESEARCH

While it is possible that COF might choose to return some of the higher interchange by way of rewards to drive faster deposit growth, we have assumed that is a discretionary choice. Should COF choose to invest in the deposit franchise, it would likely result in faster spend/deposit growth and also potentially has other benefits.

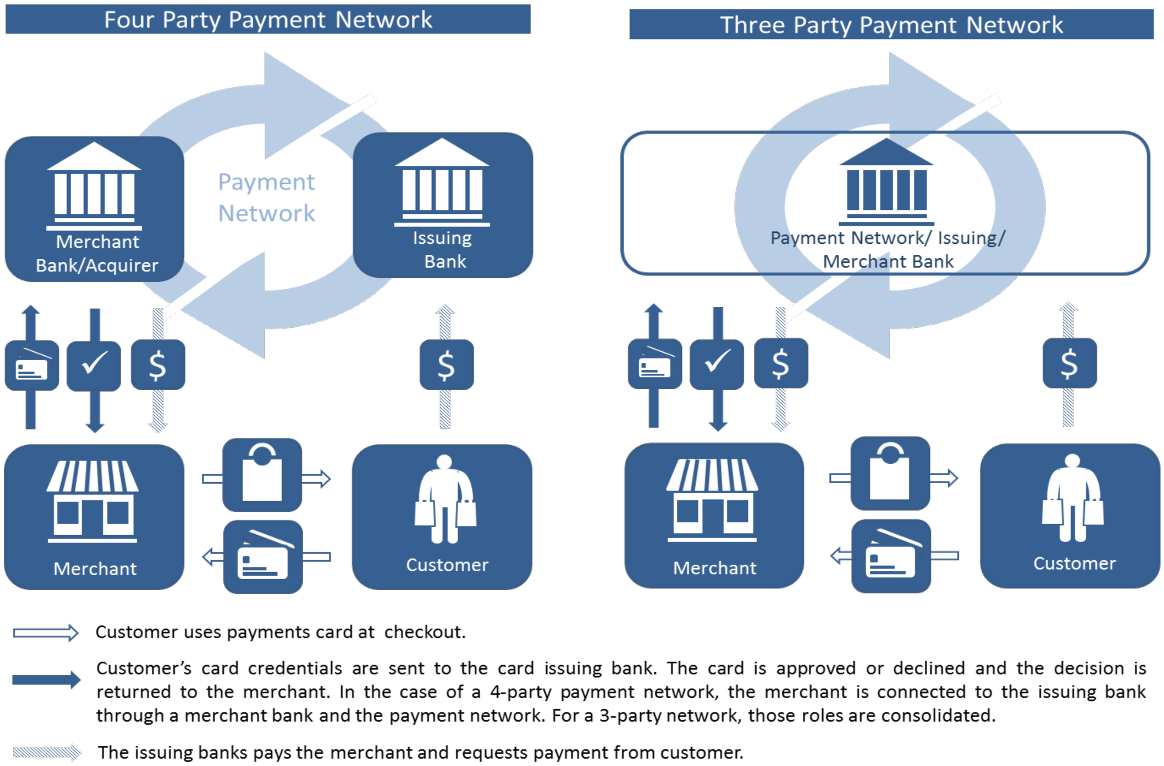
Credit card side synergies are also meaningful

In addition to Debit side synergies, COF would also likely benefit from synergies as it transitions its credit card portfolios to the Discover network. Admittedly, these synergies are more difficult to estimate. Below we walk through a framework to estimate these synergies, though we admit that information gaps make this more challenging.

Three party network drives credit card synergies

We think there are two broad categories of revenue synergies on the credit card side – merchant acquirer and network economics. Currently, Capital One issues cards on the Visa and Mastercard network. These are four-party networks where transaction economics are shared between the issuer (Capital One), the network (Visa and Mastercard) and a merchant acquiror. In contrast, Discover operates a three party network, where it serves as the network and often also serves as the merchant acquiror. As a result for such transactions it retains the issuer, network, and merchant acquiror's share of transaction economics (See Exhibit 8).

Exhibit 8: With Discover's network, some of COF's transactions would transition to a three-party network
Four-party vs three-party payment systems



Source: BofA Global Research

BofA GLOBAL RESEARCH

Estimated merchant acquiring synergies: $55M-$118M

We estimate by operating as its own merchant acquirer, COF will earn $55M-$118M of incremental revenues, depending on the purchase volume spent at merchants where it has direct relationships. DFS highlights in its 10-K filing that it Discover card net transaction dollar volume was concentrated among its top 100 merchants in 2023, with the largest merchant accounting for approximately 6% of that net transaction volume. DFS also notes that it has direct relationships with large merchants in the US. For our analysis, we assume total credit volume at $105B based on COF estimating $175B+ volume on the Discover network, and our assumption above of $70B being debit volume. We also assume a 0.15% merchant acquiror take rate. This is lower than the typical merchant acquiring take rate, but given the direct relationships are with large merchants, we think it is appropriate. Depending on the share of volume at merchants where DFS has a direct relationship, this yields our revenue estimate of $55-$118M.

