

Tracking the U.S. Consumer

New home sales rebound as personal interest payments % of DPI spikes

Industry Overview

Meter declines as interest payments as a % of DPI spikes

Our meter declined in Sep., as Earnings & Employment flashes GREEN, Housing & Mortgages, Spending & DPI, and Cost of Living flash YELLOW, and Confidence & Borrowing now flashes RED.

KEY CONSUMER METRICS FLASHING 1 GREEN, 3 YELLOW, 1 RED:**Spending & DPI: Spending improves across cohorts ■**

According to BAC aggregated credit & debit card data, retail spending growth for lower income consumers (ex-auto & gas) (<\$50K) increased +1.1% in September (vs. +0.5% in August & +1.0% LY), spending growth for the middle (\$50-125k) income consumers was 0.0% (vs. -0.3% in August & +1.5% LY), and spending growth for the upper (\$125K+) income consumer was down -1.1% (vs. -1.3% in August & +1.8% LY). The spread between spending growth of lowest income cohort (<\$50K) and higher income cohorts (\$50K+) remained positive y/y. See latest [BofA on USA](#) report for broader retail trends commentary & for methodology, disclaimers, and limitations of BAC card data.

Earnings & Employment: Wage growth remains resilient ▲

The economy added 336K jobs in September (vs. +227K in August and +350K last year) as the unemployment rate remains flat at 3.8% (and labor participation remains 62.8%). US Average Hourly Earnings increased +4.2% in Sept. (down vs. +4.3% in Aug. & +5.1% LY). The FRB Atlanta Wage Growth Tracker increased +5.8% in September (down from +6.0% in August & up vs. +5.7% LY) as wage growth slows across income cohorts. The Employment Cost Index (ECI) increased 4.3% y/y in 3Q (vs. 4.5% in 2Q and 5.0% LY).

Confidence & Borrowing: Int. payments as % of DPI up ▼

Consumer confidence fell for the third consecutive month in October for both the U. of Michigan and Confidence Board surveys but remains slightly elevated vs. last year. Bank surveys report tightening credit standards & weaker demand for consumer loans (and the new car loan rate remains elevated). Personal interest payments as a % of DPI have moved well above pre-COVID levels & LT avg. to 2.65% (level last seen in Feb. 2008) which could signal pressure on discretionary spending growth if the economy improves.

Housing & Mortgages: New home sales rebound in Sep. ■

New Home Sales increased +33.9% y/y in Sep. (vs. +6.0% in Aug.) while sales of existing homes decreased -15.8% (vs. -15.3% in Aug.) as existing home inventories remain low. Elevated mortgage rates (7.6% in Oct. vs. 7.2% in Sep.) continue to pressure housing affordability (currently at historical low of 91.7). Mortgage purchase applications were down -22% y/y and homebuilder confidence dropped four points to 40 in October.

Cost of Living: Inflation holds, gas prices ease in Oct. ■

Inflation holds in September with CPI up 3.7% y/y (vs. 3.7% in Aug. & 8.2% LY) but remains above 20-year average of 2.6%. Gas prices averaged \$3.61 in October, down vs. \$3.84 in September & \$3.83 last year (-5.8% on a y/y basis). Real wages remain positive (+0.5% in September, flat vs. August and up vs. -2.7% LY).

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CPI: Consumer Price Index

DPI: Disposable Personal Income

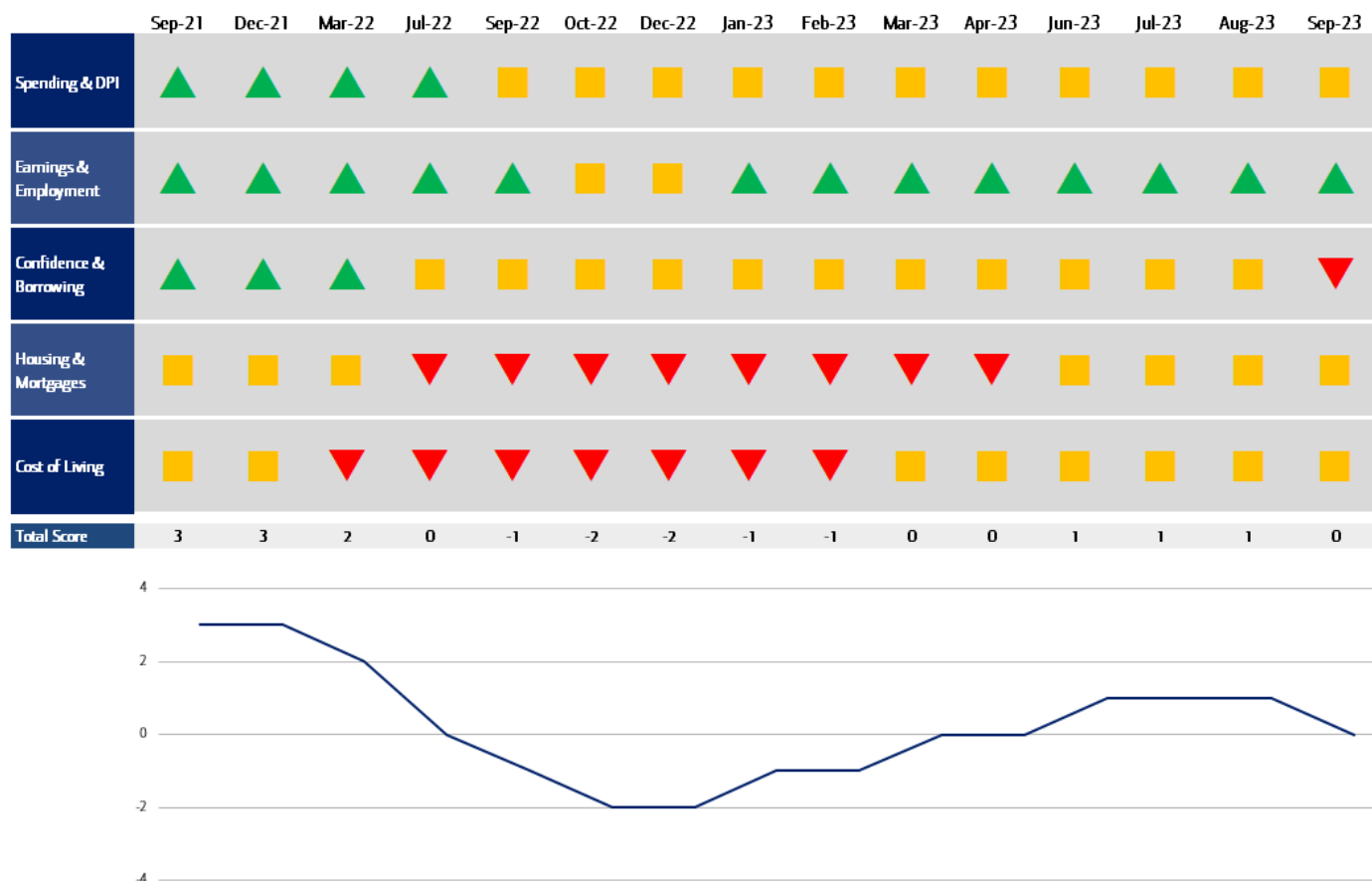
FRB: Federal Reserve Board

LY: last year

LT: long-term

Exhibit 1: Tracking the U.S. Consumer Meter

Our Tracking the U.S. Consumer Meter declines in September



Source: BAC Internal data, Haver Analytics, Bureau of Labor Statistics, Federal Reserve, Energy Information Administration, Consumer Conference Board, University of Michigan Survey Research Center, National Association of Realtors, Bureau of Economic Analysis, Bloomberg, BofA Global Research

Note: Green = +1, Yellow=0, and Red = -1 in total score. Please see Exhibit 2 for scoring methodology.

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Exhibit 2: Tracking the U.S. Consumer Calendar

Latest data points & report timing

Front Page Title	Description	Last Data Point	Last Year	Previous Point	Est. Date Reported	Report Timing	Source
Unemployment	Unemployment Rate (SA, %)	3.8%	3.5%	3.8%	10/6/2023	Monthly	www.bls.gov
Non-farm payroll	Non-Farm Payrolls (SA, thous, m/m chg)	336k	350k	227k	10/6/2023	Monthly	www.bls.gov
Consumer Confid	Conference Board: Consumer Confidence (SA, 1985=100)	102.6	102.2	104.3	10/31/2023	Monthly	www.conference-board.org
UMich Consumer	University of Michigan Consumer Sentiment (NSA, 1966=100)	63.8	59.9	67.9	10/27/2023	Bi-Monthly	www.sca.isr.umich.edu
Disposable Incm	Disposable Personal Income Per Capita (SA, y/y % chg)	6.5%	3.7%	6.8%	10/27/2023	Monthly	www.bea.gov
CPI	CPI-U: All Items (NSA, 1982-84=100, y/y % chg)	3.7%	8.2%	3.7%	10/12/2023	Monthly	www.bls.gov
Savings Rate	Personal Saving Rate (SA, %)	3.4%	3.0%	4.0%	10/27/2023	Monthly	www.bea.gov
Revolving	Revolving Consumer Credit Outstanding (EOP, SA, bn, y/y % chg)	10.6%	14.8%	10.7%	10/6/2023	Monthly	www.federalreserve.gov
Non-revolving	Non-revolving Consumer Credit Outstanding (EOP, SA, bn, y/y % chg)	1.9%	5.1%	3.1%	10/6/2023	Monthly	www.federalreserve.gov
Household nworth	Household Net Worth (y/y % chg)	4.4%	2.6%	-3.0%	9/8/2023	Quarterly	www.federalreserve.gov
Home prices	NAR Median Sales Price: Existing 1-Family Homes, (y/y % chg)	2.5%	7.7%	2.9%	10/19/2023	Monthly	www.realtor.org
Housing affor	Composite Homebuyer Affordability Index (Qualifying Inc=100)	91.7	110.5	93.9	10/17/2023	Monthly	www.realtor.org
Mortgage Rates	Conventional 30-Yr Mortgages, FHLMC (NSA, %)	7.6%	6.9%	7.2%	10/26/2023	Monthly	www.federalreserve.gov
Home Sales	New 1-Family Houses Sold + Existing 1-Family Home Sales	-9.8%	-23.3%	-12.5%	10/25/2023	Monthly	www.realtor.org
Financial Obligat	Household Financial Obligation Ratio (SA)	14.45	14.58	14.49	9/21/2023	Quarterly	www.federalreserve.gov
Gas Prices	U.S. Regular Retail Gasoline Prices (c/gal)	\$3.61	\$3.83	\$3.84	10/30/2023	Weekly	www.eia.gov

Source: BofA Global Research, SA: Seasonally Adjusted, NSA: Not Seasonally Adjusted

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Exhibit 3: Tracking the U.S. Consumer Metrics Directional Update

Overall Tracking the U.S. Consumer Meter declines in September

	Latest Data	Y/Y Direction	Sequential Direction	Direction Classification	Direction Explanation
1) Spending & DPI ■					
DPI	6.5%	Up	Down	■	Up y/y and down sequentially primarily reflecting increases in compensation and personal income receipts on assets
DPI-CPI	2.8%	Up	Down	■	Up y/y and down sequentially as inflation eases
2) Earnings & Employment ▲					
Unemployment	3.8%	Up	Flat	▲	Unemployment rate remains at low levels
Average hourly earnings	4.2%	Down	Down	■	Wages remain above the LT average of 3.0% y/y (back to '07) while real wages were +0.5% in September, flat vs. August and vs. +2.9% LY)
Labor Participation Rate	62.8%	Up	Flat	▲	The labor participation rate continues to recover from pandemic lows
3) Confidence & Borrowing ▼					
UMich Consumer Confidence	63.8	Up	Down	■	Consumer sentiment reading declines in October driven in large part by higher-income consumers; 1 yr. forward inflation expectations rose to 4.2% in Oct. (from 3.2% in Sep.)
Conf. Board Consumer Confidence	102.6	Up	Down	■	Consumer Confidence falls for the third consecutive month in September given rising prices (grocery & gas), higher interest rates, and geo-political concerns
Revolving Consumer Credit	10.6%	Down	Down	■	Down y/y & sequentially, remains above the 10-year average of 4.0%
Non-Revolving Consumer Credit	1.9%	Down	Down	■	Down y/y & sequentially
Personal Interest Payments % of DPI	2.7%	Up	Up	▼	Currently above LT average of 2.3% (since 1990) which implies more burden on U.S. consumer and future spending growth
Financial Obligations Ratio	14.45	Down	Down	■	Financial obligations remain below the 10-year average of 14.7, supporting a potentially stronger consumer spending outlook if the economy strengthens
4) Housing & Mortgages ■					
New & existing home sales	-9.8%	Up	Up	■	New & existing home sales improved y/y in September; mortgage purchase apps declined - 22% in September
Housing affordability	91.7	Down	Down	▼	Down y/y & sequentially and remains at historic low vs. the 10 and 20-year averages of 152.3 and 150.1, respectively
5) Cost of Living ■					
Gas prices	\$3.61	Down	Down	■	Prices down -5.8% y/y in October (through 10/30) and down 26.7% vs. 2022 high of \$4.93
CPI	3.7%	Down	Flat	■	CPI was flat at 3.7% y/y in September (vs. 8.2% last year) but remains above 10- year average of 2.67% and 20-year average of 2.56%

