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The RIC Report

The Furious Fed and Five Lessons of the Nifty Fifty

The RIC Outlook

Our 2022 asset allocation of cash (+1% YTD), credit (-16%), equities (-21%), gov't bonds (-32%) in that order is reinforced by excess jobs & wages. Finish the year with cash on hand, harvest tax losses, and use bear-market rallies to rotate into energy & credit.

The Impervious US

Interest rate hikes have yet to curb inflation as ordinary channels aren't responding:

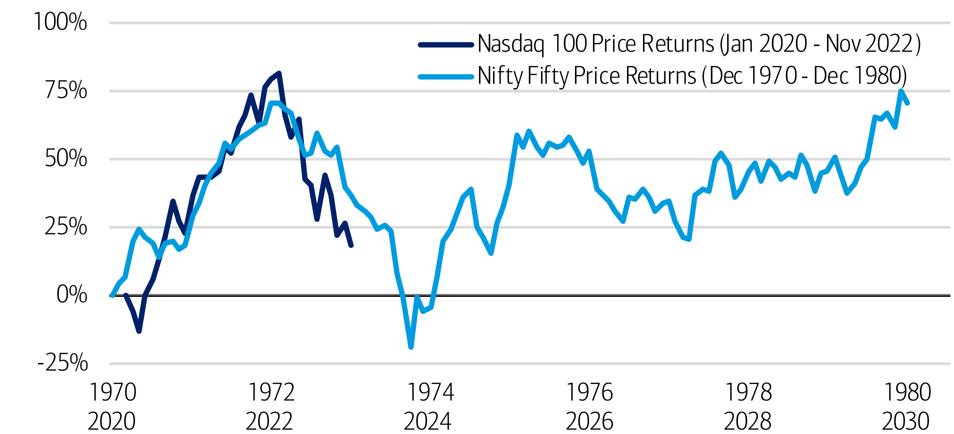
1. Housing: 95% of US mortgages are fixed-rate vs. 66% for the rest of the world;
2. Consumer: $1.1tn excess cash & >1 year of savings buffers means no slowdown soon;
3. Corporates: 75% of debt is long-term fixed & interest payments are rising very slowly;
4. Services: 70% of economic activity...much less sensitive to rates than goods are.

US markets could stay in "late-cycle" stagflation for longer, forcing more Fed hikes or "victory" declared at higher inflation, speeding the macro shift from a 2% to a 5% world.

Five Lessons from the Nifty Fifty

Fiscal decadence, surprise war, energy shortage, extreme inflation all typify 2021-22 but also the late '60s & early '70s. Then, as now, investors chased expensive, "quality" growth stocks. The Nifty Fifty crashed and was dead money for the decade (Exhibit 1). Key lessons: 1. Don't fight an inflation-fighting Fed; 2. Watch out for value traps; 3. Active asset allocation is essential. 4. Young growth stocks can become mature value stocks; 5. There's always a bull market somewhere: buy energy, small caps, and value.

Exhibit 1: High valuations hurt when the Fed gets aggressive
The Nifty Fifty then and the Nasdaq 100 today; cumulative price returns



Source: BofA Research Investment Committee, Global Financial Data, Standard and Poor's.

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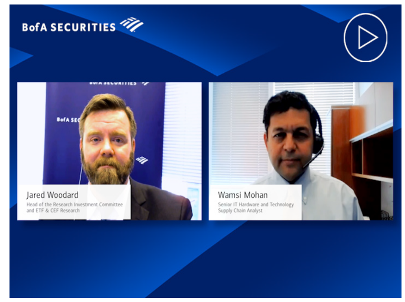
08 November 2022

Investment Strategy
Global



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The RIC Outlook

We stay cautious until large investor outflows, corporate earnings cuts, and peak inflation confirm that market lows are near. Our asset allocation of cash (+1% YTD), credit (-16%), equities (-21%), gov't bonds (-32%) in that order is reinforced by ongoing excess jobs & wages. Finish the year with cash on hand, harvest tax losses, and use bear-market rallies to rotate into energy & credit.

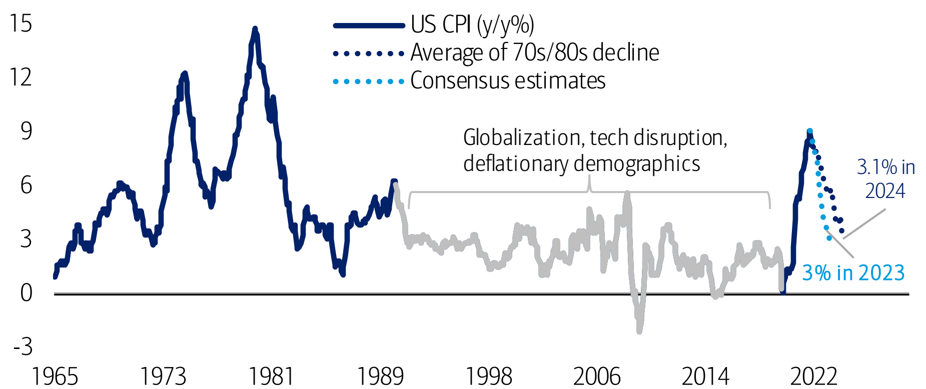
Sticky inflation means more hikes to come

Michael Gapen now expects the Fed to keep hiking until the funds rate reaches 5-5.25%. A combination of tight labor markets and continued strength in the US services sector suggests upside risks to the forecast as inflation remains persistent.

We've seen this before. Unrelenting inflation momentum marked the period between 1967and 80. US CPI hit a series of higher highs and higher lows as a combination of energy crises and wage inflation pushed prices higher. Three decades of globalization and low prices have ended spectacularly, beginning the shift from 2% to a 5% world (see: *The RIC Report: Fair value in a 5% world*).

The consensus expects inflation to fall to 3% by the end of next year, but the historical pace of price declines would suggest CPI may not touch 3% until 2024 (Exhibit 2).

Exhibit 2: History suggests a return to normalcy could take a year longer than consensus expects
US CPI, consensus expectations, and historical analogs



Source: BofA Research Investment Committee, Bloomberg

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The US economy is less sensitive to a blunt instrument like interest rate hikes with 1) 95% fixed-rate mortgages; 2) excess cash on household balance sheets; 3) strong corporate balance sheets; and 4) a service-oriented economy.

1. **Most mortgages are fixed**: Adjustable-rate mortgages comprise just 5% of the US mortgage market, well below the 34% average of developed market peers (Exhibit 3). Low adjustable-rate mortgages mean new homebuyers might feel squeezed by higher rates, but homeowners are mostly insulated from the first-order effects. This is different in an economy like Canada where more than half of mortgages are variable and rate hikes are already cutting into inflation.

   Most households do not own enough financial assets to feel the direct impact of tighter financial conditions through stock and bond declines. These dynamics imply that the unemployment needs to rise before the Fed truly pivots.

Exhibit 3: Low US adjustable-rate mortgages blunt Fed hikes
Proportion of adjustable-rate mortgages by country

Adjustable-rate mortgages, % of total	
Japan	75%
Canada	55%
Australia*	50%
Italy	48%
Spain	26%
UK	20%
Euro Area	19%
Germany	13%
United States	**5%**
France	4%

Source: BofA Research Investment Committee, Statista, ECB. *Australia based on historical avg.

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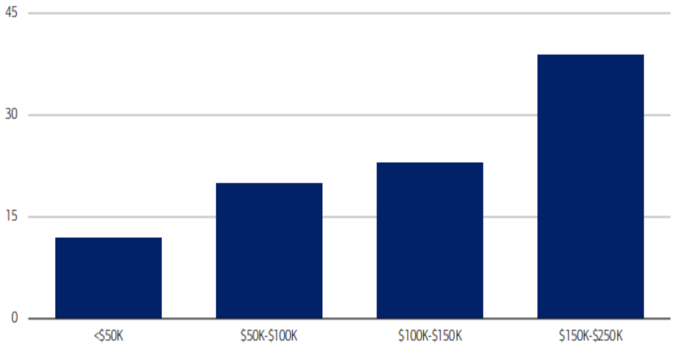
2. **US consumer remains resilient:** The combination of a tight labor market and elevated excess savings means the Fed won't stop hiking until it hurts. Recent labor

data shows that the labor market remains unbalanced with 1.9 job openings per unemployed person. The November jobs report also showed a drop in the participation rate, suggesting openings will take longer to fill. Imbalances in the labor market are likely to support wages.

A recent report from the Bank of America Institute shows that US consumers are well insulated from labor market disruptions with excess savings providing at least 12 months of cushion months before hitting 2019 levels (Exhibit 4).

Exhibit 4: Consumers have >1 year until savings drop to 2019 levels
\# of months before savings buffers reset to 2019 levels



Source: Bank of America internal data. Note: estimates assume balances are drawn down at the same rate seen over the past three months.

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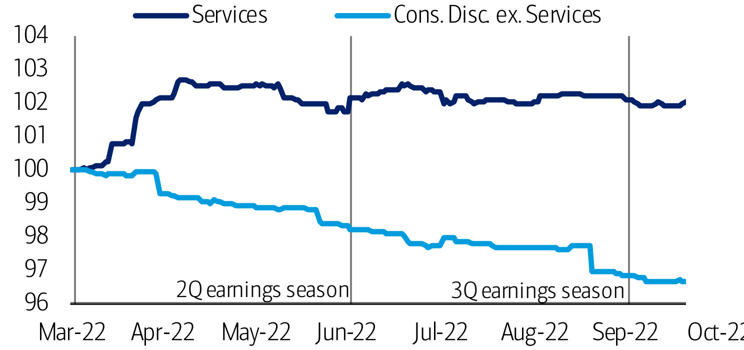
Exhibit 5: Resilient services demand vs. weakening demand for goods
2022 consensus sales for services vs. Consumer Discretionary ex. Consumer Services (3/31/22-11/4/22)



Source: FactSet, BofA US Equity & Quant Strategy; Services: Hotels, Restaurants, Airlines

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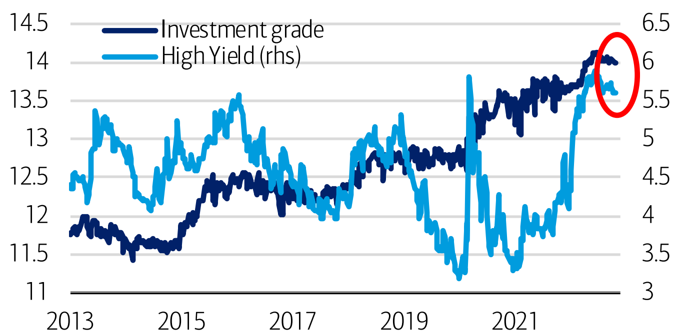
3. **Corporate balance sheets are strong:** An estimated 75% of S&P 500 companies have debt at long-term fixed rates. Debt held by investment grade corporates has an average 14 years until maturity, while lower-rated companies have 5.5 years before refinancing becomes necessary (Exhibit 6). The combination gives companies a buffer before higher rates start to negatively impact debt financing decisions.

4. **Services are less rates sensitive:** The US service sector comprises 70% of total economic activity. The intangible nature of service industries (e.g., retail, leisure) mean Fed hikes only work if demand slows as the labor market worsens. Service industries are proving resilient as demand stays strong. The service sector added 200k jobs in November. The consensus has continued to cut sales estimates for goods companies while expectations for services have remained resilient (Exhibit 5).

Sticky inflation is largely related to imbalanced fiscal policy. Social programs to boost demand pushes wages & consumption higher without commensurate support for greater supply (Exhibit 7). Tighter fiscal policy in the next Congress will be necessary.