Exhibit 9: We estimate $55-$118M of revenue synergies from merchant acquiring
Illustrative synergies from capturing merchant acquiring economics

Credit volume	$105,000 M	$105,000 M	$105,000 M	$105,000 M
% of volume at relationship merchants	35%	50%	60%	75%
Acquiror take rate (assumed)	0.15%	0.15%	0.15%	0.15%
Revenue benefit from acquiring	$55 M	$79 M	$95 M	$118 M

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Estimated credit card network synergy: $105M

We also estimate DFS could earn an additional $105M in revenue as it will no longer have to pay network fees to Mastercard and would instead be operating its own network. Similar to above, we assume $105B of purchase volume. On this we assume Capital One will retain an incremental 0.10% as it will no longer have to pay a network fee to Visa or Mastercard. A 0.10% assumption is below the typical fee associated with network economics. However, given COF is the third largest issuer of Visa/Mastercard cards, we believe it is likely getting better pricing / rebates. We would also note, the merchant acquiror also pays a portion of the network fee to the networks.

Exhibit 10: We estimate $105M in revenue benefit from operating its own network
Illustrative synergies from capturing network economics

Credit volume	$105,000 M
Network fee, Net	0.10%
Revenue benefit from network	$105 M

Source: BofA Global Research estimates

BofA GLOBAL RESEARCH

Putting it together – we identify $800M+ of the $1.2B in synergies

COF has called out $1.2B in network synergies. Our analysis points to $800M+ of synergies from three broad categories – debit interchange, credit merchant acquiring, and credit network fees. Presumably, there could be some incremental revenues from merchant acquiring and network fees on the debit side as well, which could add additional revenue upside to our estimates. In addition, the ratio of debit vs. credit could be more weighted towards debit. Our analysis is not to say that COF cannot achieve the $1.2B in synergies it has called out but instead provides a starting point to discuss how and where the synergies could be achieved.

Don’t overlook card issuing strategic fit

Filling the prime gap

Historically, Capital One has pioneered a barbell strategy in which it has targeted offerings for super prime customers (740+ FICO score) as well offerings for the upper end of the sub-prime base (<660 FICO score). Discover’s cardholder base, on the other hand, largely consists of prime consumers. The combination of the two bases allows the company to span the entirety of the near-prime and above consumer credit market, offering greater opportunity in a variety of credit environments.

Exhibit 11: DFS’s prime base fits nicely within COF’s mini barbell strategy
Credit card industry competitive landscape by consumer segment

		Type of Consumer	
		Revolver (carries a balance)	Transactor (Pays off card in full each month)
FICO Band	Super-Prime (740+)	- Tend to be fewer consumers in this segment	- Tend to be reward focused which drives reward competition - American Express, Chase, Capital One - Other large banks have developed products to gain traction
	Prime (660-740)	- Discover's focus area - Most large banks active here given their large national deposit customer base (e.g. Wells Fargo, Bank of America)	
	Sub-prime (<660)	- Capital One targets the high-end of this category - Fintechs often play in this space - Small, regional banks also compete here	- Tend to be fewer consumers in this segment

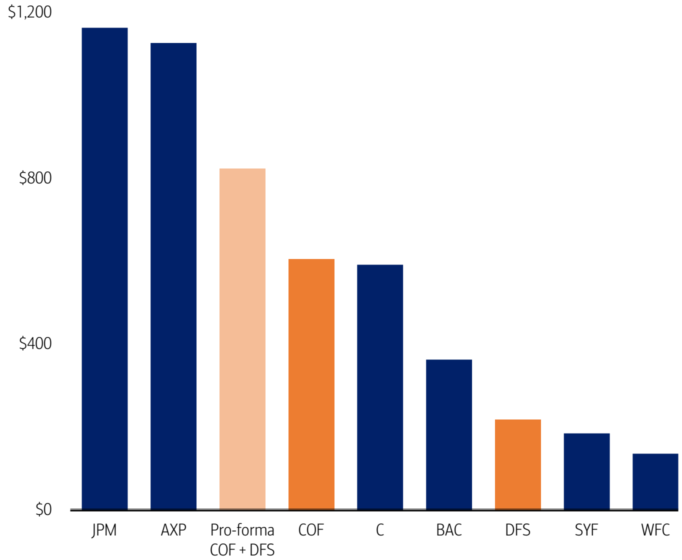
Source: BofA Global Research, Company information.