▼ Red = Unfavorable

■ Yellow = Mixed

▲ Green = Favorable

Source: BofA Global Research

Key: 75% or greater of metrics in category are favorable, overall category= ▲, if between 50% and 75% are favorable or entire category is neutral, overall category = ■, if <50% of metrics are favorable including some unfavorable rankings, overall category = ▼

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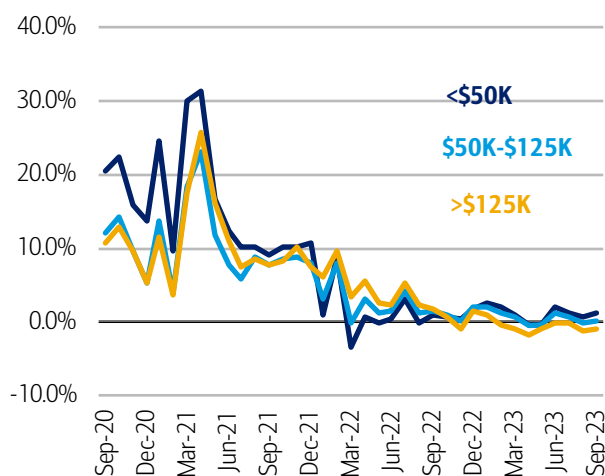
Spending & DPI

Lower income spending growth outpaced higher income

According to BAC aggregated credit & debit card data, retail spending (ex-auto & gas) growth for the lower income consumer (<\$50K) increased +1.1% in September (vs. +0.5% in August & +1.0% LY), while spending growth for the middle (\$50-\$125k) income consumers was 0.0% (vs. -0.3% in August & +1.5% LY), and spending growth for the upper (\$125K+) income consumer was down -1.1% (vs. -1.3% in August & +1.8% LY). The spread between spending growth of the lowest income cohort (<\$50K) and higher income cohorts (\$50K+) accelerated and was positive for the ninth consecutive month.

Exhibit 4: Monthly BAC card retail spending growth (ex-auto & gas), y/y % change, non-seasonally adjusted data

According to BAC credit & debit card data, lower income consumer spending growth accelerates higher income

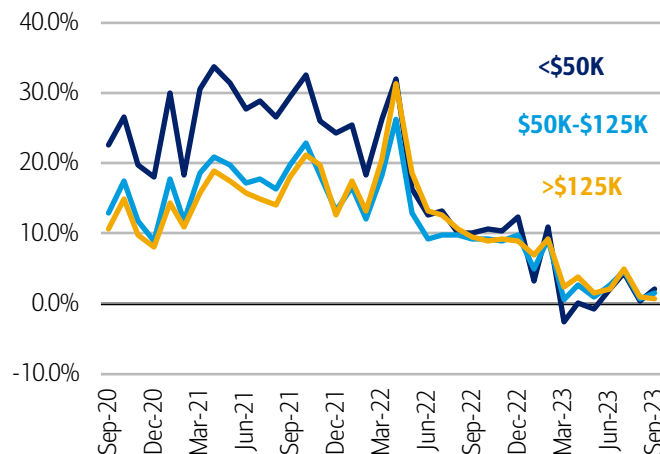


Source: BAC Internal data

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Exhibit 5: Monthly BAC card retail spending growth (ex-auto & gas), 2-yr % change, non-seasonally adjusted data

According to BAC credit & debit card data, spending growth on a 2-year basis is positive across cohorts

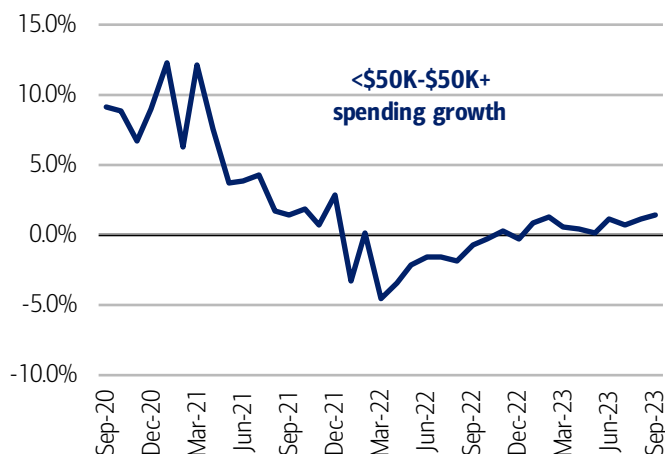


Source: BAC Internal data

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Exhibit 6: Spread between spending growth (ex-auto & gas) of lower income cohort and higher income cohorts

Spread remained positive in September after flipping positive in January

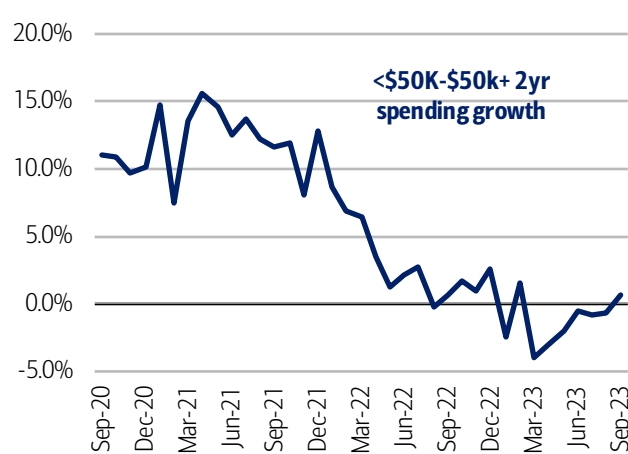


Source: BAC Internal data

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Exhibit 7: Spread between spending growth (ex-auto & gas) of lower income cohort and higher income cohorts (2-year)

2-year spend spread improved in September



Source: BAC Internal data

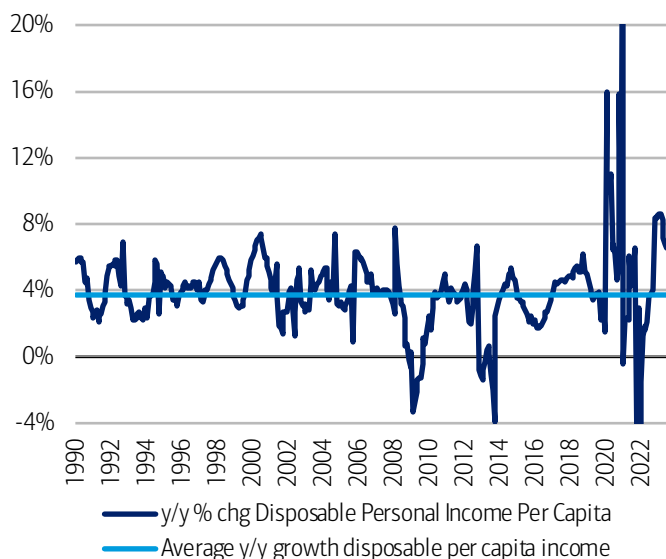
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- **Disposable income per capita.** DPI in September increased +6.5% on a y/y basis (down vs. +6.8% in August & up vs. +3.7% LY). According to the Bureau of Economic Analysis, the increase in current-dollar personal income in September primarily

reflected an increase in compensation (led by private wages & salaries) and personal income receipts on assets (mostly accounted for by personal interest income).

Exhibit 8: Disposable Income Per Capita y/y % change (long-term)

DPI has averaged 3.7% since '03, with gov't stimulus driving spikes

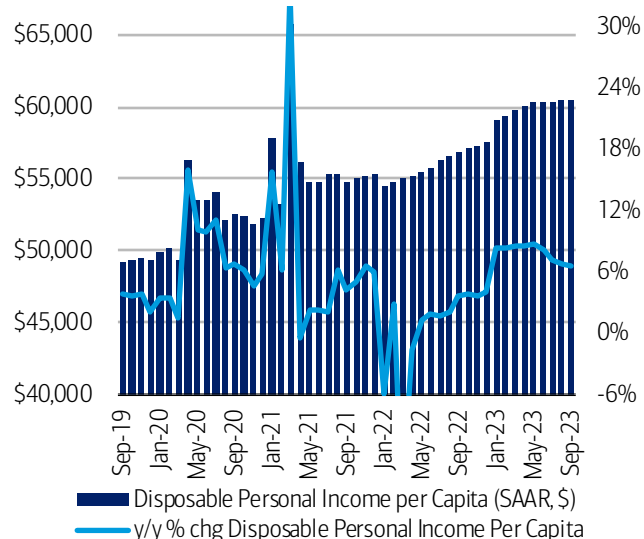


Source: BofA Global Research, Haver Analytics

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Exhibit 9: Disposable Income Per Capita y/y % change

DPI increased +6.5% in Sep. vs. +6.8% in Aug. & +3.7% last year

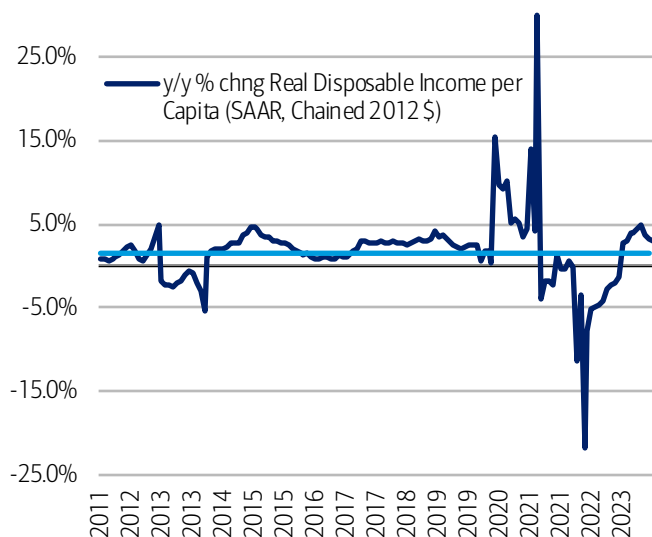


Source: BofA Global Research, Haver Analytics

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Exhibit 10: Real Disposable Income Per Capita y/y % change (long-term)

Real DPI has averaged 1.5% since '03

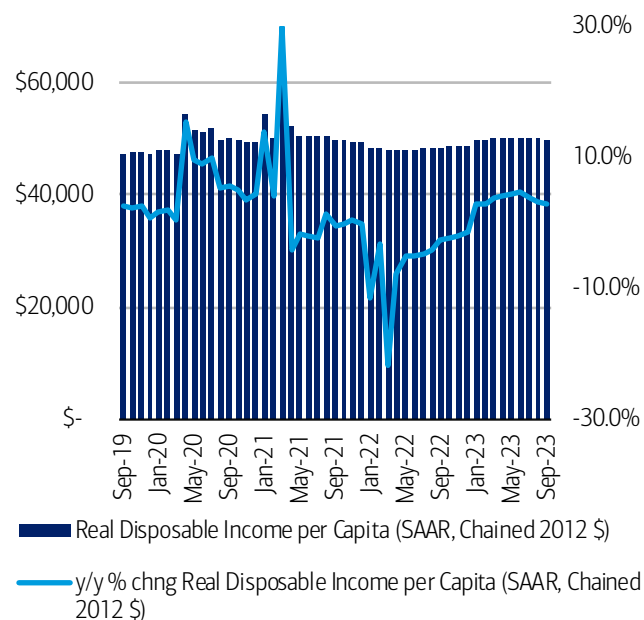


Source: BofA Global Research, Haver Analytics, based on seasonally adjusted figures

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Exhibit 11: Real Disposable Income Per Capita y/y % change

Real DPI increased +3.0% in Sep. vs. +3.2% in Aug. & -2.7% last year



Source: BofA Global Research, Haver Analytics, based on seasonally adjusted figures

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Earnings & Employment

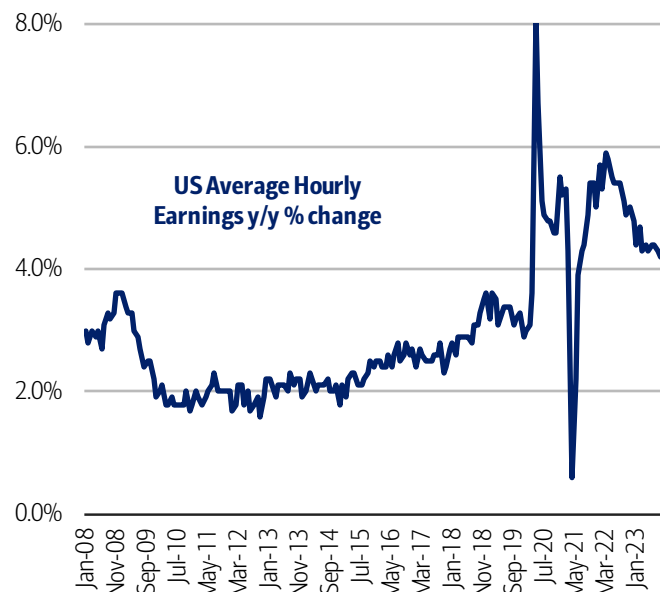
- **US Average Hourly Earnings** in September increased +4.2% (down vs. +4.3% in August & below +5.1% LY). The Employment Cost Index (ECI)- quarterly measure of the change in the cost of labor free from the impact of employment shifts among industries / occupations- increased +4.3% y/y for the 12-month period ending 3Q23 (vs. +4.5% in 2Q23 & +5.0% in 3Q22). The Atlanta Fed Wage Tracker saw a +5.8%



y/y increase in wages as of September (down vs. +6.0% in August). The composition of the Atlanta Fed data showed wage growth slowing across income cohorts. Real wages increased +0.5% in September (flat vs. August & up vs. -2.7% LY).