Exhibit 6: IG Corporates don't have to refinance until 2036
Weighted average maturity in years of US IG & HY corporate debt indexes



Source: BofA Research Investment Committee, Bloomberg

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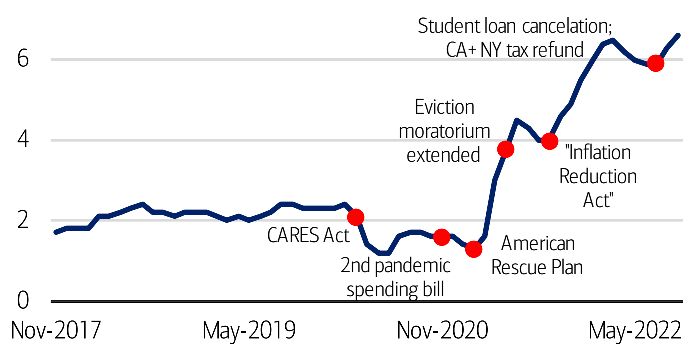
Exhibit 7: CPI has risen alongside record fiscal expansion
US core CPI and major fiscal policy announcements



Source: BofA Research Investment Committee, Bloomberg

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Five Lessons from the Nifty Fifty

The "Nifty Fifty" is a valuable historical precedent for investors facing an overvalued market, sticky inflation and an aggressive Fed. Macro and market shifts drove huge secular returns as leadership changed from large caps to small and growth to value.

Macro parallels

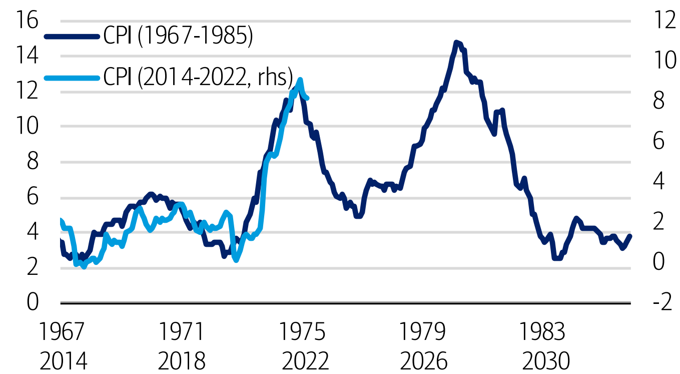
Macro parallels between 1965-80 and today are striking. Michael Hartnett summarizes the key phases:

- **1965-68**: Government spending on the Vietnam war and Great Society policy platform combined with unionization and an accommodative Fed to stoke inflation. Asset winners were small caps and tech stocks.
- **1969-73**: Volatility and inflation surged with the end of Bretton Woods and failure of wage/price controls (Exhibit 8). Stocks and bonds underperformed in real terms.
- **1974-79:** Oil price shocks, power shortages, food price shocks, wage price spirals, and budgetary pressures led to stagflation.

We're seeing evidence of all these phenomena today, albeit over a shorter period.

Exhibit 8: Peak inflation doesn't mean no inflation

US CPI analog between 1967-1985 and 2014 to present



Source: BofA Research Investment Committee, Bloomberg

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Market parallels

Market parallels are also instructive. Investors rushed into a handful of industry-leading blue-chip stocks after small caps halved during the 1969/70 recession. High flying tech, pharma, and consumer-oriented companies absorbed inflows and saw multiples surge.

The Fed hiked rates from 5.5% to 13% between 1973/74 and cut before inflation peaked as growth turned negative. This period marked the only post-WWII Fed hiking cycle where stocks lost money (see *The RIC Report: Bullish stock splits, bearish rate hits*, page 7). The S&P 500 ultimately fell 48% from its peak before rebounding. Indexes traded in wide ranges while small caps dominated the back half of the '70s (see *The Flow Show: The Next Big Thing is Small*).

Defining the Nifty Fifty

The Nifty Fifty concept originated in the 1970s as a group of "one decision" large cap growth stocks. There was perceived safety in size and excitement around their growth potential. Investors worried little about sky-high valuations.

> "The greater fool in growth stocks isn't the one who buys them but the one who sells them." - Carl Hathaway, SVP at Morgan Guaranty, March 1973

Nifty Fifty stocks ultimately comprised more than 40% of the market with an average price/earnings multiple of 56.6x. A list of stocks published by Morgan Guaranty Trust and Kidder Peabody's "Big Board" provides the foundation for Nifty Fifty analysis. We constructed a proprietary series to track Nifty Fifty performance historically that we use throughout this report (see Appendix for details).

Two bears and three bulls walk into a market…

There are five lessons to draw from the Nifty Fifty. **Two bearish**: 1) don't buy the leadership dip when the Fed is fighting inflation; 2) "deep value" can be a value trap; and **three bullish**: 3) active asset allocation is essential; 4) growth stocks can age gracefully, maturing into dividend-paying value stocks; and 5) even bear markets have some big winners.

Bearish growls

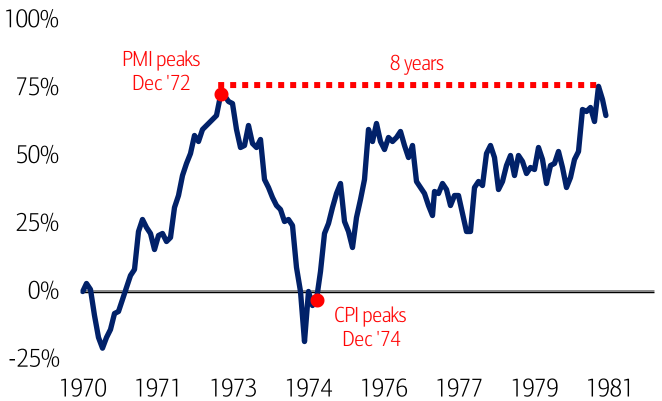
1. Don't fight the Fed and don't buy the old leaders

The Fed hiked nearly 1000bps between February 1972 and July 1974. The Fed's first big post-war battle with inflation ended with a cut as GDP turned negative even before inflation peaked. Nifty Fifty stocks saw their eye-popping gains of the early-70s wiped out, and failed to regain 1972 highs until 1980 (Exhibit 9).

Market leadership became vulnerable and Nifty Fifty stocks fell from 40% of the overall market to just 23% in eight years (Exhibit 10). "New" economy stocks faced a similar fate after the dot-com bubble and look to be at a similar precipice today.

Lesson for today: avoid growth stocks until valuations reset and inflation peaks. Don't avoid winners of the past decade indefinitely (tech, discretionary, communications), but demand better value and higher-probability, more immediate earnings.

Exhibit 9: The Nifty Fifty ended in nearly a decade of "dead" money
Nifty Fifty price returns, 1970-1980



Source: BofA Research Investment Committee, Global Financial Data, Standard and Poor's
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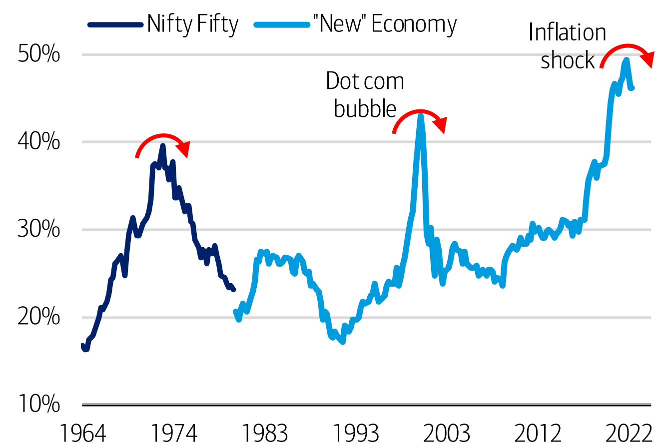
Exhibit 10: Every leadership regime comes to an end
Market cap as % of S&P 500



Source: BofA Research Investment Committee, Global Financial Data, Standard and Poor's, Bloomberg. "New" economy = Tech + Communication Services + Consumer Discretionary
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2. Some "deep value" stocks are just value traps

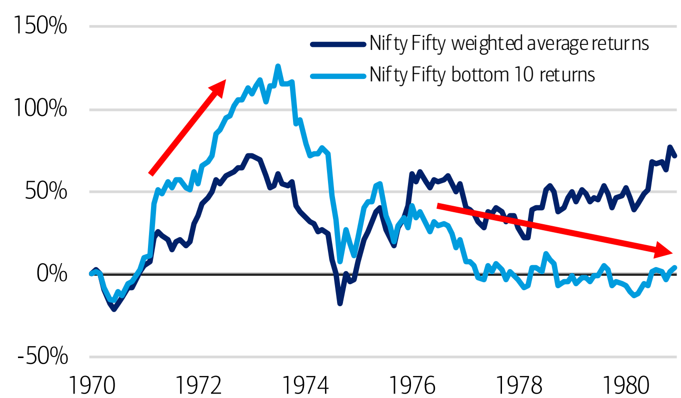
After a bear market, formerly high-flying stocks can look attractive as valuations reset and investors hope for a rebound.

But companies that had impossibly high valuations face harsh judgment as financial conditions tighten. Longer duration tech and healthcare stocks suffered the most and did not regain prior highs even by 1980 (Exhibit 11). The average P/E of 56.6x fell to 17x in Sept 1974, the bottom of the crash.

Household names like Xerox and Johnson & Johnson had 0% nominal returns for 5 straight years while other companies like Sears and Eastman Kodak have gone bankrupt or completely rebranded (Exhibit 12).

The tech sector today is enduring its worst drawdown since the dot-com bubble and some stocks may not recover. Investors should avoid broken business models and apply heavy discounts to potentially stranded assets in China or to business lines at risk of regulatory intervention.

Exhibit 11: Value traps don't bounce back
Nifty Fifty price returns, 1970-1980



Source: BofA Research Investment Committee, Global Financial Data, Standard and Poor's
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Lesson for today: "New" economy sectors will not disappear, but market leadership may change dramatically. Prioritize companies with predictable cash flows and strong, defendable moats; for example, the Intangible Value and Efficient Growth strategies (see *The RIC Report: Fair value in a 5% world*, page 18 for constituents).

Exhibit 12: Nifty Fifty stocks that struggled in the aftermath
List of lagging Nifty Fifty stocks with summary statistics

	Annualized Returns					
Name	**5Y**	**10Y**	**15Y**	**Peak P/E**	**Sector**	**Fate**
Upjohn	1%	2%	6%	41	Healthcare	Merger
Eli Lilly	1%	0%	1%	48	Healthcare	
American Home Products	1%	6%	9%	38	Healthcare	Acquired
Xerox Corp.	0%	-5%	0%	56	Technology	
Johnson & Johnson	0%	3%	5%	71	Healthcare	
International Flavors and Fragrances	-2%	0%	7%	78	Materials	
Eastman Kodak	-4%	1%	-2%	50	Technology	
Sears Roebuck	-5%	3%	3%	53	Discretionary	Acquired
Schering	-5%	-2%	4%	52	Healthcare	Defunct
Emery Air Freight	-6%	-4%	-9%	n.a.	Industrials	Defunct
Average	-2%	0%	2%	54		

Source: BofA Research Investment Committee, Global Financial Data. Note: P/E average from 1971/1972, peak P/E for Nifty Fifty stocks; Start date for returns = 9/30/1974; Emery Air Freight returns through 5/31/1989

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Bullish charges

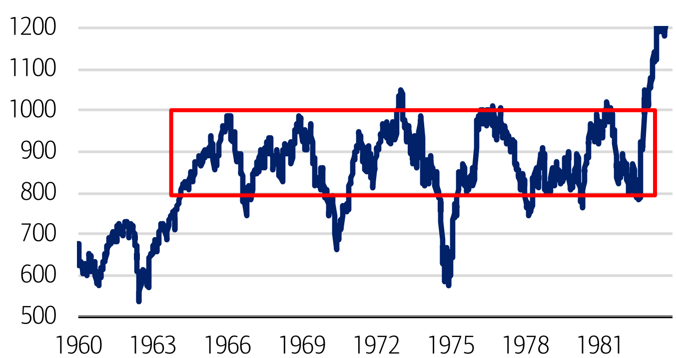
3. Active asset allocation is essential

Equity indices traded in wide ranges throughout the '60s and '70s. The Dow Jones Industrial Average traded between 800 and 1000 for nearly 20 years, with remarkable volatility (Exhibit 13). Market timing is clearly not a viable strategy in this backdrop. But a buy-and-hold strategy would have struggled too, even in the most familiar benchmarks.