BofA GLOBAL RESEARCH

Credit card scale begets opportunity and efficiency

A combination of Capital One and Discover, upon completion, not only drives synergies within the businesses but provides a new level of scale. The combined entity in 2023 would have been the third largest credit card issuer by volume, behind only JPMorgan and AmEx (Exhibit 12). In addition, the combined company would have had the largest credit card lender (Exhibit 13). Scale on the purchase volume side is particularly important as COF can leverage this scale to drive deeper merchant relationships and provide its card holders differentiated offerings. It can also help grow the Discover network and brand.

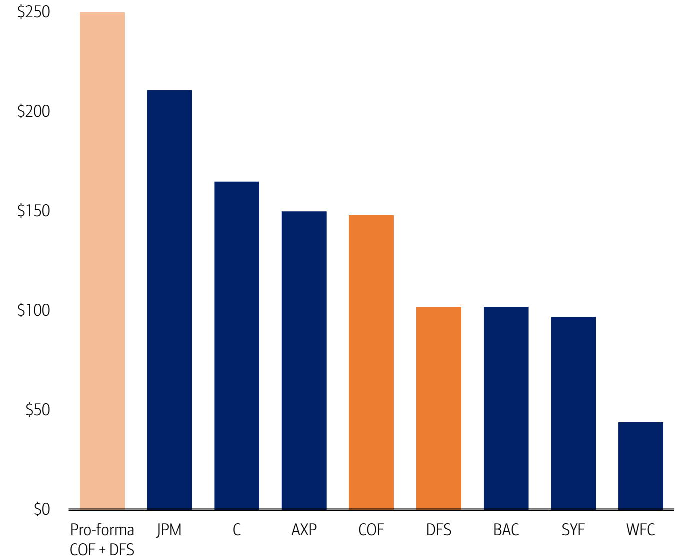
Exhibit 12: The COF + DFS combined entity would've been the third largest issuer by purchase volume in 2023
2023 credit card purchase volumes by issuer ($B)



Source: Company reports, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 13: The COF + DFS combined entity would've had the largest credit card loan book in 2023
2023 credit card loans by issuer ($B)



Source: Company reports, BofA Global Research

BofA GLOBAL RESEARCH

Beyond external benefits to the network, scale also enables COF to leverage its technology, data analytics, and brand investments more efficiently. From purchasing to machine learning, the enhanced scale and data should lead to more efficient operations. COF has noted that it expects to reduce Discovers operating expenses by 26% and marketing expense by 10%. Specifically, OpEx savings will be phased in at 22%/67%/98% in 2025/2026/2027, while marketing will be phased in over two years – 50% in 2025 and the remainder in 2026. Notably, the savings are being achieved despite Capital One planning to reinvest in the network and Discover brand post merger.

The merger will bring more customers and data to the Capital One franchise. This could lead to underwriting, marketing, and collection improvements as best practices are shared and additional data is mined for opportunity. In addition, Capital One by bringing Discover customers into the Capital One ecosystem, they will also have the opportunity to cross-sell them on COF's other offerings such as Capital One Travel, Capital One Shopping, Auto Navigator, and the National Bank product.

Price objective basis & risk

Capital One Financial (COF)

Our $146 PO is based on a 10.5x PE multiple to our 2024 EPS forecast. A 10.5x PE multiple is in the middle of the historical range (7-12x) which we think is appropriate given the more optimistic macro outlook and strong loan growth, partially offset by rising credit costs.

Downside risks are: slower than expected revolving credit growth, faltering economic recovery and rising loan losses, which could drive earnings below our estimates, and result in valuation compression. Cybersecurity and regulations are also risks.

Discover Financial (DFS)

We have removed the investment opinion on the company's stock. Investors should no longer rely on our previous opinion or price objective.

Analyst Certification

I, Mihir Bhatia, 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.