Exhibit 12: US Average Hourly Earnings y/y % change (Long-term)

US average hourly earnings (change in avg. hourly earnings for all employees) increased +4.2% in Sept. vs. +5.1% last year

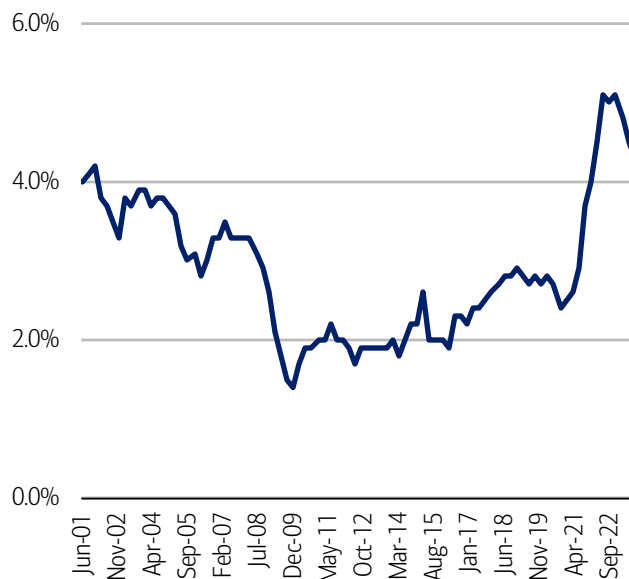


Source: BofA Global Research, Bureau of Labor Statistics

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Exhibit 13: Employment Cost Index: Compensation of Civilian Workers y/y% change (12-month, NSA) current dollar

Compensation costs for civilian workers inc. 4.3% in 3Q23 vs. +4.5% in 2Q23 and +5.0% in 3Q22



Source: BofA Global Research, Bureau of Labor Statistics; NSA- non-seasonally adjusted

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Exhibit 14: US Real Avg. Hourly Earnings y/y % change

US real avg. hourly earnings up +0.5% in September, flat vs. August and up vs. & -2.9% LY

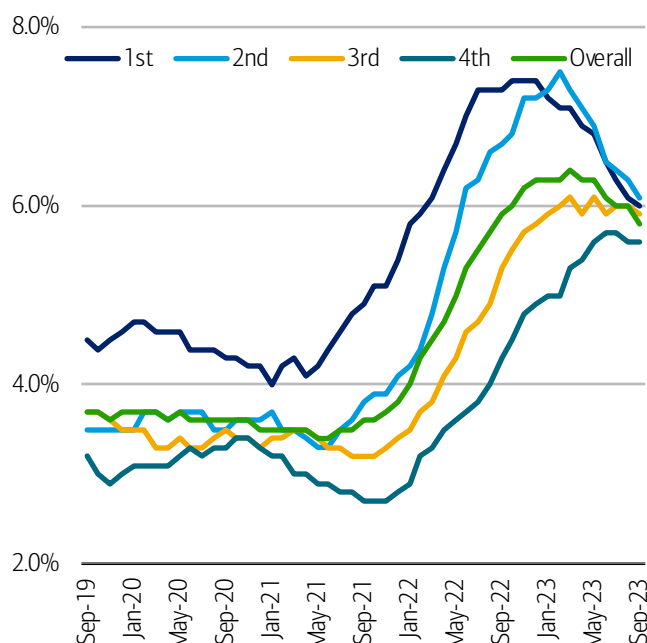


Source: BofA Global Research, Bureau of Labor Statistics

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Exhibit 15: Atlanta Fed Wage Tracker by Wage Level (12mo. MA)

Overall wage growth decelerated to +5.8% in September vs. 6.0% in August

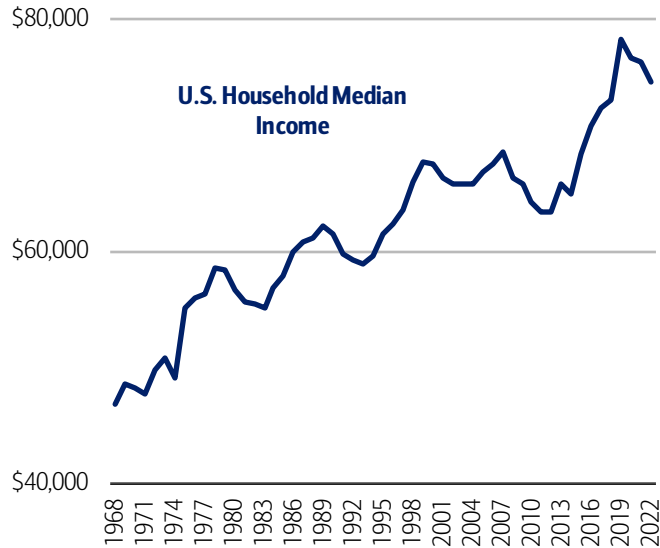


Source: Federal Reserve Bank of Atlanta, Current Population Survey, Bureau of Labor Statistics

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Exhibit 16: U.S. Household Median Income (Long-term chart)

All income received by households (wages, salaries, investments, rental, etc.)

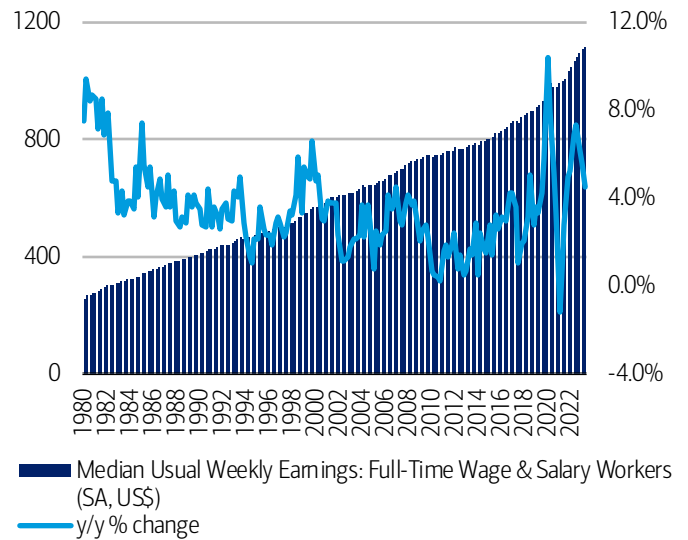


Source: U.S. Census Bureau; Real Chained 2016 dollars

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Exhibit 17: Median weekly earnings

Median weekly earnings (in current dollars) increased 4.5% y/y in 3Q23 (vs. 5.6% in 2Q23 and 6.9% in 3Q22)



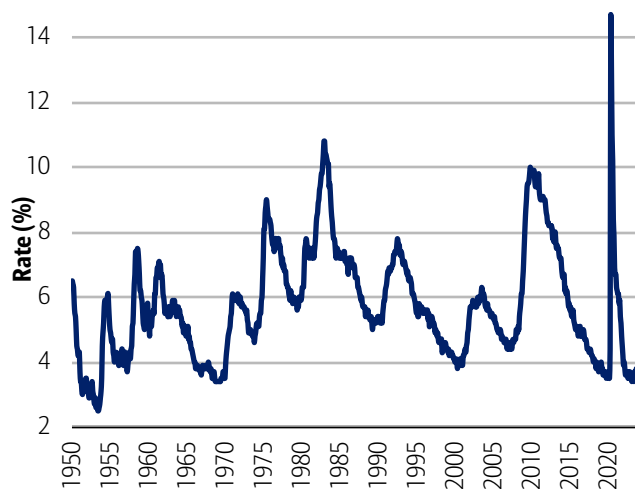
Source: Bureau of Labor Statistics, BofA Global Research

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- **Unemployment rate:** The unemployment rate was 3.8% in September (flat vs. August & up vs. 3.5% LY) as labor participation holds at 62.8%.
- **Non-farm payrolls:** Non-farm payrolls increased by 336K in September, above +227K in August and below a +350K increase LY.
- **Labor Force Participation:** Labor participation was 62.8% in September (flat vs. August and above 62.3% LY) but still below the 67.2% peak in 1998. The labor force participation rate is the proportion of the working-age population that is either working or actively looking for work.

Exhibit 18: Historical U.S. Unemployment Rate

The unemployment rate in 4/20 was the highest since the Great Depression

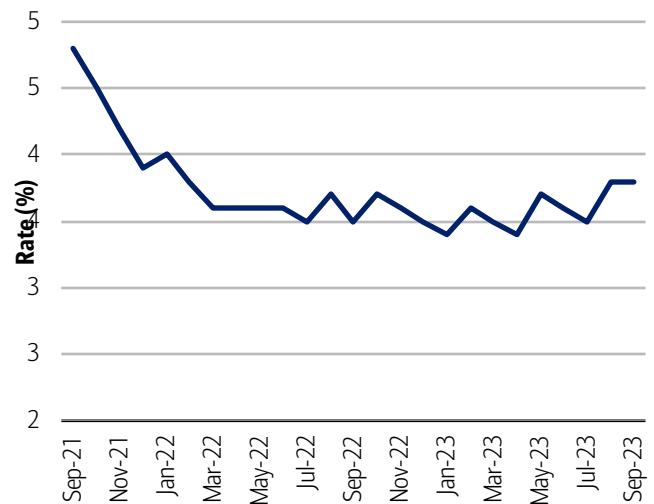


Source: Bureau of Labor Statistics, BofA Global Research

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Exhibit 19: U.S. Unemployment Rate (2-year history)

The unemployment rate was 3.8% in September, flat vs. August

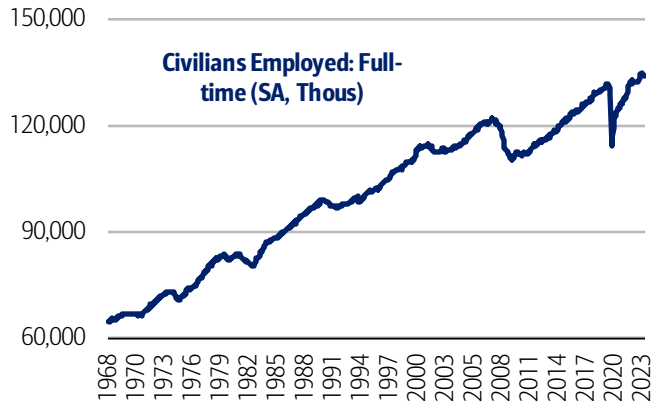


Source: Bureau of Labor Statistics, BofA Global Research

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Exhibit 20: Number of Full-Time Employees (Long-term chart)

Number of full-time employees increased 1.2% in Sept. vs. 3.5% LY

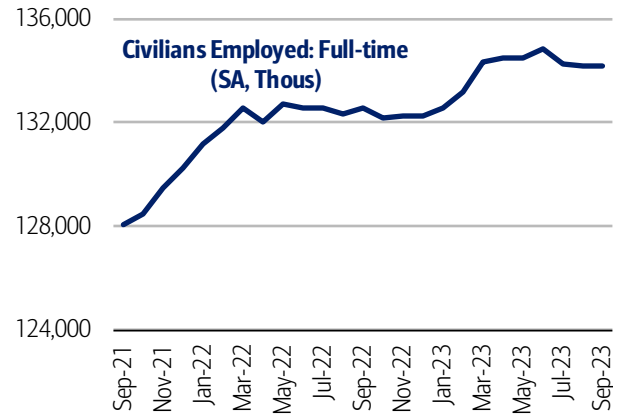


Source: Bureau of Labor Statistics

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Exhibit 21: Number of Full-Time Employees (2-year history)

Number of full-time employees increased 1.2% in Sept. vs. 3.5% LY

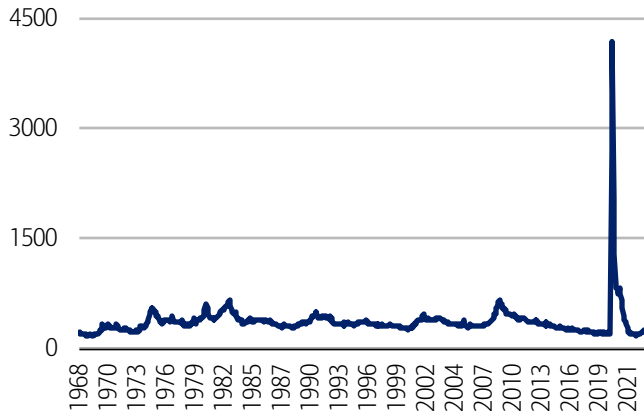


Source: Bureau of Labor Statistics

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Exhibit 22: Initial Jobless Claims (SA, thousands) (Long-term chart)

Initial jobless claims are down in Sept. (209K) vs. 234K in Aug.