Valuations are also key. Today's 60/40 turmoil looks a lot like historical episodes where markets overextend and ultimately correct with a vengeance. Peaks in the S&P 500 CAPE ratios have coincided with 60/40 tops that can take years to reset (Exhibit 14). The Nifty Fifty experience saw valuations reset gradually, more like a slow burn than the flash in the pan we've become accustomed to in the last decade.

Savita Subramanian has noted that the S&P 500 index today is one of the most crowded investments in the world, and recommends "outdexing" instead of indexing to avoid US stocks that are not pricing key risks like duration, labor intensity, and crowding.

Exhibit 13: The 18-year, 200-point range
Dow Jones Industrial average price between 1960 to 1982



Source: BofA Research Investment Committee, Bloomberg

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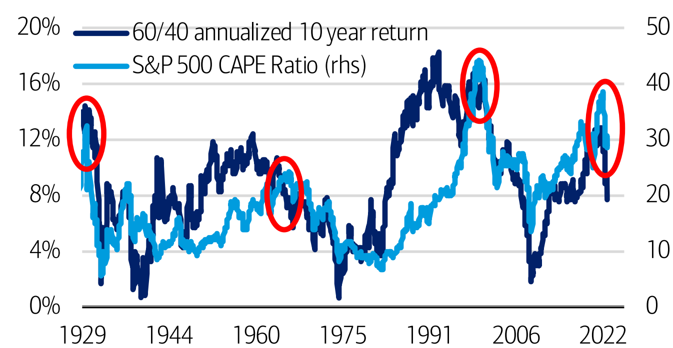
Exhibit 14: Peak valuations penalize concentration & high duration
60/40 annualized returns & S&P 500 CAPE ratio



Source: BofA Research Investment Committee, Global Financial Data, Robert Shiller. Note: 60/40 is a portfolio of 60% S&P 500 total return and 40% US 30-year total return, rebalanced monthly.

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"Old" economy sector stalwarts like energy, real estate, banks, and industrials led the S&P 500 in the half decade following the Nifty Fifty top (Exhibit 15). Leaders became laggards as pharma, telecoms, and consumer sectors struggled.

Small caps and value led the S&P 500 by double digit returns annually. Long duration bonds struggled the most, underperforming the market by 10% per year in nominal terms.

Lesson for today: Embrace sector, size, and factor exposures as sideways, volatile markets become a reality.

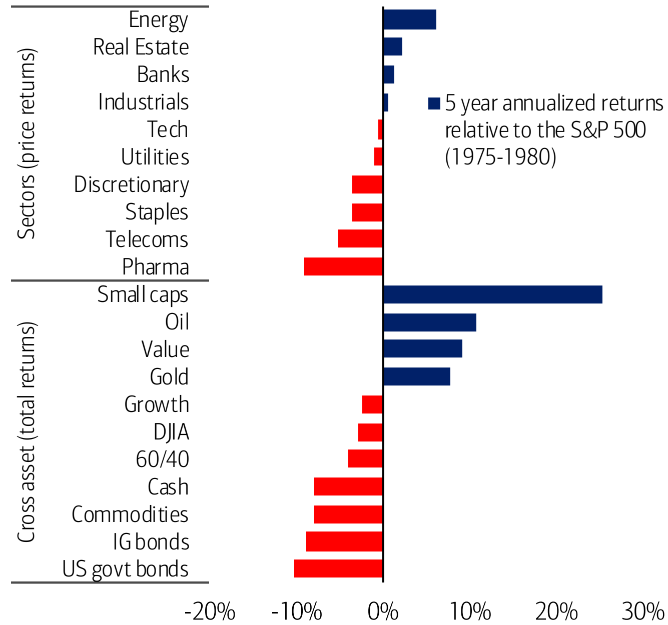
Concentrated bets can beat the index when the index is changing. Every investment decision is ultimately an active one; choosing to buy-and-hold a market-cap weighted index, for example, is still an active decision.

Risk management is crucial, and there are no "safe" strategies when stocks and bonds are correlated. Indexing when concentration and valuations are high is fake diversification.

Owning a 60/40 stock/bond portfolio when tech, discretionary, and communication services is 50% of the equity index means your portfolio is 70/30 long duration/short duration. Intermittent periods of outperformance are likely, but so is long term underperformance.

Exhibit 15: Long energy & small caps; short bonds

5 year annualized relative returns (1975-1980)



Source: BofA Research Investment Committee, Global Financial Data. Note: 60/40 is a portfolio of 60% S&P 500 total return and 40% US 30-year total return, rebalanced monthly.

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4. What do you call a growth stock that has matured? A value stock

Early-stage companies tend to trade earnings growth for dividends and a promise of high future returns for unreliable cash flows. Ultimately, companies can mature, and investors settle into the relative comfort of strong balance sheets.

The path from growth stock to value stock is well trod. The S&P 500 value index is >10% tech companies with familiar names like Visa, Broadcom, Intel, and IBM.

In our interview this month, Wamsi Mohan delineates IBM's trajectory from a high-flying Nifty Fifty growth stock in the '70s to a value stock today that pays a 4.8% dividend.

IBM was initially a hardware company specializing in mainframes and personal computers. Overtime, the company diversified its revenue stream by acquiring consulting and software assets. After divesting from underperforming business segments, management has focused on top-line revenue growth and free cash flow.

Exhibit 16: How companies age gracefully

P/E, dividend yield 1971 and 2022 for select Nifty Fifty companies

Company	P/E 1971	P/E 2022	Div Yld 1971	Div Yld 2022
Digital Equipment (now HPQ)	84	7	1.6%	3.5%
Dow Chemical	35	6	2.8%	5.9%
Louisiana Land & Exploration (now COP)	31	10	1.9%	2.3%
Black & Decker	21	10	0.4%	4.3%
IBM	42	16	1.4%	4.8%
Texas Instruments	53	16	0.3%	2.9%
Pfizer	31	8	1.9%	3.4%
Merck	47	14	2.0%	2.8%
Schlumberger	49	27	0.2%	1.5%
Bristol-Myers	51	18	0.9%	2.8%
S & P 500	18	18	3.0%	1.8%

Source: BofA Research Investment Committee, Bloomberg, Global Financial Data

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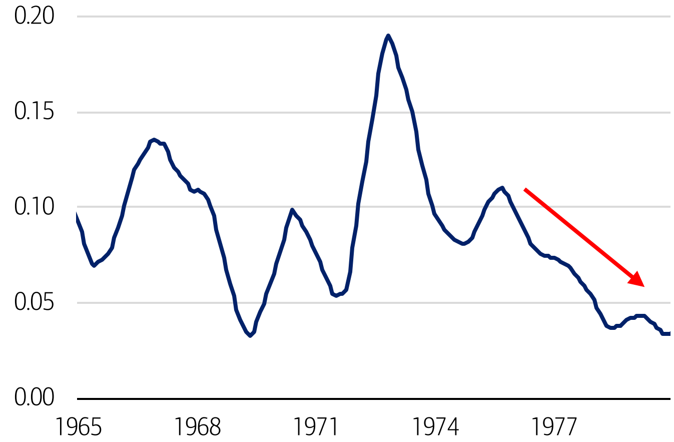
IBM's maturation is not a unique story. We see across successful former Nifty Fifty constituents the shift from high valuation, low dividend to low valuation, high dividend. These companies also saw earnings volatility decline as they matured (Exhibit 17).

The group of Nifty Fifty stocks depicted in Exhibit 16 had an average P/E of 44x in 1971, well above the S&P 500's 18x. Today, they trade at 13.2x, a 25% discount to the broad market. Similarly, dividend yields were less than half the S&P 500's 50 years ago. These mature companies have solidified balance sheets as the market has gotten growthier, and yield 3.4% on average today, nearly twice the market.

Exhibit 17: Earnings volatility peaked with the Nifty Fifty frenzy
Standard deviation of YoY change in earnings, 1Y rolling, 1Y average



Source: BofA Research investment Committee, Global Financial Data, Standard and Poor's; Series includes companies from Exhibit 16

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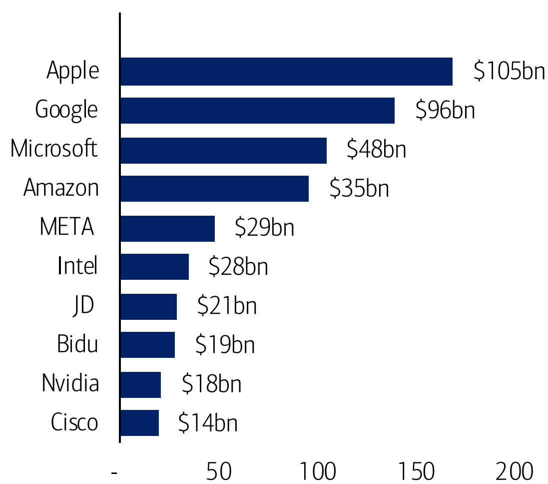
From paying it forward to paying it back

Today, some of the quintessential growth stocks have seen cash balances balloon. Cash gives management the flexibility to reward shareholders with more reliable payouts and higher probability earnings once the market outlook stabilizes.

Wamsi mentions in our interview that some of the large cap tech multiples have held up because of extremely solid balance sheets (Exhibit 18). Companies like Apple have nearly $170bn in cash and $50bn in net cash. The main avenue for payouts thus far has been share buybacks. Wamsi argues that many of these companies will have leverage to institute and/or grow dividends in a recovery phase.

Lesson for today: prioritize companies with managements that have built fortress-like balance sheets and offer strong visibility into solid business models. Awareness of shareholder concerns will be a key differentiator after the Fed is finished.

Exhibit 18: Cash balances, valuations, and dividend yields for Nasdaq companies
Top 10 companies in the Nasdaq 100 by cash and equivalents, $bn



Source: BofA Research Investment Committee, Bloomberg

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5. There are big winners even in bear markets

Sector, style, and size tilts are one way to produce alpha. Another way is to dig through the rubble of a correction and find individual equity winners.

Selectivity is key, and the right picks can serve investors well. For example, 1 of 4 IPOs in 1999 are blue chips today. Similarly, winners from the Nifty Fifty aftermath like Coca Cola, Pepsi, Rite Aid, Black & Decker, and Dow Chemical have become lasting behemoths (Exhibit 19). 40 of our Nifty Fifty that remain today, the top 10 performers have averaged 10% annualized returns since their market bottom. Even a tech company, Digital Equipment, succeeded in the subsequent decade because of its clear business model, reliable moat, and quality growth.

Exhibit 19: Nifty Fifty stocks that led in the aftermath
List of leading Nifty Fifty stocks with different summary statistics

	Annualized Returns						
Name	**5Y**	**10Y**	**15Y**	**Peak P/E**	**Value?**	**Sector**	**M&A? Defunct?**
Rite Aid	51%	23%	19%	161		Staples	
Perkin-Elmer	39%	33%	21%	127		Healthcare	
Coca-Cola	25%	28%	18%	29	Y	Staples	
Digital Equipment	24%	16%	10%	84	Y	Tech	Acquired
PepsiCo	23%	16%	21%	31	Y	Staples	
Dow Chemical	21%	8%	15%	35	Y	Materials	
Avon Products	21%	3%	3%	65		Staples	
Louisiana Land & Exploration	21%	6%	6%	31	Y	Energy	Acquired
Halliburton	18%	-1%	17%	38	Y	Energy	
Black & Decker	18%	14%	11%	21	Y	Industrials	
Average	**26%**	**15%**	**14%**	**62**			

Source: BofA Research Investment Committee, Global Financial Data, Standard and Poor's. Note: P/E average from 1971/1972, peak P/E for Nifty Fifty stocks; Stocks did not peak at same time, used average to avoid misrepresentation of valuation. Start date for returns = 9/30/1974, trough for Nifty Fifty 1970-1980.