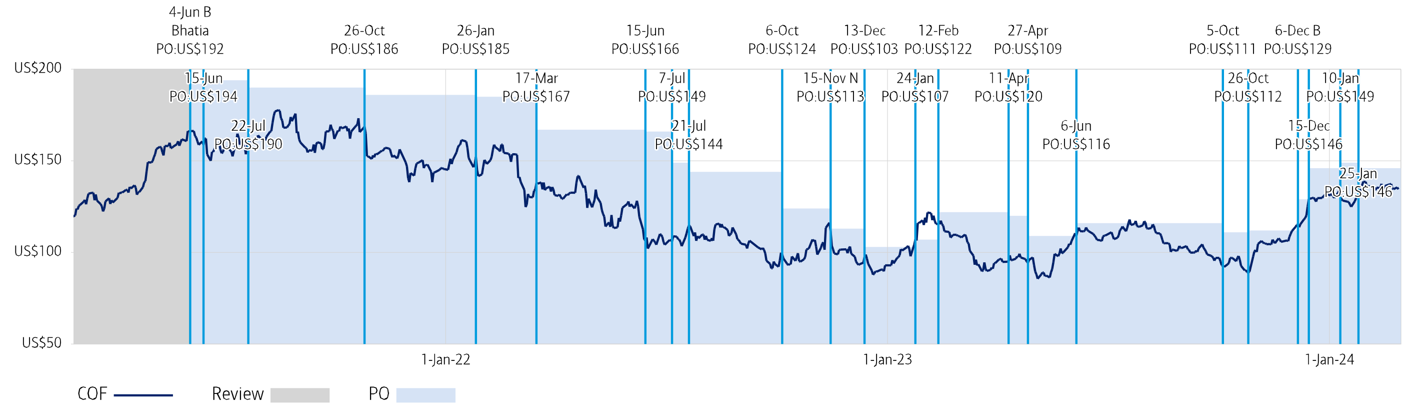
US - Payments, Processors, Specialty Finance and IT services Coverage Cluster

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
	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
	Marqeta	MQ	MQ US	Cassie Chan
	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
	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

Disclosures

Important Disclosures

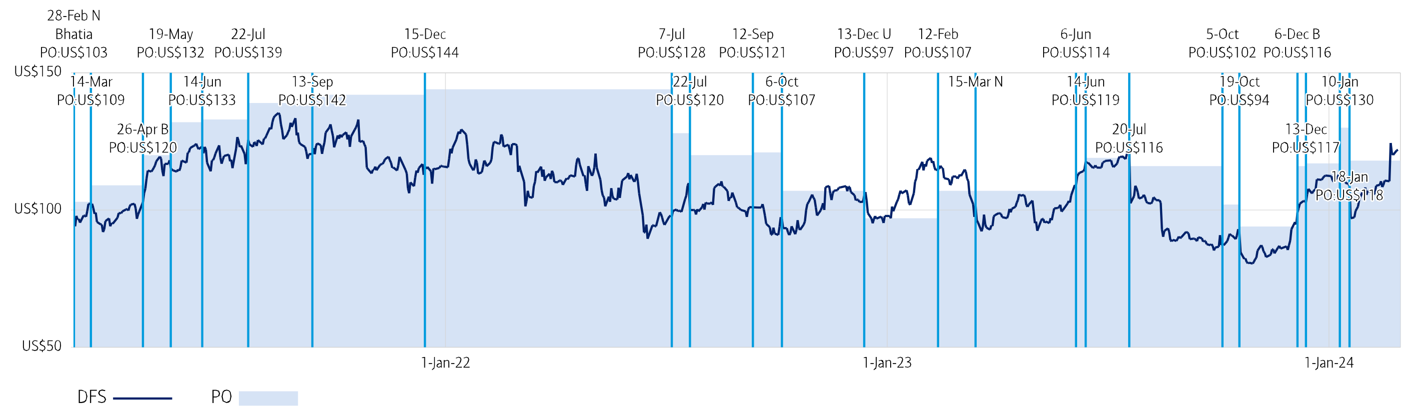
Capital One (COF) Price Chart



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

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Discover Finl (DFS) Price Chart



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

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

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

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	156	53.79%	Buy	94	60.26%
Hold	72	24.83%	Hold	48	66.67%
Sell	62	21.38%	Sell	35	56.45%

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.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. VOLATILITY RISK RATINGS, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. INVESTMENT RATINGS reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

Price Charts for the securities referenced in this research report are available on the Price Charts website, or call 1-800-MERRILL to have them mailed.
BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Capital One, Discover Finl.
BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Capital One, Discover Finl.
The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Capital One, Discover Finl.
BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Capital One, Discover Finl.
The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Capital One, Discover Finl.
BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Capital One, Discover Finl.
BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Capital One, Discover Finl.
BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Capital One.
BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Capital One, Discover Finl.
The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Capital One, Discover Finl.
BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.

This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

BofA ESGMeter Methodology:

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at BofA ESGMeter methodology. ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.