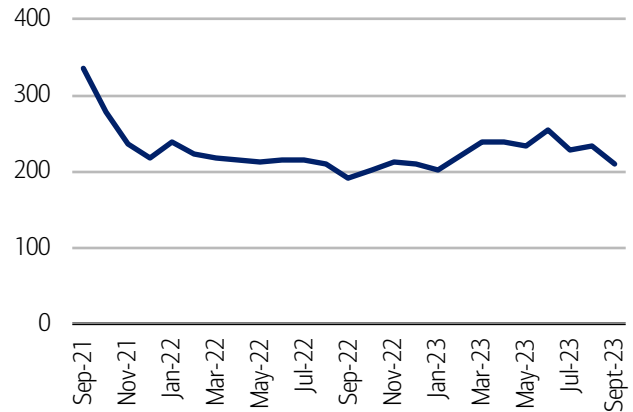


Source: Department of Labor, Haver Analytics; SA- seasonally adjusted

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Exhibit 23: Initial Jobless Claims (SA, thousands) (2-year history)

Initial jobless claims are down in Sept. (209K) vs. 234K in Aug.

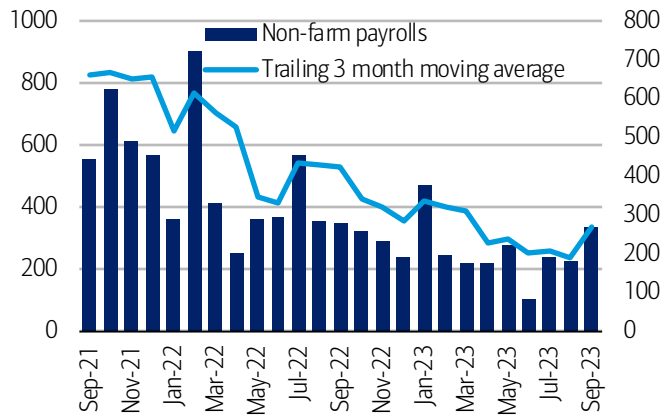


Source: Department of Labor, Haver Analytics; SA- seasonally adjusted

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Exhibit 24: Non-farm payrolls (2 yr. history)

Non-farm payrolls increased by +336K in Sept. vs. +227K in Aug.

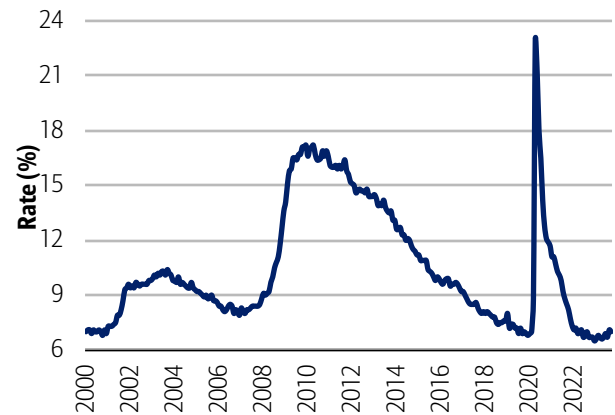


Source: Bureau of Labor Statistics

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Exhibit 25: Underemployment Rate

The underemployment rate was 7.0% in Sept. vs. 6.7% LY

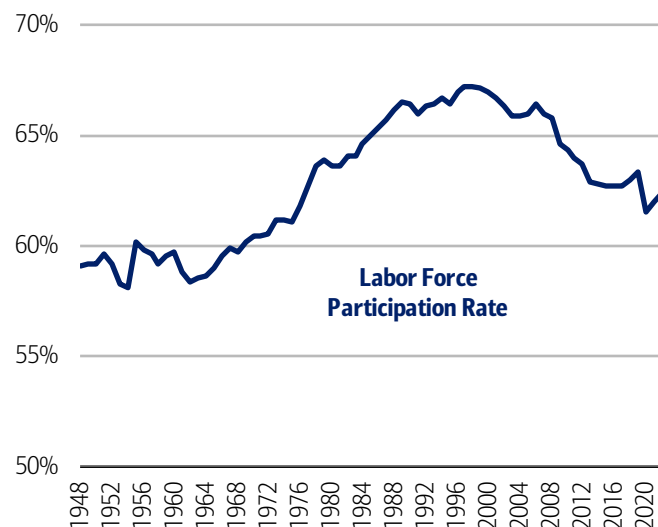


Source: Bureau of Labor Statistics

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Exhibit 26: Labor Force Participation Rate (Long-term history)

Labor participation still below pre-recession peak

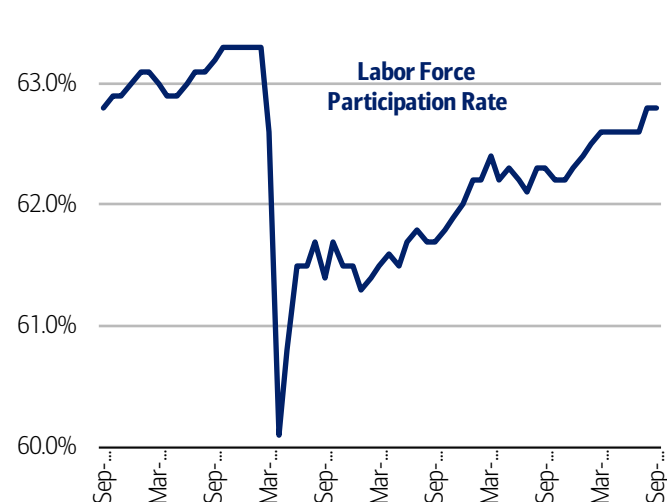


Source: Bureau of Labor Statistics

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Exhibit 27: Labor Force Participation Rate (4 yr. history)

The labor force participation rate was 62.8% in September



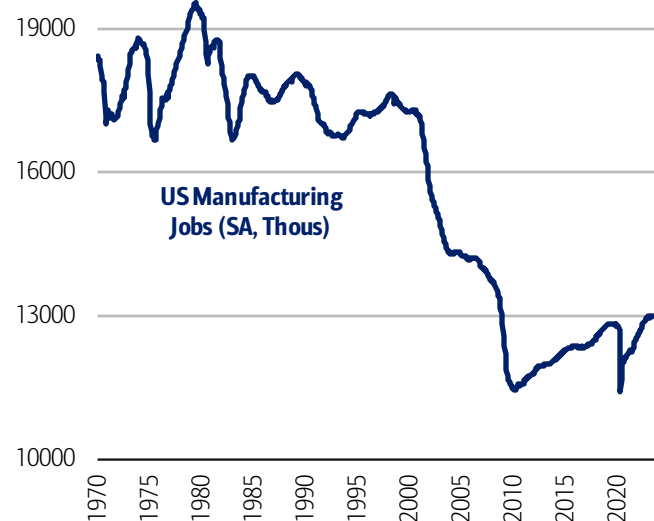
Source: Bureau of Labor Statistics

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- **US Manufacturing Jobs.** Manufacturing jobs declined in 2020 due to COVID-19 headwinds and remain below pre-recession levels and peak levels in 1979. In Sept., manufacturing jobs increased 0.7%, down from 0.8% in Aug. & 3.9% LY.

Exhibit 28: US Manufacturing Jobs (1970-present)

Manufacturing jobs increase slightly in September vs. August

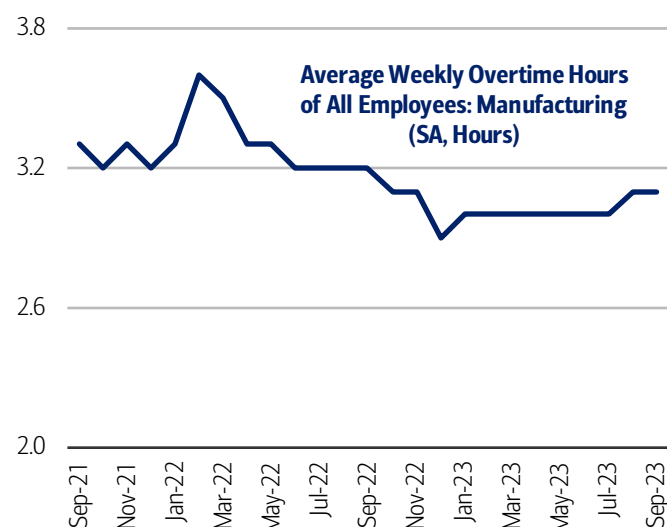


Source: Bureau of Labor Statistics

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Exhibit 29: Average weekly overtime hours for manufacturing employees

Avg. weekly overtime hours remained flat at 3.1 in September



Source: Bureau of Labor Statistics

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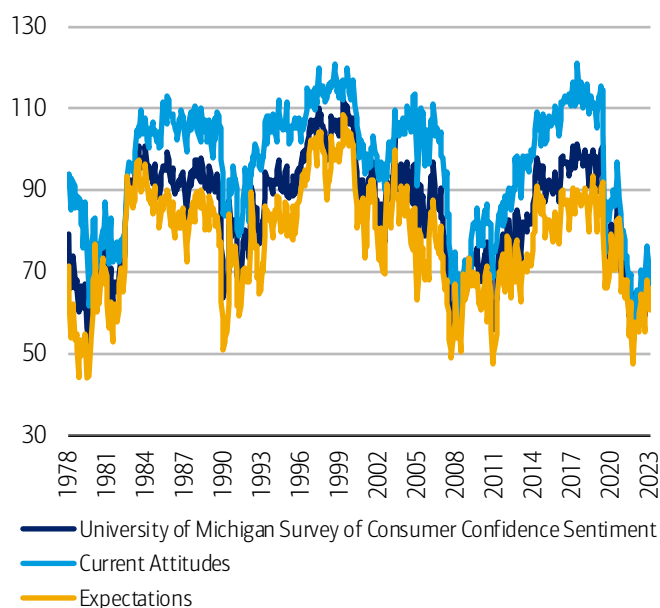
Confidence & Borrowing

- **Consumer Confidence.** The October Univ. of Michigan Survey of Consumer Sentiment declined to 63.8 (vs. 67.9 in September). The Conference Board Consumer Confidence dropped to 102.6 in Oct. vs. 104.3 in Sep. & 102.2 LY.



Exhibit 30: U of Michigan Survey of Consumer Confidence Sentiment (1978-2023)

Consumer confidence sentiment was 63.8 in Oct. vs. 67.9 in Sept.

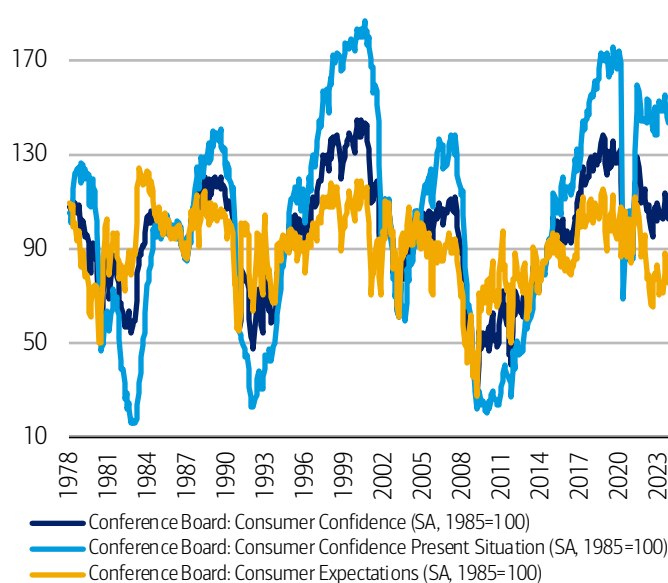


Source: BofA Global Research, U. of Michigan Survey Research Center, Bloomberg 1966=100
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- The Univ. of Michigan Survey of Consumer Current Attitudes in October was 70.6, down from 71.1 in September and up vs. 65.6 LY. Current Expectations at 59.3 was down vs. 65.8 in Sept. and above 56.2 LY. The October Conference Board Consumer Confidence Present Situation at 143.1 was down vs. 146.2 in Sep. and up vs. 138.7 LY. Consumer Expectations at 75.6 was down vs. 76.4 in Sep. and 77.9 LY.

Exhibit 32: Conference Board Consumer Confidence (LT history)

Consumer confidence sentiment was 102.6 in Oct. vs. 104.3 in Sep.