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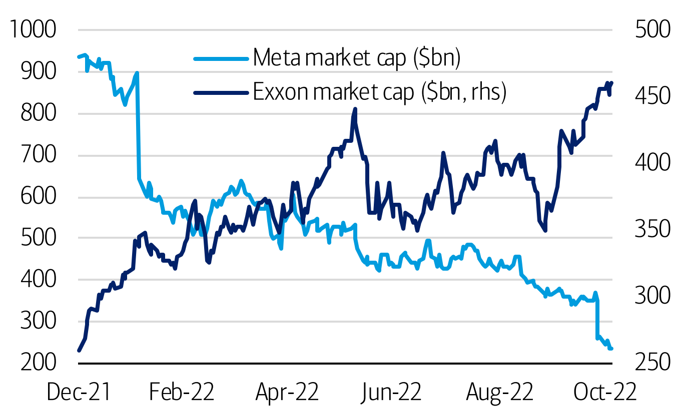
At 62x, these winning stocks had a higher P/E at the market peak than the laggards (54x – in Exhibit 12). But those higher multiples were generally warranted, with the price/earnings growth for winners between 1975/80 averaging 2.4, compared to -27 for the losers. In other words, owners of winning stocks paid $2.4 for every 1% increase in earnings growth while owners of laggards were on the hook for declining earnings.

Lesson for today: Everything comes back into style, except bellbottoms. Exxon's market cap this year was $260bn, the same level it was in 2004. Meta, née Facebook was worth almost $1tn at the start of 2022. Fortunes have completely reversed over the course of the year as Exxon is nearly 2x the size of Meta (Exhibit 20).

This has coincided with the best performance for value stocks in two decades (Exhibit 21). A replay of the Nifty Fifty era could give value an edge over growth for the next five years or more. High multiples may also be warranted if the company can exhibit value-like attributes.

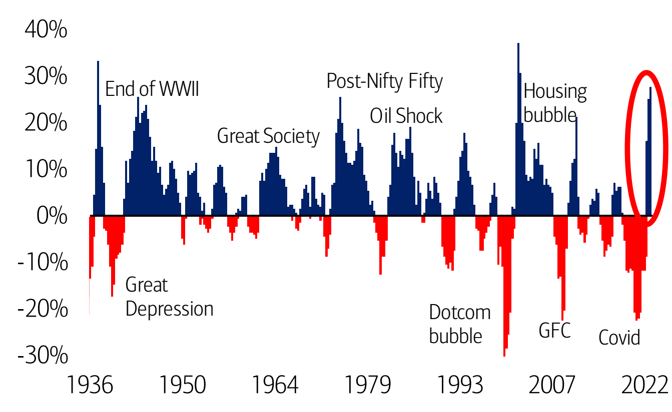
Exhibit 20: Out with the new, in with the old
Company market cap, $bn



Source: BofA Research Investment Committee, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 21: Value stocks have notched highest returns in 20 years
Value vs growth, 2-year annualized returns



Source: BofA Research Investment Committee, Fama & French

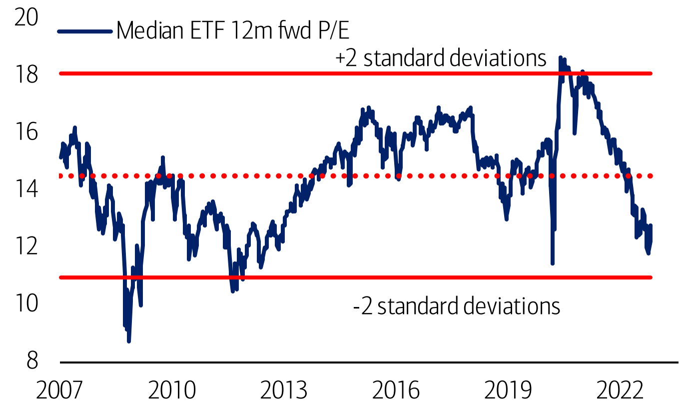
BofA GLOBAL RESEARCH

ETF Valuation

Multiples move slightly higher, but opportunity remains

- The median equity ETF in our coverage trades at 12.6x forward earnings, up from 12.1x last month (Exhibit 22). Investors should continue to be discerning as dispersion remains wide across categories.
- Our valuation table this month shows market-cap weighted averages instead of simple averages to avoid valuation skew from smaller funds. Communication Services funds have the lowest valuations while Financials funds have seen valuations improve markedly (Exhibit 22). Staples and Health Care look the most stretched.
- Buybacks, Value, and Dividend ETFs all continue to trade at relatively attractive valuations. Growth funds are 0.6 standard deviations above historical valuation norms.
- DM ex-US equity and Latin America ETFs are still the cheapest international equity funds. Newly initiated single-county EM equity funds also look relatively attractive from a valuation perspective.

Exhibit 22: Equity ETFs are valued well below historical norms
Median 12 month forward P/E ratio across BofA equity ETF coverage



Source: BofA ETF Research, Factset. Note: Median calculated using12m fwd P/E ratios for all equity ETFs in our coverage.

BofA GLOBAL RESEARCH

Exhibit 23: Equity ETF valuations by category
ETF valuation ratios and composite score (lower is better)

Category	Sub-category	Composite Valuation (stdev)	12m fwd P/E	12m fwd P/B	12m fwd EV/EBITDA	12m fwd P/FCF	Top-rated fund	Bottom-rated fund	Link
US Equity Sector	Comm Services	-1.97	13.63	1.91	7.54	13.71	XLC	VOX	US Equity Sector ETFs for 2022
	Real Estate	-0.65	14.48	2.29	16.41	18.20	XLRE	FRI	US Equity Sector ETFs for 2022
	Materials	-0.38	13.39	2.29	8.57	15.88	VAW	IYM	US Equity Sector ETFs for 2022
	Financials	0.16	11.47	1.38	17.48	na	VFH	FXO	US Equity Sector ETFs for 2022
	Energy	0.19	9.45	2.22	5.59	9.49	XLE	IYE	Structurally bullish on Energy ETFs
	Industrials	0.44	16.75	4.03	11.34	18.71	FIDU	RGI	US Equity Sector ETFs for 2022
	Discretionary	0.54	20.46	6.08	11.87	23.20	XLY	FXD	US Equity Sector ETFs for 2022
	Tech	0.62	19.06	5.88	13.23	19.34	IYW	RYT	US Equity Sector ETFs for 2022
	Utilities	0.69	17.72	1.94	11.64	-47.40	VPU	FXU	US Equity Sector ETFs for 2022
	Health Care	0.77	17.11	4.02	12.91	16.66	VHT	FXH	US Equity Sector ETFs for 2022
	Staples	0.82	19.05	5.01	13.39	21.35	VDC	RHS	US Equity Sector ETFs for 2022
Single Factor	Int'l Dividend	-1.50	8.92	1.40	7.02	12.15	HDEF	DWX	Follow the money with Dividend & Buyback ETFs
	Buybacks	-1.23	9.20	2.11	6.77	9.56	DIVB	IPKW	Follow the money with Dividend & Buyback ETFs
	Dividend	-0.78	11.74	2.48	9.06	14.86	SPYD	AIVL	Follow the money with Dividend & Buyback ETFs
	Quality	-0.41	16.56	4.25	11.37	17.68	QUAL	JQUA	Own Quality for the cycle turn
	Value	-0.29	12.05	2.07	8.96	14.86	VTV	XSVM	Initiating coverage of Value ETFs
	Growth	0.58	21.14	6.46	13.82	21.51	SCHG	IVW	Growth for contrarians
US Size	Mid Cap	-0.68	13.36	2.17	9.71	16.10	SCHM	FNX	The Sweet Middle
	Small Cap	-0.59	16.98	1.72	9.50	19.35	CALF	FYX	Shopping small
	Large Cap equal wgt	-0.12	15.09	3.18	10.85	17.67	FNDX	LRGF	The Sweet Middle
	Large Cap mkt cap	0.39	16.46	3.54	11.34	18.85	IVV	OEF	The Sweet Middle
Thematic	ESG	-0.63	15.35	2.93	10.78	18.61	VOTE	ESGE	ESG ETFs get a better model and a VOTE
	Clean Energy	-0.54	-67.46	2.38	-3.98	-46.53	ICLN	PBW	Valuations up, catalysts down: Neutral clean energy ETFs
Int'l Equity	DM ex-US	-1.23	11.10	1.34	7.78	14.78	DBEF	PXF	Who to know when you go abroad
	Latin America	-1.22	7.63	1.48	4.58	8.70	ILF	ECH	Initiating Initiating coverage of Latin America equity ETFs
	Europe	-0.88	10.55	1.43	7.54	13.57	IEUR	FDD	Who to know when you go abroad
	Emerging Markets	-0.87	10.51	1.37	7.31	15.29	EMXC	FEM	Where to go in emerging markets
	Canada	-0.84	11.53	1.68	8.44	16.11	BBCA	na	Who to know when you go abroad
	Single-country EM	-0.63	10.82	1.32	6.56	13.29	KSA	VNM	Buying emerging markets on their merits
	China	-0.62	9.01	1.07	8.88	16.80	CXSE	PGJ	Where to go in emerging markets
	Japan	-0.48	11.91	1.12	9.10	18.39	BBJP	DXJ	Who to know when you go abroad
	India	1.01	20.95	3.06	12.74	28.55	EPI	INDY	Where to go in emerging markets

Source: BofA ETF Research, Factset. Note: All valuation metrics are based on next twelve month (NTM) I/B/E/S estimates. "Composite Valuation" is the market-cap weighted average standard deviation of each fund's P/E, P/B, EV/EBITDA, and P/FCF ratios. A higher number indicates that funds are more expensive relative to history while lower numbers suggest that funds are inexpensive.

Exhibit 23: Equity ETF valuations by category
ETF valuation ratios and composite score (lower is better)

Category	Sub-category	Composite Valuation (stdev)	12m fwd P/E	12m fwd P/B	12m fwd EV/EBITDA	12m fwd P/FCF	Top-rated fund	Bottom-rated fund	Link

BofA GLOBAL RESEARCH

Macro & Econ Highlights

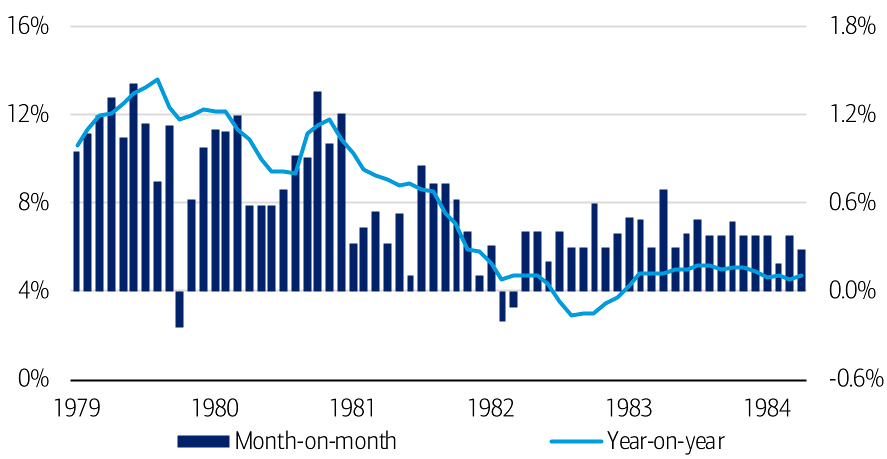
Earnings ok but guidance continues to fall

Moving into week 4 of earnings, the BofA Equity and Quant Strategy reiterates its view of $220 EPS going into 4Q22 and $200 EPS for the S&P500 going into YE23. While YoY growth for EPS has been in line with the historical average, earnings beats are weaker than the historical average of 2.7%. Energy, healthcare, and staples posted stronger beats than financials, materials, and communication services. The path ahead remains grim, however. 4Q EPS guidance has been cut 2.5x more than the historical average, and 2023 EPS has been cut 2.9x the historical average. Key trends from this earnings season include 1.) Services > goods; Staples > discretionary 2.) Tech faces weakening fundamentals and higher rates 3.) 3Q FX headwinds have been strongest since 2023, but 4Q is expected to be worse yet 4.) Companies posting EPS misses are being punished at the highest rate in history, underperforming the S&P by 640bps. Finally, the team believes that ERP is not currently pricing in earnings risk, adding risks that the S&P500 reaches 3200 in 2023.