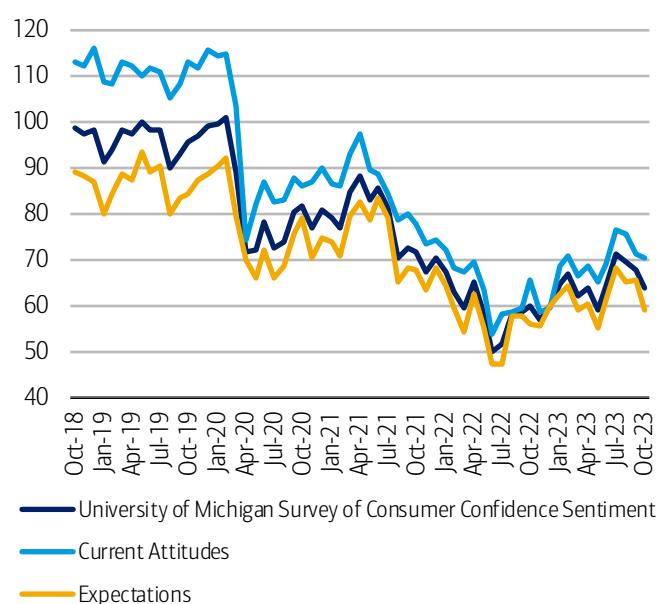


Source: Conference Board, Haver Analytics, BofA Global Research

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Exhibit 31: U of Michigan Survey of Consumer Confidence Sentiment (2018-2023)

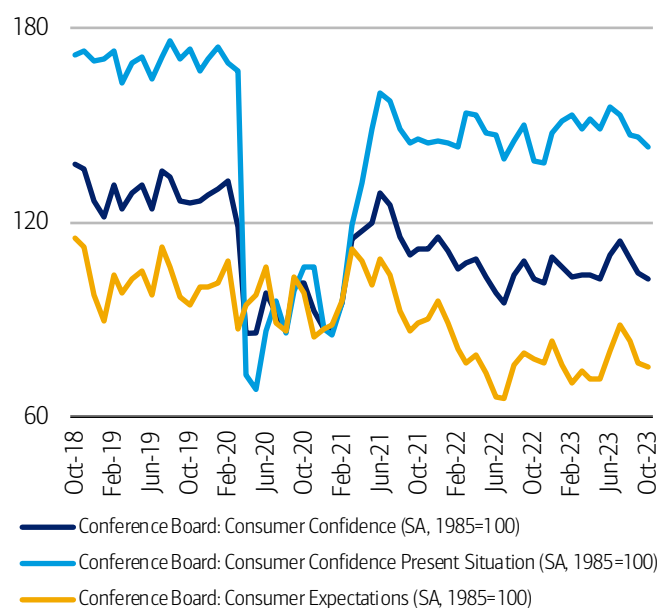
Consumer confidence sentiment was 63.8 in Oct. vs. 67.9 in Sept.



Source: BofA Global Research, U of Michigan Survey Research Center, Bloomberg 1966=100
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Exhibit 33: Consumer Confidence (2018-2023)

Consumer confidence sentiment was 102.6 in Oct. vs. 104.3 in Sep.



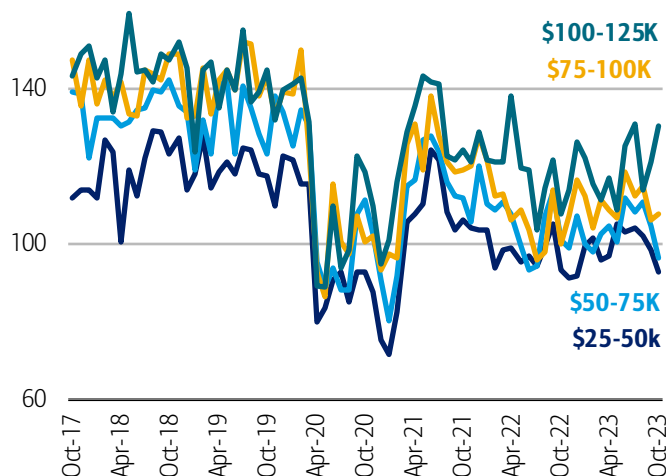
Source: BofA Global Research, Conference Board, Haver Analytics

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- Consumer Confidence by household income.** In October, confidence for households earning \$100-125K was 130.6, up from 121.1 in Sep. & vs. 107.7 LY. Households earning \$75-100K was 107.9, up vs. 106.0 in Sep. & vs. 100.0 LY. Households earning \$50-75K was 96.4, down vs. 104.8 in Sep. & vs. 100.9 LY. Households earning \$25-50K was 92.7, down vs. 98.4 in Sep. & vs. 93.5 LY.

Exhibit 34: Consumer Confidence by household income

Consumer confidence declines the most m/m for households earning \$50-\$75K and \$25-\$50K



Source: BofA Global Research, Conference Board – Note: SA, 1985 = 100

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Exhibit 35: New car loan rate (48-month)

The average rate of new car loans accelerates to 7.4% in Sept. from 7.3% in Aug.



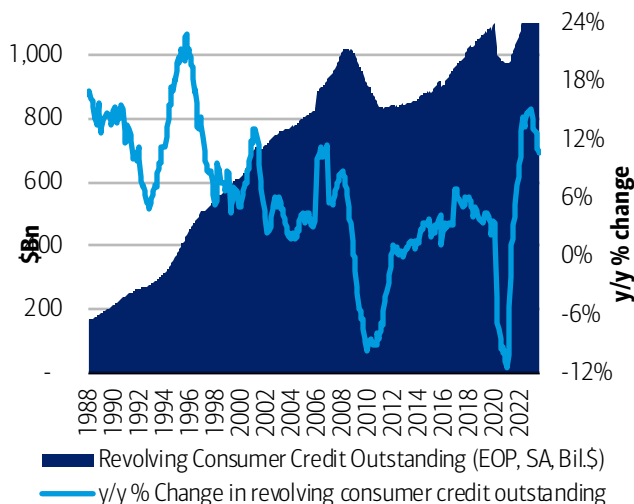
Source: Haver Analytics, bankrate.com average of new car loan rates

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- Consumer credit.** Revolving consumer credit increased +10.6% y/y in Aug. (down slightly from 10.7% in July & 14.8% LY) and remains above 10yr avg of +4.0%. Non-revolving credit (auto-loans, and durable goods loans, excluding mortgages) grew 1.9% y/y in Aug., down vs. 3.1% in July & 5.1% LY. We est. that the avg. household currently carries \$9,584 in credit card debt as of Aug., cont. to exceed peak levels last seen in May '08 of \$8,396 and up \$1,885 from the 10-year avg. of \$7,699.

Exhibit 36: Revolving Consumer Credit Outstanding & y/y % Growth

Revolving consumer credit increased 10.6% in Aug. vs. 14.8% LY

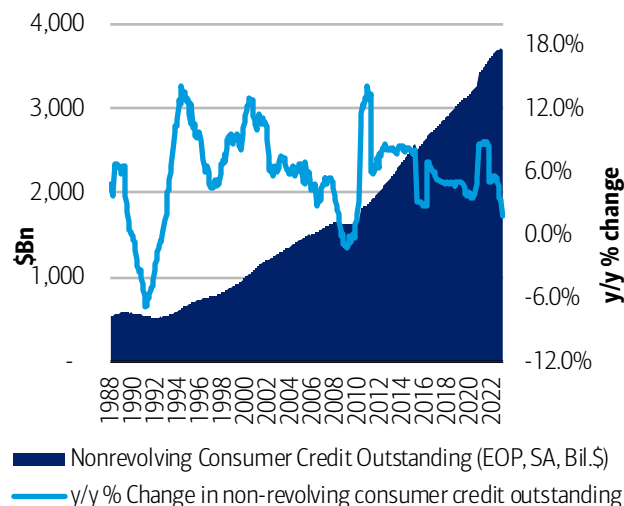


Source: Federal Reserve Board, Haver Analytics, BofA Global Research

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Exhibit 37: Non-Revolving Consumer Credit Outstanding & y/y % Growth

Non-revolving consumer credit increased +1.9% y/y in Aug. vs. +5.1% LY

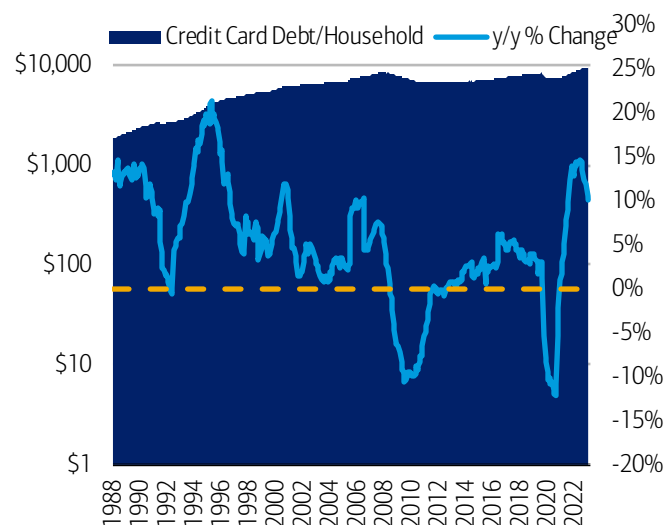


Source: BofA Global Research, Haver Analytics, FRB

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Exhibit 38: Est. credit card debt per US household (LT)

We est. the avg. household carries ~\$9.6k in credit card debt as of Aug.

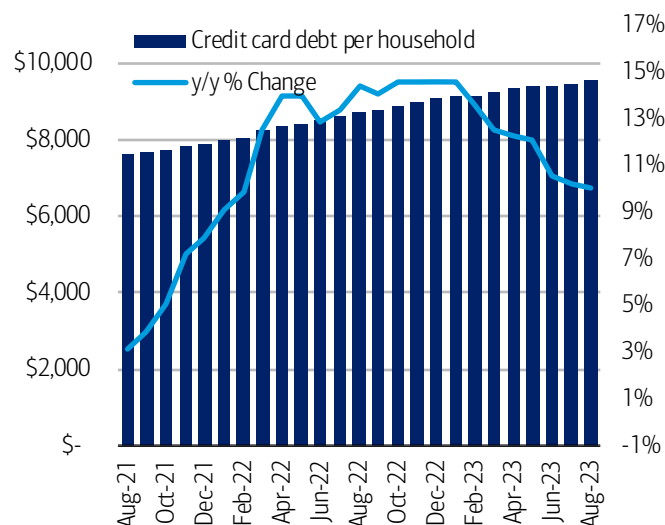


Source: Federal Reserve Board, BofA Global Research

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Exhibit 39: Estimated credit card debt per US household (2 yr.)

We est. the avg. household carries ~\$9.6k in credit card debt as of Aug.



Source: Federal Reserve Board, BofA Global Research

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- **Lending standards for credit cards** tightened for 36.4% of net respondents in 3Q23 vs. 30.4% reporting net tightening in 2Q23 & 0.0% reporting LY.
- **Demand for Consumer Loans**, the percentage of banks reporting **strengthening** demand for consumer installment loans was down -15.5% in 3Q23 vs. -14.7% in 2Q23 and +2.6% LY.

Exhibit 40: % of Bank survey respondents reporting tightening standards on credit cards

Lending standards on credit cards tightened for 36.4% of net respondents in 3Q23

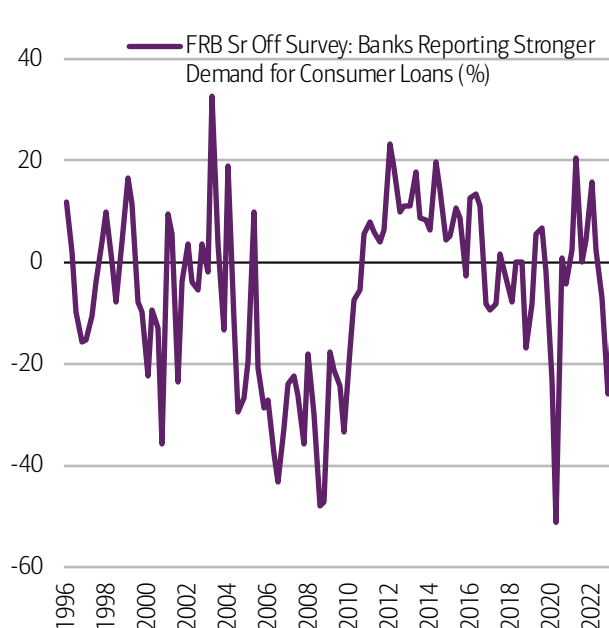


Source: BofA Global Research, Haver Analytics, Federal Reserve Board Senior Loan Officer Survey

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Exhibit 41: % of bank survey respondents reporting stronger demand for consumer loans

The percentage of banks reporting strengthening demand for loans in 3Q23 was down -15.5%



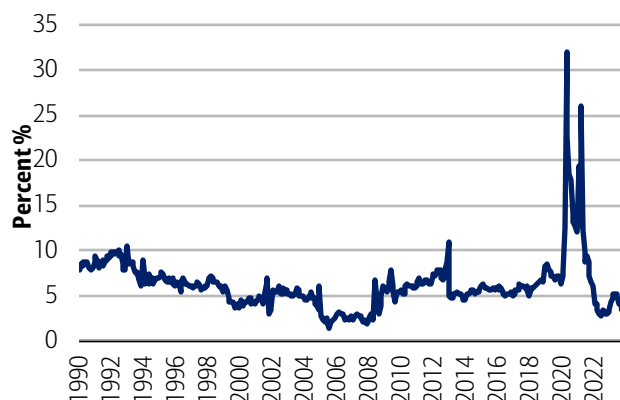
Source: Federal Reserve Board, Senior Loan Officer Survey, Haver Analytics, BofA Global Research

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- **Savings rate.** The savings rate was 3.4% in September, down from 4.0% in August and up vs. 3.0% last year.