History says 3 years to 3%

BofA's Quantitative Cross Asset Strategies highlights the long road ahead for disinflation. Looking back to the Volcker era, it took 3 years to get inflation back down to 3% (Exhibit 24), and that included 2 recessions and a hard landing. In their view, the strong CPI print in September confirmed that July's soft print was an aberration. To restore inflation back to historic levels, it will likely require significant economic slowdown, largely focused on investment spending over the next 1-2 years. To weather the risk of significantly higher inflation and long-term nominal rates, look to commodities and commodity strategies.

Exhibit 24: US core CPI inflation during the 1980's
US core inflation took over 3 years to decline to sub 3% during the Volcker disinflation



Source: BLS

BofA GLOBAL RESEARCH

Buy this, not that: Staples floating rate debt exposure

BofA's US Consumer Staples team analyzes 44 food and beverage companies on their exposure to floating rate debt. Specifically, they highlight 14 companies with the most risk from high levels of floating rate debt. Generally, smaller cap companies and recent

IPO companies had a higher proportion of floating rate debt. Larger peer companies typically have higher amounts of fixed rate debt, more insulated from impacts in the higher-for-longer rate environment. Additionally, they note that many companies took out interest rate swaps this past quarter as rates moved higher.

Labor and supply chain cooling, still hot to touch

BofA's predictive analytics team recently highlighted evidence of some cooling in the labor market and supply chain pressures. While data suggests that wage pressures remain at decade highs, text analysis of management commentary highlights a constructive look on improving labor conditions. Job openings and mentions of signing bonuses have declined slightly, and the Atlanta Fed wage growth tracker moderated this month. On the supply chain front, lead times are easing, and availability of goods is improving, driven partially by softening demand for goods. Total imports fell -8% yoy in September, the largest decline in the last two years. Overall, labor and supply chain costs have seen some improvement, but there is a long way to the normal of the last two decades.

Munis over corporates as economy slows

The negative macro environment creates opportunity in the muni market. BofA economists anticipate that the US will enter a recession in 1H23 with three consecutive quarters of -1.50% GDP contraction starting in 1Q23, before returning to a moderate 1% growth in 4Q23. Despite this, COVID funding throughout the pandemic reinforced state & local government balance sheets, and muni bonds appear well-positioned heading into an economic slowdown. Our municipal bond strategists recently highlighted that municipal bonds are very attractive relative to corporates, particularly in AAA and power. The muni AAA curve continues to steepen, and munis are now trading at the cheapest levels since 2013. The Muni Master index's tax adjusted yield is 128bps higher than the Corporate Master index.

HY flows strong, stay high quality OW amidst uncertainty

BofA's High Yield strategy team makes the case that while rate hikes may downshift, the end of the Fed's wrath is uncertain. Flows into HY Bond ETFs remain strong, and high quality default rates are the least sensitive in recession scenarios. The team projects 6% par defaults next year as a base-case; Quality-level defaults are projected at 1% in BBs, 8% in Bs, and 22% in CCCs. There is room for an undershoot of defaults if financial conditions continue to cause extreme stress in financial markets and the Fed shows sympathy. Otherwise, there is a slight room for an overshoot in the event of policy error, but this is less likely given Fed commentary this week. In terms of positioning, the HY Strategy team sets their cash target at 1%, up from zero last 2 weeks, and -1% in early October and remains OW high quality.

Five questions and answers on US chip export ban to China

As the US-China tech war accelerates, BofA's global investment strategy team offers a look on into what a chip export ban means for various sectors and geographies. Immediate implications of the ban include a major hit to China's chip making industry and may preceded broader restrictions in other trade areas with China. The market for high-end semiconductor equipment and supercomputers will be the most impacted, while chips for smartphones, PCs, consumer electronics and autos is less impacted. Future impacts include curbing China's path to modernization, especially as the CHIPS act encourages chip production to come back to the US. Removing China from global supply chains in the long term could be highly inflationary as companies reposition to reduce China exposure. The report highlights 9 potential losers of these shifts, and 9 companies that will be insulated from these changes, or set to benefit from US chip production growth.

Equity & Thematic Highlights

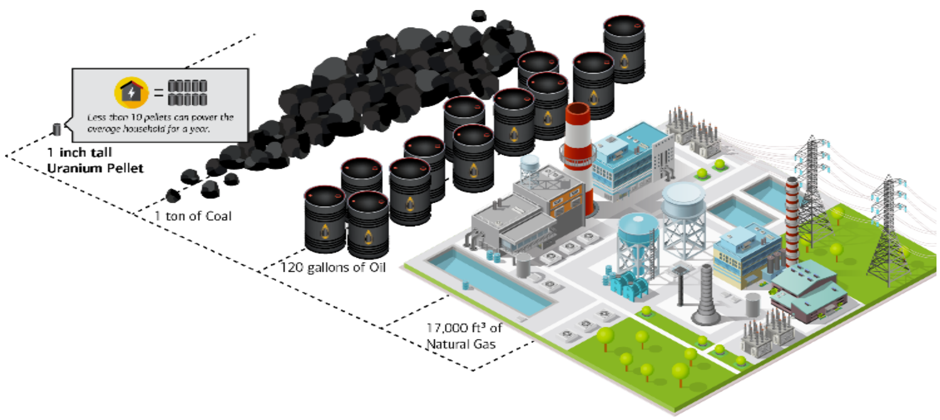
Midterm scenarios and defense spending

BofA's Aerospace and Defense team is rebranding and updating their Political Control Model to be called Defense Modernization Model (DMM). In terms of spending, the DMM bull-case scenario is a Republican Senate and a Democratic House, which could increase defense modernization spending 11% annualized over the next two years. Alternatively, the bear-case scenario is a Democratic Senate and a Republican House, could lead to -4% annualized to defense spending over the same period. Aside from these extreme scenarios, secular trends (Russia-Ukraine war, NATO leadership) and recession resilience lead the Aerospace and Defense team to forecast 9% CAGR of the defense modernization budget in FY23-FY25.

Cameco acquisition increases nuclear exposure

BofA fundamental analyst Lawson Winder views Cameco's (CCJ) recent announcement to acquire Westinghouse as a meaningful way to gain nuclear exposure. Additionally, CCJ's earnings included an announcement of substantial new uranium + conversion contracting, providing further reason to be bullish on the stock. Separately, BofA's Thematic Investing highlights the magnitude of nuclear energy's comeback. 55 new power plants are already under development and nuclear is a growing part of assumed energy targets by 2030 (Exhibit 25). Further, pink hydrogen (clean hydrogen powered by nuclear) is anticipated to be an emerging form of energy in the coming years as part of a broader and rapid clean energy transition.

Exhibit 25: High energy efficient fuel (uranium) vs fossil fuels
1 inch tall uranium pellet equivalent to 1t of coal or 120 gallons of oil



Source: US Department of Energy

BofA GLOBAL RESEARCH

'Safe-haven' stocks under macro pressure

This month highlighted several risks to business models of perceived 'safe haven' tech stocks. Following a recent downgrade of Apple to Neutral, Wamsi Mohan highlights the lead times for several models have been increasing due to continuing lockdowns in China. However, his team remains confident that these headwinds are manageable, and the Apple's relationship with China will remain positive despite broader geopolitical US-China relations. Also, Meta posted a revenue beat but an EPS miss. Outlook suggests revenue pressure with increasing opex spend on Metaverse and Reels putting pressure on EPS. Justin Post recently downgraded Meta to Neutral. Justin also downgraded Snap to Neutral as time spent on the app declines and advertising partners also face macro pressures that will negatively impact advertising demand. Amazon remains a Buy, as analysts still see market share growth in the long term. However, Amazon is facing headwinds with a weakening consumer, rising energy costs, and FX.

CHIPs act to offset Texas Instrument woes

Texas Instrument posted a 3Q beat, but offered weak 4Q guidance based on weaker industrial, consumer headwinds. Vivek Arya remain Neutral due to resilient autos chip demand, limited China risks, and benefits of the CHIPs act. A recent Industrials/Multi-Industry report highlights six Buy rated stocks to capture growing CapEx spend, bolstered by the CHIPS act. In their view, the CHIPS Act has already triggered additional announcements for several new semi plants.

Expanding commercial space markets

BofA's Aerospace and Defense team published an industry overview this week, highlighting the growth of the commercial space industry. The US government's monopoly on space exploration has ended, creating opportunities in satellite manufacturing, satellite-based services, space launch, and terrestrial applications. Beyond this, there are more emerging commercial markets in space such as space resources, in-space manufacturing, commercial space stations, and space tourism. While aerospace and defense companies have offered levels of exposure to the space industry, pure plays on the space industry are becoming more available via SPACs and the establishment of the United States Space Force. Our analysts expect that the space market grows by $1tn in the next decade.

BofA Global Research house view

In this section we present the near-term outlook of our macro & market strategists. The table below summarizes the key calls and arguments from our analysts, and the table on the next page contrasts our latest forecasts with the market consensus.

Exhibit 26: BofA Global Research House View

Near-term outlook of our BofA macro & market strategists across key regions and asset classes