Exhibit 42: U.S. Personal Savings Rate (LT History)

The savings rate was 3.4% in September, below the 10yr avg of 7.0%

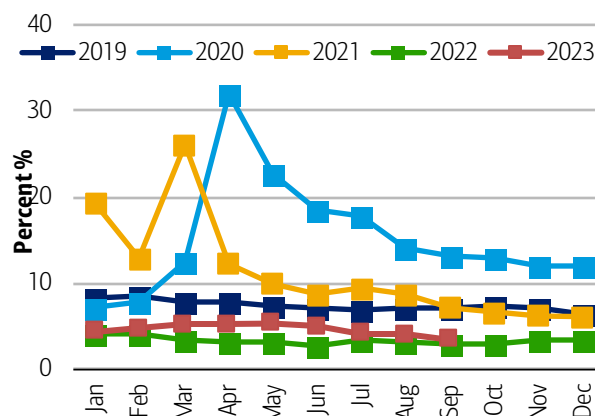


Source: Haver Analytics, BofA Global Research

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Exhibit 43: U.S. Personal Savings Rate (2019-2022)

The savings rate was 3.4% in September vs. 4.0% in August



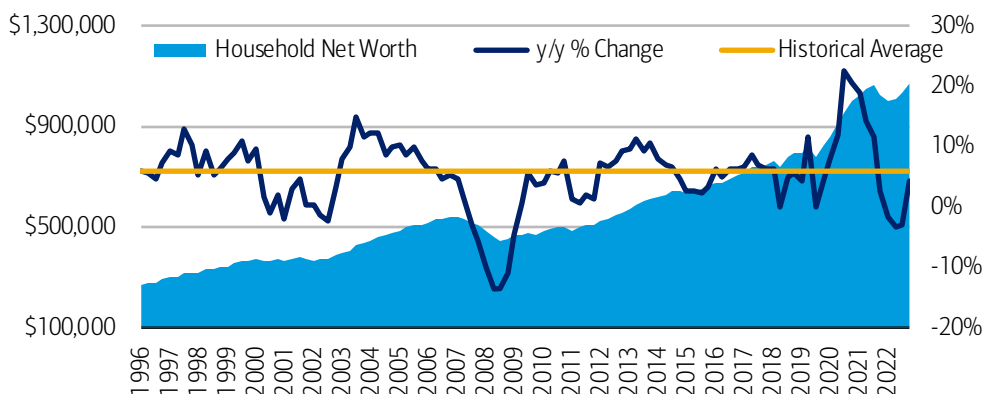
Source: Haver Analytics, BofA Global Research

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- **Household net worth.** Based on data from the Federal Reserve, total household and nonprofit organizations net worth totaled \$143.2 trillion as of 2Q23. Based on our estimates which exclude certain figures attributable to nonprofit assets and liabilities, we estimate total household net worth at approximately \$1,069,660 on average per household (assuming 2.5 people per household based on current population data).
- We estimate avg. **household net worth** increased 4.4% y/y in 2Q23 (vs. -3.0% in 1Q23 and +2.6% LY). The historical average (since 1953) growth rate for household wealth is +5.9% (Note that prior figures are often revised modestly).

Exhibit 44: Average net worth per U.S. household

We est. avg. household net worth increased 4.4% in 2Q23 (vs. -3.0% in 1Q23 & +2.6% LY)



Source: Federal Reserve, Haver Analytics, BofA Global Research

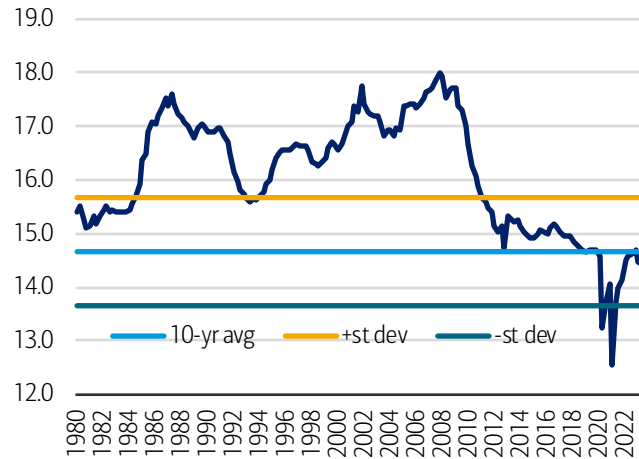
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- **Financial obligations ratio.** The ratio of financial obligation payments to DPI decreased to 14.45 in 2Q23 from 14.49 in 1Q23, and down from 14.58 LY. It also remains below the long-term average of 16.09, implying continued room for the consumer to increase borrowing & spending from current levels if the economy improves.



Exhibit 45: Financial Obligations Ratio (1980-Current)

Financial obligations payments as % of disposable personal income

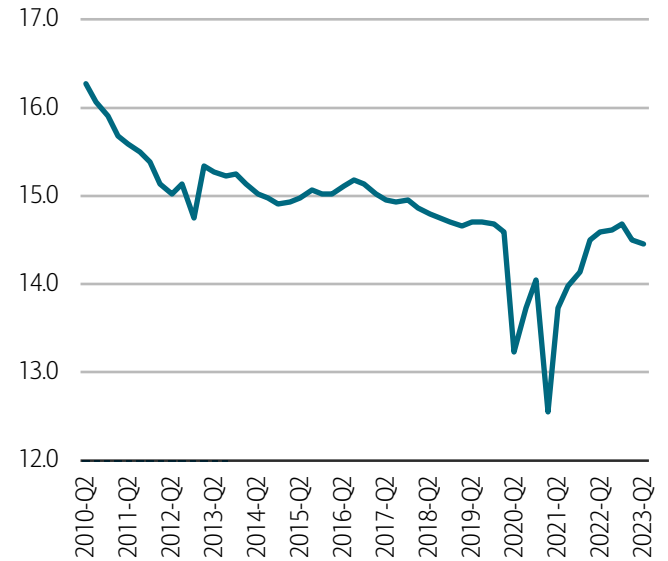


Source: BofA Global Research, Federal Reserve Board/Haver Analytics Note: The financial obligations ratio is an estimate of the ratio of debt payments to disposable income and includes estimated debt payments on outstanding mortgage & consumer debt (includes student loans), automobile lease payments, rental payments on tenant-occupied property, homeowners' insurance, and property tax payments

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Exhibit 46: Financial Obligations Ratio (2007-Current)

Financial obligations payments as % of disposable personal income



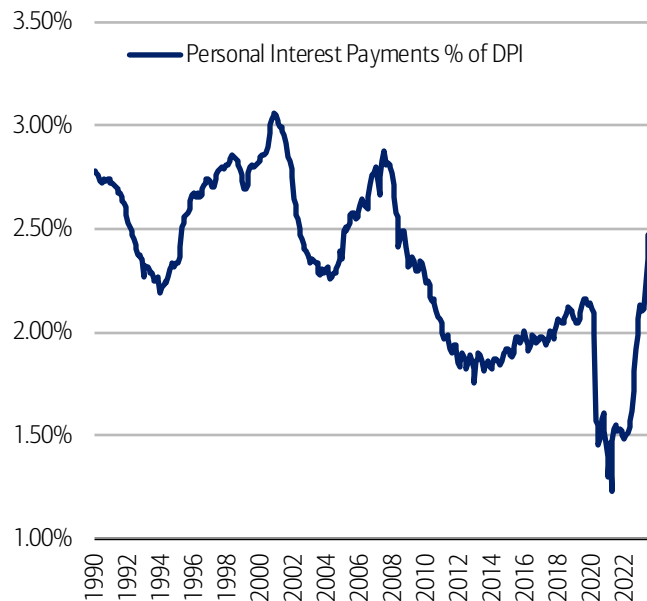
Source: BofA Global Research, Federal Reserve Board/Haver Analytics

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- **Personal Interest Payments % of DPI** (excludes mortgages) are below pre-2008 recession levels but rising. The indicator leads the financial obligations ratio and signals pressure on growth of discretionary spending on smaller ticket (e.g. apparel & footwear) items in favor of larger ticket (e.g. home appliances) purchases.

Exhibit 47: Personal Interest Payments % of DPI (Long-term history)

Personal interest payments as a % of DPI are rising but still below pre-2008 recession levels

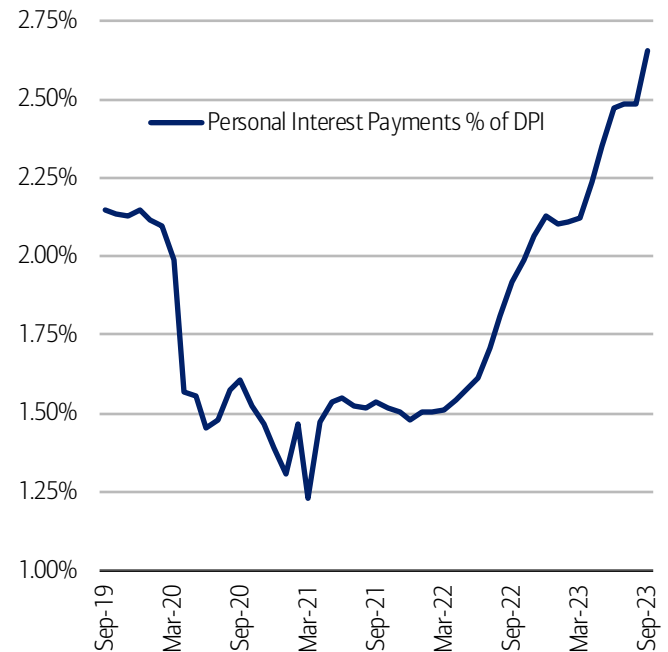


Source: BofA Global Research, Bureau of Economic Analysis

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Exhibit 48: Personal Interest Payments % of DPI (4-year history)

Personal interest payments as a % of DPI was 2.7% in September vs. 1.9% in



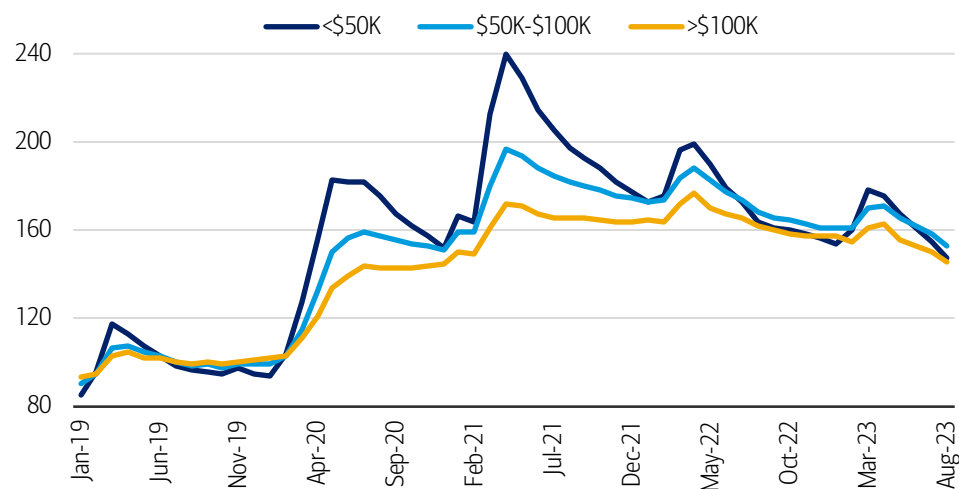
Source: BofA Global Research, Bureau of Economic Analysis

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Exhibit 49: Monthly median household savings and checking balances by income (2019=100) for a fixed group of households through August 2023

Deposit balances remain elevated compared to 2019 levels



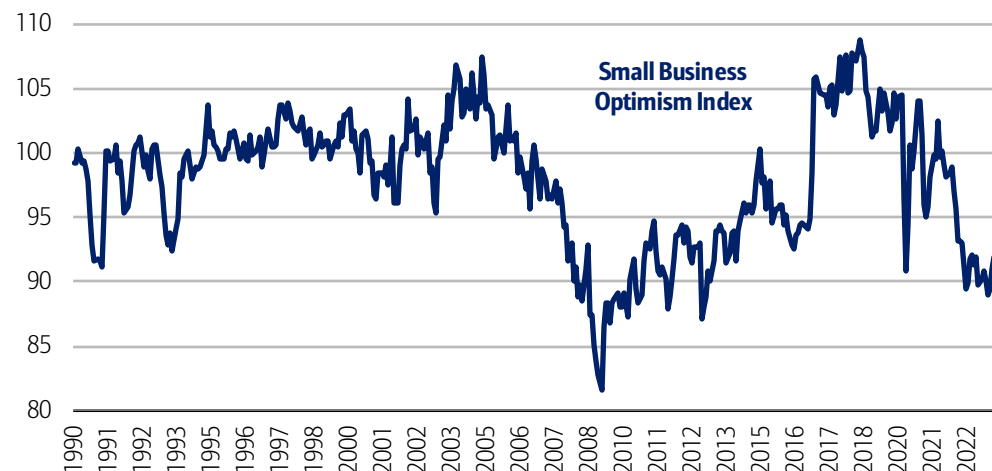
Source: Bank of America Institute

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- Small Business Optimism.** According to the National Federation of Independent Business's Small Business Optimism index, optimism was 90.8 in September, down from 91.3 in August and down vs. 92.1 LY. The index is currently below the long-term average of 97.8 and the 5-year average of 97.8.