		Core view (3-6 months)	Rationale
Investment Strategy		Bearish	
			Michael Hartnett is bearish. The Investment Strategy base case is that ultimate high in yields, credit spreads, and lows in stocks yet to be seen. Targets for S&P500 are "nibble at 3600 SPX, bite at 3300, gorge at 3000". Big low in asset prices is expected in Q1'23 when recession and/or credit event causes peak Fed, peak yields & peak US$. At the lows...sell US$, buy 30-year Treasury, buy EM debt, buy EM/EU stocks, small cap, cyclical stocks.
Economics		Bearish	
			Michael Gapen expects the US economy to slip into recession in 1Q 2023. The labor market and inflation remain red-hot, which means that the Fed will have to do more to cool domestic demand and bring inflation under control. Gapen expects the Fed to hike rates to a terminal rate of 5.00-5.25% by next March, well above estimates of long-run neutral rates. This will put downward pressure on demand and lead to a modest downturn in GDP and an increase in the unemployment rate to 5.6% by end-2023. The decline in demand, rise in unemployment, and deflation in goods prices should help return inflation towards its 2% target over the medium term.
Rates & FX		Neutral	
			Rates and FX markets remain sensitive to perceived changes in the global monetary policy tightening cycle. With these risks being asymmetrically distributed, the USD remains supported. We believe however that the market isn't pricing in a hard landing yet in the US which leaves USTs attractive as a hedge.
Region	**Ticker**	**Core view (3-6 months)**	**Rationale**
Equities	MXWD	Neutral	
North America	MXNA	Bearish	Savita Subramanian targets 3,600 on the S&P 500 by year-end 2022. The Fed embarked on a hiking cycle into an overvalued, long duration market. She forecasts S&P 500 EPS of $220 in 2022 (+6% YoY) and $200 in 2023 (-9% YoY), with a peak-to-trough decline of 10% YoY. She recommends High Quality stocks with strong and stable free cash flow and dividends.
Eurozone	MXEM	Bearish	Sebastian Raedler expects global growth momentum to continue weakening on the back of a continued slowdown in the US and the Euro area. He expects the resulting drag on European equities to outweigh the boost to multiples from a decline in real bond yields (i.e. the discount rate for equities), as central banks' focus starts to shift from inflation worries towards growth fears, consistent with 10% renewed downside for the Stoxx 600 to 365 by Q2. As a result, he remains negative on European equities
UK	MXGB	Bearish	Sebastian Raedler remains negative on UK relative to European equities, given his expectation for energy sector underperformance, with energy a key overweight in the UK index. On an absolute basis, he sees scope for the FTSE 100 to end '22 at 7,000 (i.e. marginally below current levels).
Japan	MXJP	Bearish	We remain cautious on Japan equities for the rest of the fiscal year due to the waning earnings momentum and bearish market sentiment. While we like companies with share-buyback announcements near term from a flow perspective, we continue to advise investors to diversify portfolios and rotate into select value sectors (energy resource, commercial & wholesale trade and banks) amid any market rallies.
Pacific Rim	MXPCJ	Neutral	Ajay Kapur remains reluctantly neutral as the challenging setup of synchronized monetary policy tightening, weakening global growth and a strong US dollar is somewhat mollified by panicked investor sentiment and near-trough valuations. He thinks that China could see a substantial decline in ROE over the coming years as nominal GDP growth slows down while also warranting a higher equity risk premium than most investors plug in given the five vectors of uncertainty in China: (1) COVID policy, (2) monetary policy, (3) regulatory policy, (4) property sector policy, and (5) geopolitics. OW: Japan, Korea, Singapore, Indonesia, Thailand; UW: India
EM Equities	MXEF	Neutral	EM Equities: OW: Korea, Brazil, Indonesia, Thailand, Mexico UW: Turkey, South Africa, India, Chile
Fixed Income	GFIM	Neutral	
Government	W0G1	Neutral	With all developed market central banks now explicitly front-loading a tightening cycle that aims to raise rates above neutral, rate curves around the globe should continue to flatten and/or remain inverted. We still see some upside risk to front end rates in both USD and EUR but our 2023 forecasts turn increasingly bullish vs forwards. In the UK, we look for a cheapening of bonds as the BoE remains hawkish and starts active QT.
Investment Grade	G0LC	Neutral	Our 6M IG spread target is 130bps on the ICE BofA index. Spreads should remain volatile as long as US inflation continues to surprise to the upside. However, around year end enough data should be available to confirm the base case scenario of inflation on a downward trajectory and the US economy avoiding a deep recession. IG market technicals should remain neutral, with slowing bond fund outflows, improving yield-sensitive demand and low supply offset by foreign investor selling.
High Yield	HW00	Bullish	Oleg Melentyev expects spread fair value at 560bps.
EM debt	DXEM	Bearish	Jane Brauer sees risk of wider EM spreads. While spreads have widened, the market still seems to be underpricing the risk of Fed hikes. Flows to EM funds have been negative and choppy. EM Corporate Credit: Has outperformed sovereign – IG trading close to US levels. We would focus on large exporters with limited short-term debt and strong balance sheets. Also focus on companies with strategic importance – either IG or HY.
Securitized Products	G0LL	Neutral	Chris Flanagan prefers up-in-quality in securitized products after hawkish Fed shift and higher recession probabilities. Agency MBS spreads are attractive, although spread volatility should remain elevated. Securitized credit is relatively cheap to corporate credit.
Commodities	MLCXTR	Bullish	
Energy	MLCXENTR	Bullish	Francisco Blanch projects Brent and WTI to average $100/bbl and $94/bbl, respectively in 2023. The global oil balance should stay tight in 2023, supported by rebounding Asia demand, slower non-OPEC growth, and OPEC+ mopping up excesses
Industrial Metals	MLCXIMTR	Bearish	Michael Widmer notes that metal markets have remained tight despite China weakness. Increasing headwinds to growth, and especially Europe's energy crisis, should push prices down in 4Q. Yet, spending on the energy transition/ security will likely boost prices again as winter draws to a close, suggesting the secular green bull market may resume.
Precious Metals	MLCXPMTR	Neutral	As Michael Widmer notes, while gold has fallen slightly, broad-based inflationary pressures have supported the metal around 15% above fair value. With 10-year nominal rates potentially peaking, while USD is bottoming out, there is upside for the yellow metal into 2023.
Cash	G0B1	Bullish	

Exhibit 27: BofA Year-end 2022 Forecasts vs. Consensus
BofA and consensus year-end 2022 forecasts

FX and Rates

FX	Latest Value	BofA	Consensus	3 year range	High/Low
EUR-USD	0.99	**0.95**	0.97		1.22 0.98
USD-JPY	145	**155**	146		149 103
EUR-JPY	143	**147**	140.5		147 117
GBP-USD	1.13	**1.08**	1.1		1.42 1.12
USD-CNY	7.12	**7.60**	7.23		7.31 6.31

Rates	Latest Value	BofA	Consensus	3 year range	High/Low
US 10-year	3.75	**3.65**	3.86		4.05 0.53
Germany 10-year	2.03	**1.90**	2.15		2.14 -0.63
Japan 10-year	0.25	**0.25**	0.22		0.25 -0.15
UK 10-year	4.04	**4.25**	4.08		4.09 0.10
China 10-year	2.75	**2.80**	2.75		3.28 2.52

Equities and Commodities

Equities	Latest Value	BofA	Consensus	3 year range	High/Low
S&P 500	3,783	**3,600**	4,054		4766 2585
2022 EPS	207	**220**	223		237 140
Stoxx 600	399	**390**	504		488 320
FTSE 100	7,053	**7,000**	8,797		7608 5577
Nikkei 225	27,121	**25,000**	32,261		29453 18917

Commodities	Latest Value	BofA	Consensus	3 year range	High/Low
WTI Crude - $/bbl	88	**89**	90		115 19
Brent Crude - $/bbl	93	**95**	95		123 23
Gold $/oz	1,716	**1,700**	1,700		1976 1464

GDP and CPI Inflation

GDP growth	Latest Value	BofA	Consensus	High/Low
US	2.6	**1.8**	1.7	35.3 -29.9
Euro area	2.1	**3.3**	3.1	14.2 -14.2
Japan	1.6	**1.5**	1.6	7.3 -10.3
UK	0.2	**4.5**	4.2	16.6 -21.0
China	3.9	**3.5**	3.3	18.3 -6.9

CPI inflation	Latest Value	BofA	Consensus	High/Low
US	8.2	**8.1**	8.0	9.1 0.1
Euro area	10.7	**8.4**	8.3	10.7 -0.3
Japan	3.5	**2.4**	2.3	3.5 -1.2
UK	10.1	**9.0**	9.0	10.1 0.2
China	2.8	**2.3**	2.2	5.4 -0.5

Source: BofA Global Research, Bloomberg, Datastream; FX, rates, equities and commodities data as of 11/4/2022; GDP data of 10/31/2022. CPI data for CPI through 10/31/2022; Equity consensus price and EPS forecasts as of 11/4/2022.

BofA GLOBAL RESEARCH

BofA US equity sector views

Exhibit 28: BofA US Equity Strategy sector views
Bull & bear case by sector

Sector	Weight in S&P 500	BofA View	Bull case	Bear case
Health Care	15.5%	O/W	Catchup trade: inexpensive, Near-record low positioning by long-only funds Strong fundamentals / Near record discount vs. S&P 500 on Fwd PE Defensive hedge / Social factors of ESG could drive increased corporate HC spending	Hurt by rising inflation & rates Supply high (IPOs) vs. demand falling (buybacks) - dynamics less attractive Headline risk on drug pricing pressure although regulatory risk has subsidized
Energy	5.6%	O/W	Inflation-protected yield Biggest earnings growth in 2022 / highest ERR; ranks #1 in our tactical quant framework ESG purge behind us; represents ESG "improver", EPA policies matter less than supply/demand Energy independence has explained much of changes in country risk premia this year Energy just doubled in the benchmark, but investors are still underweight	COVID / China lockdown / recession One of the highest direct emissions profile + secular headwinds from renewables Lowest Quality sector
Consumer Staples	7.0%	O/W	Defensive hedge Inexpensive and positioning near record lows Quality and dividend yield	Re-opening risk to stock-up beneficiaries / pent-up demand for services, not goods Hurt by rising inflation / rates
Financials	11.8%	O/W	Quality Value / Mispriced risk: Lower EPS variability than S&P 500 despite high price beta Beneficiary of rising interest rates Long only positioning risk rising but still underweight, hedge funds near historical lows	P/E multiples sensitive to yield curve spread Disinflationary pressures from disruptors (passive, fin-tech) Recession
Real Estate	2.7%	M/W	Inflation-protected yield Improving fundamentals / record low earnings volatility / domestic Shift from financial asset inflation to real asset inflation	Hurt by rising rates Fund positioning elevated vs history but still very underweight
Industrials	8.6%	M/W	Beneficiary of capex, rising GDP, rates & inflation, Infrastructure bill Half cyclical, half Quality / re-shoring and automation beneficiary Underweight by long-only funds	Peak PMI Overweight by ESG funds Increasingly expensive valuations, rising earnings volatility
Technology	25.5%	M/W	Secular themes (cloud, telecommuting, robotics, etc.) accelerated by COVID-19 and onshoring Automation & capex Clean balance sheets, strong margins and fundamentals Long-only positioning slightly below average	Peak globalization / high EM and China exposure Regulatory / anti-monopolistic overhang From Trade War to Tech War / Tech may not be as green as it seems
Utilities	3.1%	M/W	Resilient fundamentals / defensive hedge / highest Quality sector Underweight by long only funds	Hurt by higher rates/inflation Elevated payout ratio Ranks poorly in our tactical quant frame work Relative valuations above avg. levels
Consumer Discretionary	10.6%	U/W	Secular shift into e-commerce (AMZN: ~30% of the sector) Housing = discretionary spending, but may be a headwind if activity slows Higher consumer demand may offset increased cost pressure	Potential consumption hit from higher oil/inflation Slowing big ticket items (e.g. housing, autos, etc.) The most labor-intensive sector – a risk of wage inflation Expensive valuations / long duration sector hurt by rising rates
Materials	2.6%	U/W	Strong commodity prices / Helped by inflation Inexpensive & underweight by long only funds Infrastructure/capex beneficiary	Risk from China economic slowdown Hurt by a stronger dollar Shift from goods to services
Communication Services	7.1%	U/W	TMT = Disruptors / beneficiary of telecommuting trends & streaming Secular winners FANG governance improving but still historically low	Weakening fundamentals Regulatory risk on Interactive Media Short and long duration at risk of rising rates Value rotation / low short interest / elevated crowding risk

Source: BofA US Equity & Quant Strategy. Note: OW=Overweight, MW=Marketweight, UW=Underweight. Weights in S&P 500 as of 11/04/2022 may not add to 100% due to rounding.

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Global cross-asset returns

October 2022 Review

- YTD losses moderated from -25.7% in September to -22.8% in October on average across key indices. DIJA outperformed, up 14.1% on the month, while the Hang Seng lagged global peers (-14.7%). S&P500 gained 8.1% in October.
- Large caps gained 8% on the month, but underperformed midcaps and small caps by 0.9% and 2%, respectively. Value broadly outperformed growth. Large cap value outperformed growth by 4.4%, midcap value outperformed growth by 1.6%, and small cap value outperformed growth by 3.1%.
- Energy lead US sector performance in October (+25%) while communication services (+0.1%) and discretionary (+0.2%) lagged. Energy sustained the best YTD performance through October up to 68.6% YTD from +34.9% last month
- US HY and TIPs showed best performance this month, +2.8% and +1.2% respectively. 30Y Treasury performed the worst on the month, down -6.9%.
- WTI gained 8.9% in October, rebounding from September. Brent has the highest YTD returns (+21.9%) while gold has the worst (-10.3%)

Exhibit 29: Equity Indexes
Total return (%)

	As of 31 October 2022						
Asset class	1mo	3mo	12mo	YTD	3yr[2]	5yr[2]	10yr[2]
Equity Indices (%, US dollar terms)							
S&P 500	8.1	-5.9	-14.6	-17.7	10.2	10.4	12.8
Dow Jones Industrial Avg.	14.1	0.2	-6.7	-8.4	8.8	9.3	12.2
NASDAQ Comp	3.9	-11.1	-28.6	-29.3	10.7	11.3	15.2
MSCI All Country World	6.1	-7.5	-19.6	-20.8	5.3	5.8	8.5
FTSE 100	6.1	-8.9	-14.7	-15.9	-1.2	-0.2	2.5
DJ Euro Stoxx 50	10.2	-5.2	-25.2	-25.2	-1.7	-1.2	3.6
MSCI EAFE	5.4	-9.0	-22.6	-22.8	-0.8	0.4	4.6
TOPIX	2.3	-9.8	-24.0	-23.1	-3.3	-1.2	5.7
Hang Seng	-14.7	-26.5	-40.7	-35.6	-15.8	-9.5	-0.5
MSCI Emerging Markets	-3.1	-14.0	-30.7	-29.2	-4.1	-2.7	1.2
Size & Style (%, US dollar terms)							
Russell 1000	8.0	-5.7	-16.4	-18.5	10.0	10.2	12.7
Russell 1000 Growth	5.8	-8.9	-24.6	-26.6	11.7	12.6	14.7
Russell 1000 Value	10.3	-2.4	-7.0	-9.3	7.3	7.2	10.3
Russell Midcap	8.9	-4.3	-17.2	-17.5	7.8	7.9	11.4
Russell Midcap Growth	7.9	-4.5	-28.9	-26.1	6.3	8.7	12.0
Russell Midcap Value	9.4	-4.2	-10.2	-12.8	7.5	6.5	10.4
Russell 2000	11.0	-1.7	-18.5	-16.9	7.0	5.6	9.9
Russell 2000 Growth	9.5	-1.3	-26.0	-22.6	5.1	5.2	10.1
Russell 2000 Value	12.6	-2.1	-10.7	-11.2	8.1	5.3	9.4
S&P 500 Sectors (%, US dollar terms)							
Consumer Discretionary	0.2	-12.1	-28.5	-29.7	6.7	10.1	13.4
Consumer Staples	9.0	-1.4	4.9	-3.9	9.4	9.8	10.6
Energy	**25.0**	16.6	65.0	68.6	23.1	11.1	6.1
Financials	12.0	1.2	-14.1	-11.8	8.1	7.3	12.4
Health Care	9.7	0.7	0.8	-4.6	14.1	12.4	14.8
Industrials	13.9	-0.9	-8.2	-9.7	8.2	7.6	11.9
Information Technology	7.8	-10.9	-20.3	-26.1	16.4	16.7	18.8
Materials	9.0	-4.6	-11.0	-16.9	10.7	6.9	9.7
Real Estate	2.0	-16.4	-20.6	-27.4	1.1	6.1	8.0
Communication Services	0.1	-15.7	-40.6	-39.0	-1.0	3.6	4.2
Utilities	2.1	-9.1	2.9	-4.6	4.6	7.4	9.9

Source: BofA Global Research, S&P, MSCI, Bloomberg. Notes: * Performance is gross of foreign dividend withholding taxes, 23yr, 5yr, and 10yr returns are annualized.

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Exhibit 30: Bond/currency/commodity/hedge fund indexes
Total return (%)

	As of 31 October 2022						
Asset class	1mo	3mo	12mo	YTD	3yr[2]	5yr[2]	10yr[2]
BofA Global Research Bond Indices (%, US dollar terms)							
2-Year Treasury	-0.2	-2.1	-5.0	-4.8	-0.8	0.4	0.5
5-Year Treasury	-0.5	-6.1	-11.4	-11.3	-2.7	-0.2	0.3
10-Year Treasury	-1.9	-10.7	-17.7	-18.4	-5.1	-1.1	-0.1
30-Year Treasury	-6.9	-19.8	-35.4	-36.2	-11.5	-3.4	-0.6
US Broad Market Index	-1.4	-8.3	-15.8	-15.8	-3.8	-0.5	0.8
TIPS	1.2	-8.3	-12.2	-13.4	1.0	2.1	1.0
Municipals*	-0.9	-7.0	-12.5	-13.3	-2.3	0.3	1.7
US Corporate Bonds	-1.1	-8.9	-19.3	-19.2	-4.1	-0.2	1.5
US High Yield Bonds	2.8	-3.7	-11.5	-12.2	0.2	1.9	4.1
Emerging Mkt Corp Bonds	-2.0	-6.8	-20.8	-20.5	-5.2	-1.5	1.3
Emerging Mkt Sov Bonds	0.4	-7.6	-25.6	-25.3	-7.8	-3.5	0.3
Preferreds	-5.1	-12.6	-20.9	-21.1	-4.0	0.6	3.3
Foreign exchange							
DXY Index	-0.5	5.3	18.5	16.6	4.6	3.4	3.4
GBP/USD	2.7	-5.8	-16.2	-15.2	-3.9	-2.9	-3.4
EUR/USD	0.8	-3.3	-14.5	-13.1	-4.0	-3.2	-2.7
USD/JPY	2.7	11.6	30.5	29.2	11.2	5.5	6.4
Commodities (%, US dollar terms)**							
CRB Index	2.2	-6.1	15.3	18.0	15.7	7.9	-0.8
Gold	-1.3	-6.9	-8.0	-10.3	2.7	5.2	-0.5
WTI Crude Oil	8.9	-12.3	3.5	12.4	16.9	9.7	0.0
Brent Crude Oil	7.8	-13.8	12.4	21.9	16.3	9.1	-1.4
Alternative Investments† (%, US dollar terms)							
Hedge Fund - CS Tremont[1]	-0.7	0.4	1.1	0.1	5.7	4.5	4.3
Hedge Fund - HFRI Fund of Funds[1]	-1.7	-0.4	-6.6	-7.0	4.1	3.1	3.5

Source: S&P, MSCI, Bloomberg, FactSet, BofA Bond Indices (US Treasury Current 10yr, Current 2yr, Inflation-Linked; Muni Master, US Corp Master, US HY Master II, EM Corp Plus Index; EM External Debt Sovereign Index; US Preferred Stock Index).

Notes: * Not tax adjusted. **BoE calculated effective FX indices. [1]Data lagged by one month; 23yr, 5yr, and 10yr returns are annualized; CS AUM-weighted, HFRI equal-weighted; †AI data not comparable to other asset classes because of reporting delays, lack of standardized reporting, and survivorship and self-selection biases. Crude oil prices are spot USD.

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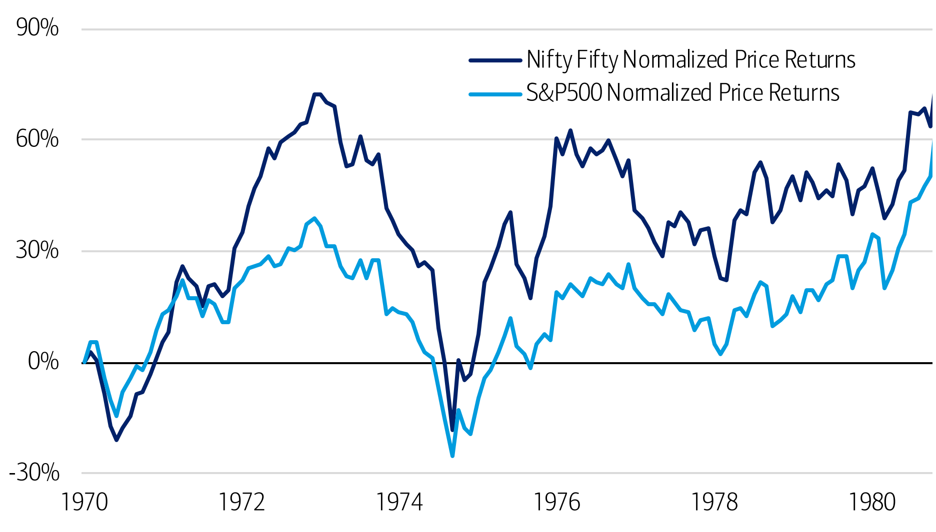
Appendix

While much analysis has been done on the Nifty Fifty stocks, there is no single definitive list of stocks that would comprise the "Nifty Fifty" from the late 1960s to early 1970s. Our analysis of the returns to Nifty Fifty stocks relies on lists produced by Morgan Guaranty Trust and Kidder Peabody's "Big Board" of stocks with the highest P/E ratios. Journalists and academics consider these sources to most accurately capture the buy-and-hold behavior of investors in the 1970s. These two lists combined return a list of 76 stocks. Then, we narrow this list by screening for companies that were included in the S&P500 index beginning at any point in time from January 1964 to January 1973. This is our criteria for being a large cap stock, one of the key characteristics of the Nifty Fifty. Next, we compare available data from Global Financial Data and Standard and Poor's to see which companies have both forms of reliable data as a way to check for accuracy. Verifiable data is a necessary criteria for inclusion in our analysis given the historical nature of the stocks. These screening criteria resulted in a Nifty Fifty constituent list comprising 46 stocks (Exhibit 32). In the event of a merger or acquisition, the parent company would replace the target company in the index following the action. If the parent company was not publically listed, the target company was removed from the market cap weighted index. Companies that dissolve are removed from the market cap weighted index. This is based on the assumption of investing in all 46 stocks in January 1970, and holding the market weighted basket despite mergers and company failures. All companies used have available data through 1982. 42 companies have data available through 1990. Price returns were adjusted to be agnostic of stock splits. Buybacks and dividends were not used in our returns calculations. Use of historical data throughout the report is limited to 1970-1990.

We show the price returns of the 46 stocks weighted by market capitalization (Exhibit 31). We choose to graphically show 1970-1980 as it captures the build up to the Nifty Fifty peak, noted by our analysis and other journalism as January 1973, as well as a reasonably long period after that predates the impacts of the Iranian oil crisis in 1979.

Exhibit 31: After inflation & Fed hikes, the "Nifty Fifty" did not recover for the rest of the decade
USD price returns, 1970-1980



Source: BofA Research Investment Committee, Global Financial Data, Standard & Poor's, Bloomberg

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Exhibit 32: Identified Nifty Fifty Companies
Companies included in Nifty Fifty series

Ticker	Name
AXP	American Express
WYE1	American Home Products
AMP1	AMP (Ameriprise)
BUD1	Anheuser-Busch
AVP2	Avon Products
BAX	Baxter International
SWK	Black & Decker
BMY	Bristol-Myers
UIS	Burroughs
CMB1	Chesebrough Ponds
CLX	Clorox
COKE	Coca-Cola
GLW	Corning Glass
DEC1	Digital Equipment
DIS	Disney Walt Co.
DD	Dow Chemical
DOC1	Dr. Pepper
EKDKQ1	Eastman Kodak
LLY	Eli Lilly
EAF1	Emery Air Freight
GE	General Electric
HAL	Halliburton
HBL1	Heublein
IBM	IBM
IFF	International Flavors and Fragrances
ITT	International Telephone and Telegraph
JNJ	Johnson & Johnson
SLZ1	Joseph Schlitz Brewing Company
KMRTQ1	Kresge (now Kmart)
LLX1	Louisiana Land & Exploration
MCD	McDonald's Corp.
MRK	Merck
MMM	Minnesota Mining and Manufacturing (3M)
PEP	PepsiCo
PKI	Perkin-Elmer
PFE	Pfizer
MO	Philip Morris Cos.
PRDCQ1	Polaroid
PG	Procter & Gamble Co.
RAD	Rite Aid
SGP3	Schering
SLB	Schlumberger
S1	Sears Roebuck
TXN	Texas Instruments
UPJ1	Upjohn
XRX	Xerox Corp.