Exhibit 50: Small Business Optimism Index

Small Business Optimism dropped to 90.8 in September vs. 91.3 in August and 92.1 LY



Source: BofA Global Research, National Federation of Independent Business

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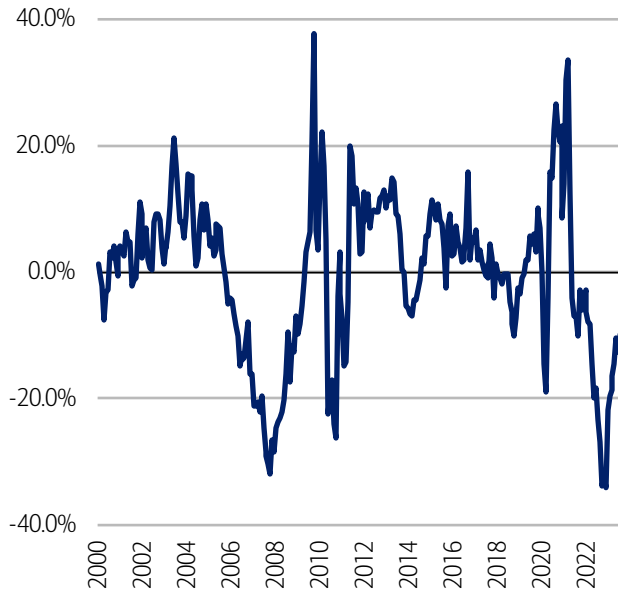
Housing & Mortgages

Home Sales. According to Census Bureau data, new home sales account for about 17.7% of total home sales while existing home sales account for roughly 82.3% of homes sold. Existing home sales are tracking below elevated 2021 levels as well as 2019 levels. Total home sales (new + existing) decreased -9.8% y/y in September vs. -12.5% in Aug. and -23.3% last year. New family home sales increased +33.9% y/y in Sept. (up vs. +6.0% in Aug. and vs. -23.6% last year) while Existing home sales decreased -15.8% in September (up vs. -15.3% in Aug. & vs. -23.3% last year).



Exhibit 51: Change in total monthly home sales

New & existing home sales decreased -9.8% in Sept. vs. -23.3% LY

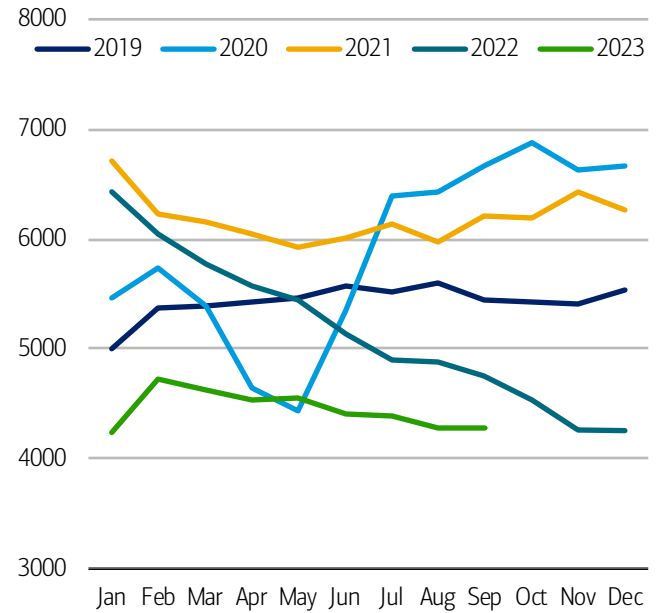


Source: Census Bureau, BofA Global Research

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Exhibit 52: New & existing home sales (in 000's)

New & existing home sales decreased -9.8% in Sept. vs. -23.3% LY

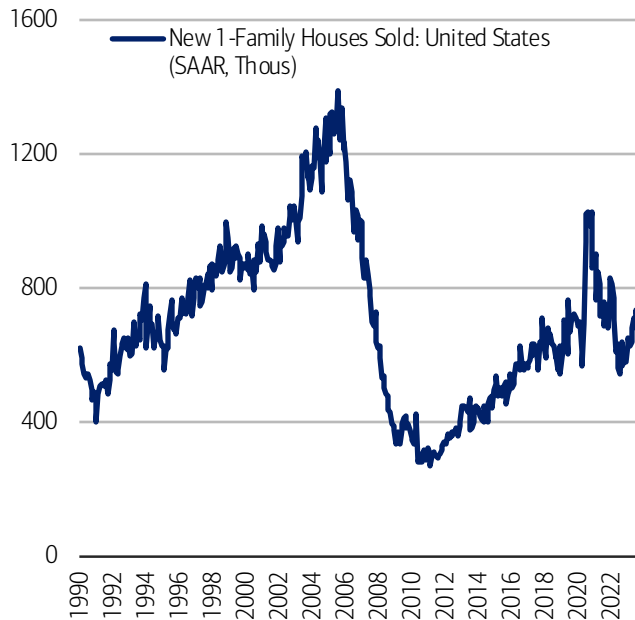


Source: Census Bureau, BofA Global Research

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Exhibit 53: New home sales

New home sales +33.9% y/y in Sept. vs. +6.0% in Aug. & -23.6% LY

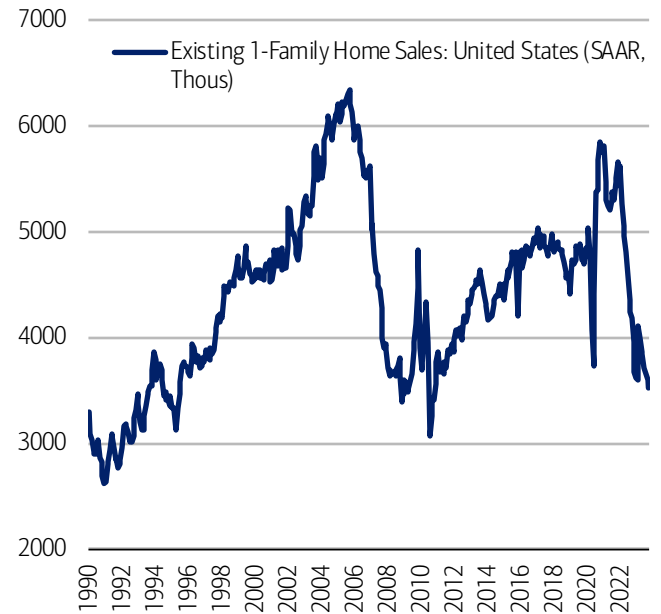


Source: Census Bureau, BofA Global Research

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Exhibit 54: Existing home sales

Existing home sales -15.8% in Sept. vs. -15.3% in Aug. & -23.3% LY

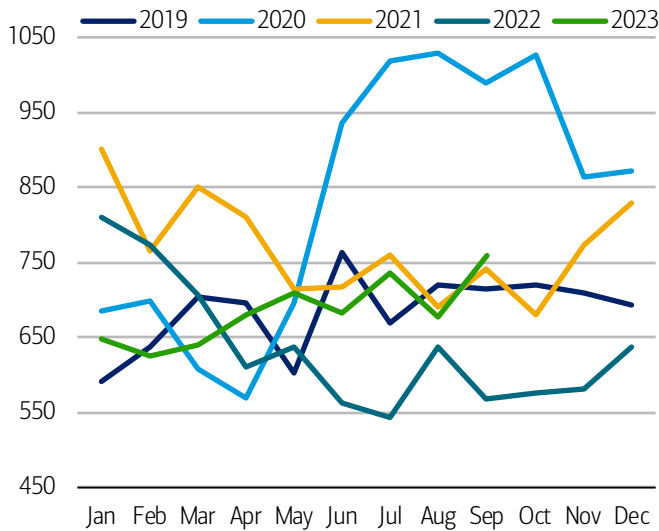


Source: Census Bureau, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 55: New home sales

New home sales +33.9% y/y in Sept. vs. +6.0% in Aug. & -23.6% LY

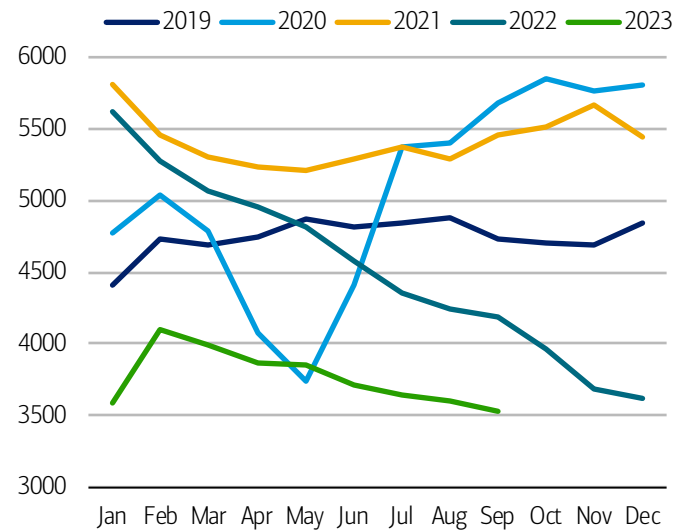


Source: Census Bureau, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 56: Existing home sales

Existing home sales -15.8% in Sept. vs. -15.3% in Aug. & -23.3% LY

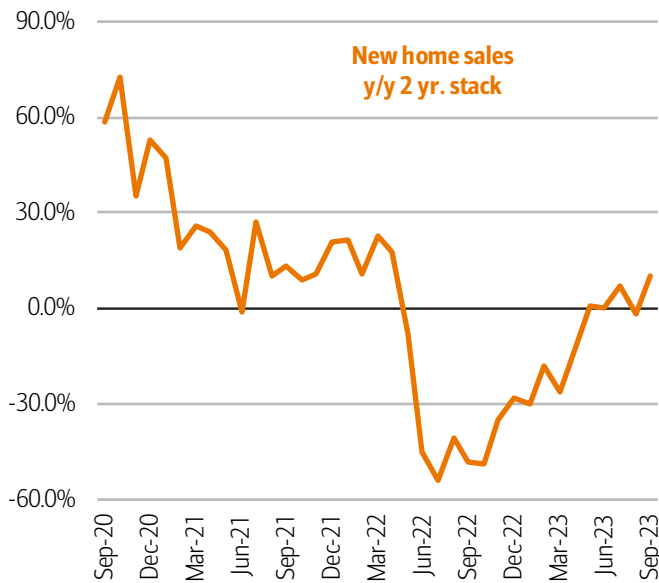


Source: Census Bureau, BofA Global Research

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Exhibit 57: New home sales y/y 2 yr. stack

New home sales +10.3% on a 2 yr. stack-basis in September vs. -48.5% LY

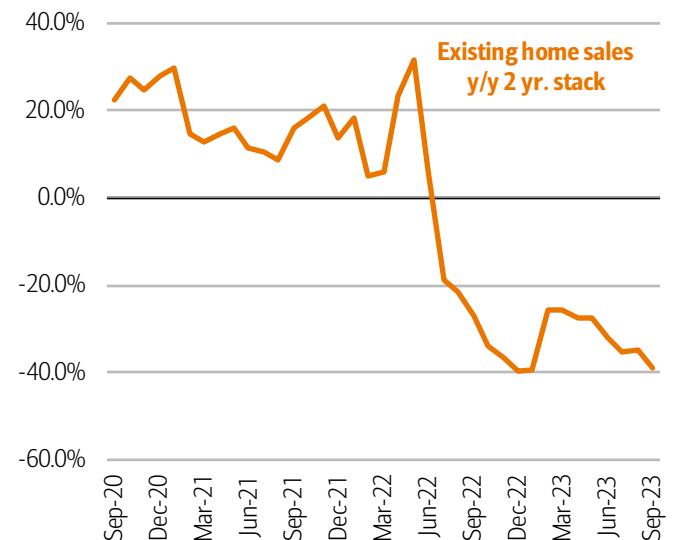


Source: Census Bureau, BofA Global Research

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Exhibit 58: Existing home sales y/y 2 yr. stack

Existing home sales -39.0% on a 2 yr. stack-basis in September vs. -27.1% LY



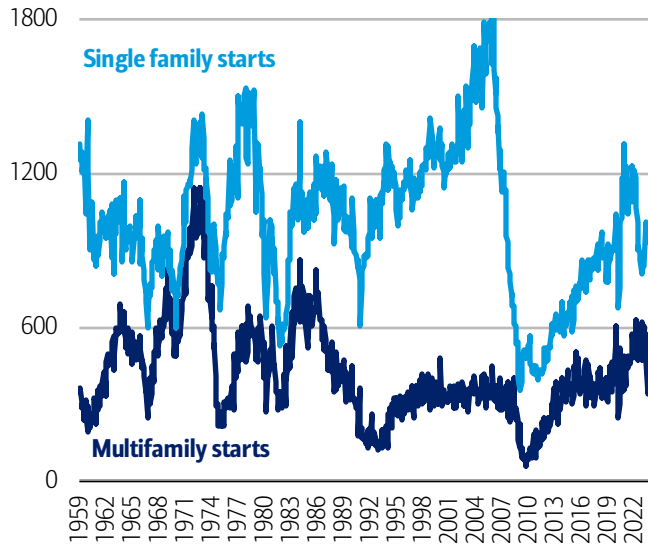
Source: Census Bureau, BofA Global Research

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- Housing starts.** According to Census Bureau data total housing starts (multi-family & single-family) decreased -7.2% y/y in September (up vs. -15.7% in Aug. & vs. -6.2% LY). Single family starts increased +8.6% y/y (up vs. +1.5% in Aug. and vs. -18.9% LY). Multi-family starts decreased -31.4% in September (up vs. -42.7% in Aug. and down vs. +23.6% LY).