Source: BofA Research Investment Committee, Global Financial Data; Standard and Poor's

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Stocks mentioned

Exhibit 33: Stocks mentioned
Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
AMZN	AMZN US	Amazon.com	US$ 90.53	B-1-9
AAPL	AAPL US	Apple Inc.	US$ 138.92	B-2-7
YCCO	CCO CN	Cameco Corp	C$ 32.17	B-1-7
CCJ	CCJ US	Cameco Corp.	US$ 23.84	C-1-7
META	META US	Meta Platforms	US$ 96.72	B-2-9
SNAP	SNAP US	Snap Inc	US$ 10.01	C-2-9
TXN	TXN US	Texas Instr.	US$ 165.69	B-2-7

Source: BofA Global Research

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Exhibit 34: ETFs mentioned

Prices and ratings for ETFs mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating	BofA Ticker	Bloomberg ticker	Company name	Price	Rating
FXD	FXD US	1st Trust Cons ETF	US$ 47.1	3-UF	IYW	IYW US	iShares US Tech ETF	US$ 72.93	1-NV
FXO	FXO US	1st Trust Financ ETF	US$ 41.76	3-FV	ESGE	ESGE US	iSharesESG MSCI EM	US$ 28.81	3-NV
FXH	FXH US	1st Trust Health ETF	US$ 103.42	3-FV	XSVM	XSVM US	Ivsco SCap Value ETF	US$ 47.755	2-FV
FNX	FNX US	1st Trust MidCap ETF	US$ 88.42	3-FV	JQUA	JQUA US	JP US Qual ETF	US$ 37.75	3-FV
FRI	FRI US	1st Trust REIT ETF	US$ 23.7631	3-NV	BBJP	BBJP US	JPM BetaBuil Jpn ETF	US$ 42.73	1-FV
FXU	FXU US	1st Trust Uti ETF	US$ 31.73	3-NV	BBCA	BBCA US	JPMorgan Canada ETF	US$ 58.18	1-FV
VOTE	VOTE US	Eng Transform500 ETF	US$ 43.98	1-NV	CALF	CALF US	Pacer US S Cap C Cow	US$ 37.72	1-FV
FIDU	FIDU US	Fidelity Industr ETF	US$ 49.91	1-FV	SCHG	SCHG US	Schwab L Cap Grw	US$ 55.78	1-FV
FYX	FYX US	FirstTrust SmCap ETF	US$ 80.13	3-FV	FNDX	FNDX US	Schwab US Large ETF	US$ 53.33	1-NV
FEM	FEM US	FT EM MARKETS ETF	US$ 19.6813	3-FV	SCHM	SCHM US	Schwab US MidCap ETF	US$ 65.48	1-FV
FDD	FDD US	FT STX EUROPE ETF	US$ 10.53	3-NV	XLC	XLC US	SPDR Comm Serv ETF	US$ 46.54	1-UF
RHS	RHS US	Invesco Cons ETF	US$ 167.14	3-UF	XLY	XLY US	SPDR Consumer ETF	US$ 136.54	1-UF
RGI	RGI	Invesco Industr ETF	US$ 176.43	3-FV	XLE	XLE US	SPDR Energy ETF	US$ 92.99	1-FV
IPKW	IPKW US	Invesco Int'lBuyback	US$ 31.33	3-FV	SPYD	SPYD US	SPDR High Div ETF	US$ 39.15	1-FV
PXF	PXF US	Invesco RAFI Dev ETF	US$ 38.97	3-NV	XLRE	XLRE US	SPDR REIT ETF	US$ 36.18	1-NV
RYT	RYT US	Invesco Tech ETF	US$ 237.86	3-NV	DWX	DWX US	SPDR SP Intl Div ETF	US$ 30.22	3-NV
PBW	PBW US	Invesco Wh Cln Ener	US$ 44.33	3-NV	VNM	VNM US	VanEck Vietnam ETF	US$ 11.05	3-FV
PGJ	PGJ US	Invsc Gld Dg Ch ETF	US$ 21.94	3-UF	VOX	VOX US	Vanguard Comm S ETF	US$ 80.84	2-UF
ECH	ECH US	iShares Chile ETF	US$ 26.19	3-FV	VDC	VDC US	Vanguard Con St ETF	US$ 187.84	1-UF
IEUR	IEUR US	iShares Core EU ETF	US$ 44.05	1-NV	VFH	VFH US	Vanguard Financ ETF	US$ 84.24	1-FV
IVV	IVV US	iShares Core S&P ETF	US$ 381.53	1-NV	VHT	VHT US	Vanguard Healthc ETF	US$ 241.4	1-FV
DIVB	DIVB US	iShares Div&Buyback	US$ 36.94	1-FV	VAW	VAW US	Vanguard Mater ETF	US$ 166.4	1-NV
LRGF	LRGF US	iShares Edg MSCI ETF	US$ 38.65	3-NV	VPU	VPU US	Vanguard Util ETF	US$ 143.66	1-NV
EMXC	EMXC US	iShares EM ex China	US$ 47.7	1-FV	VTV	VTV US	Vanguard Value ETF	US$ 138.84	1-FV
IYE	IYE US	iShares Energy ETF	US$ 49.87	2-FV	CXSE	CXSE US	WSDTR China exSt ETF	US$ 30.73	1-UF
ICLN	ICLN US	iShares Global Clean	US$ 18.96	1-NV	DXJ	DXJ US	WSDTRE JPN Hdg ETF	US$ 66	3-FV
INDY	INDY US	iShares India 50 ETF	US$ 44.67	3-FV	AIVL	AIVL US	WT Ex-Val ETF	US$ 89.52	3-FV
ILF	ILF US	iShares LATAM 40 ETF	US$ 26.1	1-FV	EPI	EPI US	WTree India Earnings	US$ 32.9	1-FV
IYM	IYM US	iShares Material ETF	US$ 122.04	3-NV	DBEF	DBEF US	Xtrackers EAFE ETF	US$ 36.18	1-NV
OEF	OEF US	iShares S&P 100 ETF	US$ 170.2	3-NV	HDEF	HDEF US	Xtrackers ETF	US$ 19.9	1-NV
IVW	IVW US	iShares S&P 500 ETF	US$ 58.2	3-FV					
KSA	KSA US	iShares Saudi Arabia	US$ 42.43	1-FV					
QUAL	QUAL US	iShares US Qual ETF	US$ 111.41	1-FV					

Source: BofA Global Research

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Price objective basis & risk

Amazon.com (AMZN)

Our PO of $137 is based on our SOP analysis that values the 1P retail business at 1.0x 2023E revenue (including subscription/Prime membership fees), 3P retail business at 3.0x 2023E Revenue, AWS at 6.0x 2023 Sales, and the advertising business at 3.5x 2023 Sales. For 2023E, our 6.0x AWS multiple is below our SaaS comps at 6.9x, our 1.0x GMV multiple is a discount to our retail comps at 1.2x, and our 3.5x advertising multiple is a discount to our digital advertising comps at 4.0x. We think some conglomerate discount is warranted with elevated regulatory/antitrust risk, but long term we believe that in-line multiples are warranted given growth rates in-excess of peers. Our PO of $137 for Amazon implies 2.5x 2023E Price/Sales, a multiple near the high end of Amazon's historical range of 1.0-3.5x.

Downside risks to our price objective are increasing competition from offline and local retailers, elevated P/E multiple, AWS investments and/or price cuts and regulatory pressure on the 3P marketplace. The stock has been subject to heavy volatility in the past, based on margin trends, and this volatility could increase due to economic uncertainty.

Apple Inc. (AAPL)

Our PO of $154 is based on approx. 26x our C23E EPS of $5.84. Our target multiple compares to the long-term historical range of 9-34x (median 14x). We believe a multiple at the higher end of the historical range is justified given a large cash balance and opportunity to diversify into new end markets, increasing mix and diversity of services.

Downside risks are: a) weaker iPhone 14 cycle on consumer spending risk, b) weaker near-term services trajectory where App Store & Licensing can decelerate, c) gross profit dollars declining y/y next few quarters, d) iPads/Macs reverting to pre-COVID levels, and 5) stronger dollar. Other risks are potential trade conflicts, tariffs, longer iPhone replacement cycles, commoditization in the smartphone market, intensifying competition in the tablet market, ability to manage beat and raise expectations for EPS estimates, and requirement to maintain pace of product innovation.

Upside risks are: a) stronger sales of Pro iPhone models which can help average selling price and help the mix of the business, b) est. revisions can be lower vs. peers, c) potential new products (AR/VR), and services (advertising). Other upside risks are stronger than expected 5G cycle, gross margin upside from better mix of higher end iPhones, tailwinds from lower memory costs, and a faster than expected recovery in emerging markets.

Cameco Corporation (YCCO / CCJ)

Our US$31 (C$42) PO is based on 1.25x our NPV, and 20x 2022E & 17.5x 2023E EV/EBITDA (all three equally weighted). We use a CADUSD FX rate of 1.37. The 1.25x P/NAV is above the longer term avg around 0.9x but below peak of 1.35x. We think 1.25x is justified given Cameco's world-class tier one assets in favorable jurisdictions (Canada) partially offset by the fact one of those tier-one assets has been voluntarily idled (we expect restart in 2023E). The 20x and 17.5x multiples are above the historical 14x avg since 2004 but in line with historical peak of around 30x.

Downside risks:1) slower-than-expected global energy demand growth, 2) continued push-out of a Japanese nuclear fleet restart, 3) any worsening in sentiment toward nuclear or more favorable sentiment toward alternative power fuel sources, and 4) any production problems at Cameco's only operating mine, Cigar Lake.

Upside risks: 1) additional potential mine disruptions that may further improve supply-demand dynamics, 2) better pace of reactor development in key future demand countries

(China, Japan, and India), 3) more stringent carbon emissions restrictions in key countries, encouraging nuclear power as an environmentally friendly base line energy source, 4) a material rise in NatGas prices making nuclear power generation competitive in the U.S.

Meta Platforms Inc (META)

Our $136 price objective is based on 14x 2024E GAAP EPS. On a total company basis, including metaverse investments, our valuation reflects a discount to S&P 500, given decelerating topline growth, increasing competition for user attention & advertising dollars, and large Metaverse investments pressuring earnings.

Upside risks include: Acceleration in Reels or messaging monetization, Meta repositions spending (lower spend on Metaverse or capex), any potential TikTok legislation that impacts usage or ad spend.

Downside risks include: 1) decline in user activity from competition (such as TikTok) impacts revenue growth, 2) privacy issues impact revenue generation, 3) potential for Street to assign a negative value for Metaverse (e.g. Reality Labs) given massive investments), and 4) new regulations that impact monetization.

Snap (SNAP)

Our $11 price objective is based on 4x 2023E EV/Revenue, within Snap's historical EV/Revenue valuation range. Our valuation reflects a modest premium to mid-cap Online media peer group multiples given strongest user growth in the sector, early stage of monetization and long-term ARPU expansion opportunity.

Risks to our PO are: 1) deceleration in user growth that would raise concerns on long-term revenue opportunity, 2) pressure on usage due to competing services, and 3) "concept" valuation that has less earnings based support than peers.

Texas Instruments Inc. (TXN)

We assign a $175 PO based on 28x 2023E EV/FCF, within 16x-30x historical trading range. This is justified in our view based on TXN's best-in-class profitability, but offset by increasing capital spending.

Risks to our price objective: 1) Macro/cyclical risks given high exposure to automotive, industrial, and telco capex markets, also makes TXN susceptible to any potential global trade tensions/tariffs, 2) Increasing capex intensity and higher depreciation burden could be a headwind to gross margins, 3) Increased R&D spending pressure to maintain an edge versus the competition, 4) Inventory cycles and potential double ordering by customers that can often create mismatches between real supply and demand, 5) Exposure to several mature markets such as PC and other consumer.

Analyst Certification

We, Justin Post, Lawson Winder, CFA, Vivek Arya and Wamsi Mohan, hereby certify that the views each of us has expressed in this research report accurately reflect each of our respective personal views about the subject securities and issuers. We also certify that no part of our respective compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

I,Jared Woodard, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject equity 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 views expressed in this research report.

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Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	52	56.52%	Buy	20	38.46%
Hold	18	19.57%	Hold	11	61.11%
Sell	22	23.91%	Sell	11	50.00%

Equity Investment Rating Distribution: Technology Group (as of 30 Sep 2022)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	224	53.85%	Buy	128	57.14%
Hold	105	25.24%	Hold	61	58.10%
Sell	87	20.91%	Sell	32	36.78%

Equity Investment Rating Distribution: Global Group (as of 30 Sep 2022)

Coverage Universe	Count	Percent	Inv. Banking Relationships R1	Count	Percent
Buy	1839	53.46%	Buy	1071	58.24%
Hold	800	23.26%	Hold	498	62.25%
Sell	801	23.28%	Sell	379	47.32%

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Coverage Universe	Count	Percent	Inv. Banking Relationships R2	Count	Percent
Buy	56	18.60%	Buy	36	64.29%
Hold	237	78.74%	Hold	180	75.95%
Sell	8	2.66%	Sell	6	75.00%

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster R3
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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