Exhibit 59: Composition of construction (000s, SAAR)

Total housing starts down -7.2% in Sep. (vs. -15.7% in Aug. & -6.2% LY)

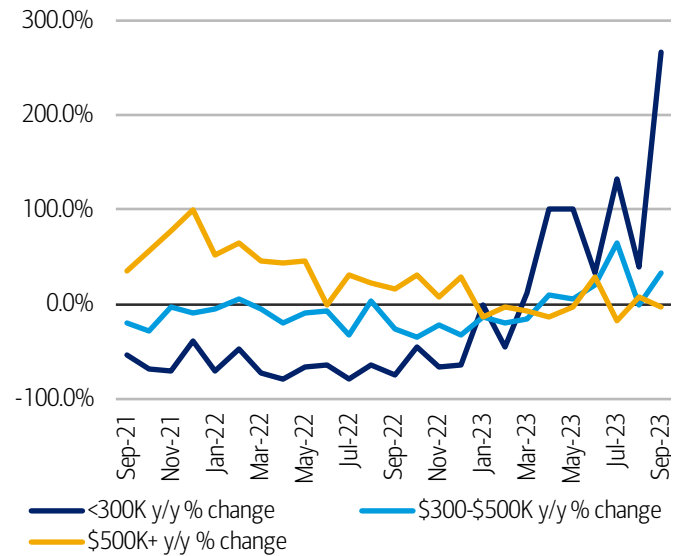


Source: Census Bureau, BofA Global Research

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Exhibit 60: Y/Y % change in new home sales by price point (NSA)

New home sales priced <\$300K and \$300-\$500K accelerated in Sept.



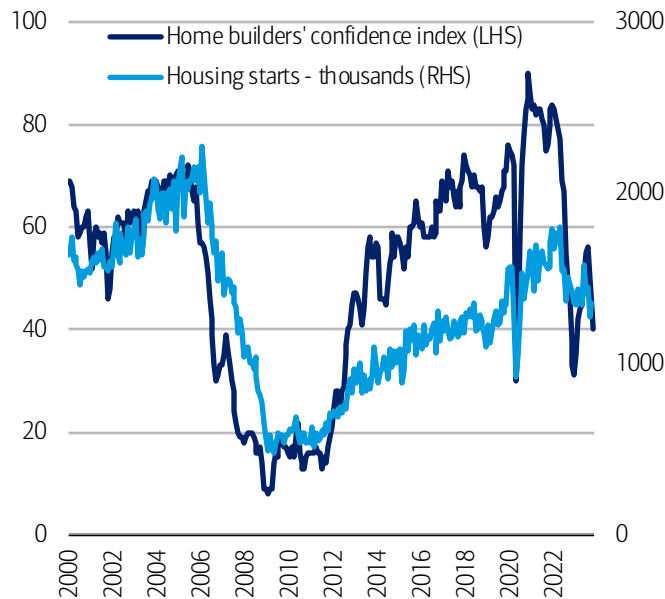
Source: Census Bureau, BofA Global Research

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- **Mortgage Debt (one to four family houses)** increased in Q23 to \$13.8tn (from \$13.2tn last year).

Exhibit 61: Homebuilders Confidence vs. Housing Starts

Homebuilders Confidence was 40 in Oct. vs. 44 in Sep. & 38 LY

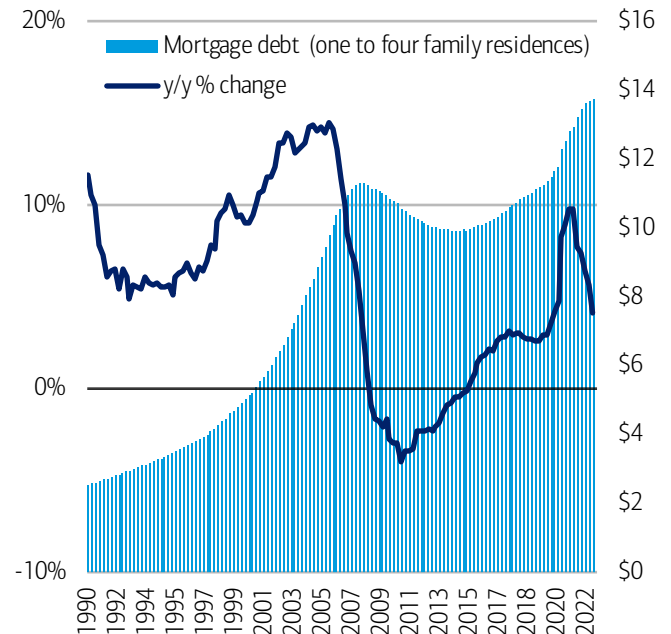


Source: BofA Global Research, Census Bureau

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Exhibit 62: Mortgage Debt (\$tn, one to four family houses) has returned to growth

Mortgage debt increased 4.1% in Q23

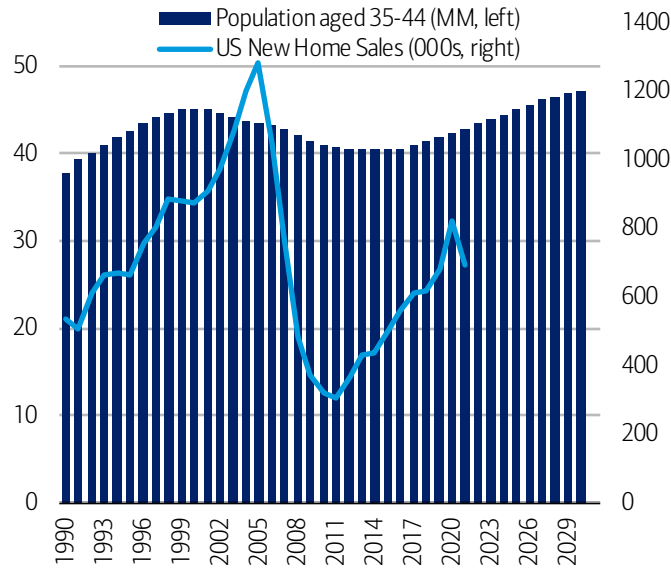


Source: BofA Global Research, Federal Reserve Board Note: Personal MDO includes: Mortgages on 1 to 4 family residences, excludes: multifamily residences, nonfarm non-residential, and farms

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Exhibit 63: US population aged 35-44 vs. US New Home Sales

An increase in population aged 35-44 should support new home sales



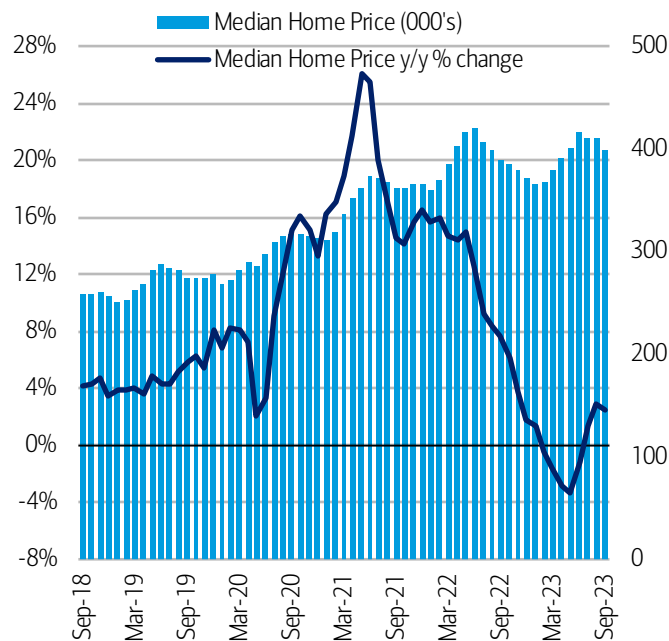
Source: US Census Bureau, BofA Global Research

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- **Median home sales price.** The National Association of Realtors estimates prices of existing homes rose +2.5% y/y September (down slightly vs. +2.9% in Aug. and down vs. +7.7% LY). The price of new family homes dropped -12.3% in September (down vs. -1.6% in Aug. and down vs. +15.6% LY).

Exhibit 65: Median sales price (000's) of all existing single-family homes (y/y % change)

Prices of existing homes increased +2.5% in Sep. (vs. +2.9% in Aug. & +7.7% LY).

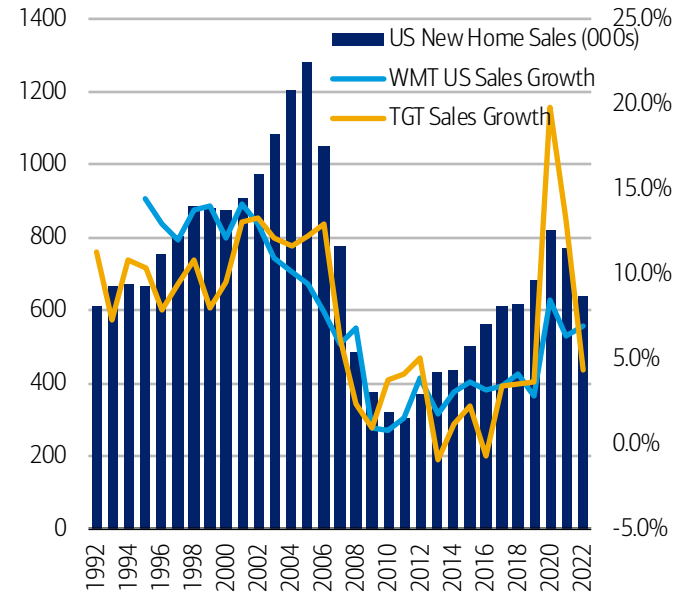


Source: BofA Global Research, Haver Analytics, National Association of Realtors

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Exhibit 64: US New Home Sales vs. WMT & TGT US sales growth

New home sales have ~70% correlation w/ WMT & TGT US sales growth

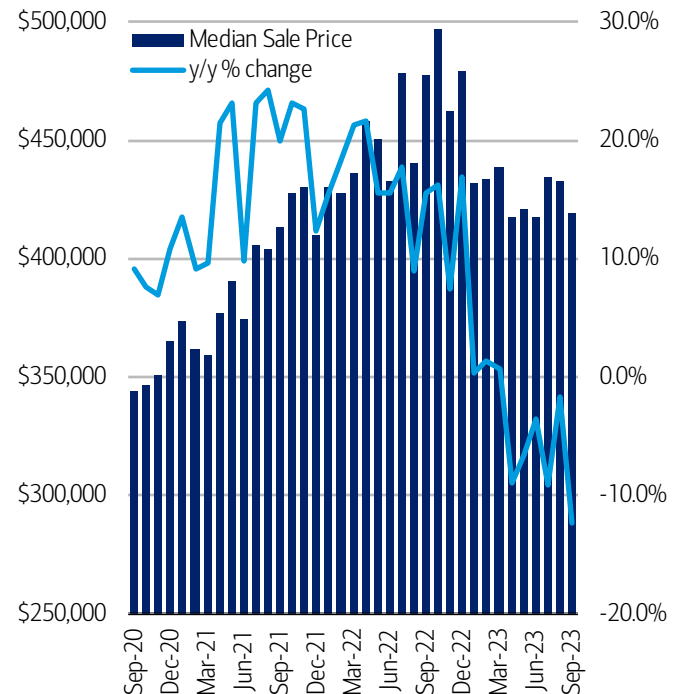


Source: Company filings, US Census Bureau, BofA Global Research

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Exhibit 66: Median sales price of all new single-family homes

Price of new family homes dropped -12.3% in Sep. (vs. -1.6% in Aug. & +15.6% LY).



Source: U.S. Census Bureau, Haver Analytics

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Exhibit 67: US Existing Home Sales Months' Supply NSA

Existing home Months' Supply remains well below historical averages

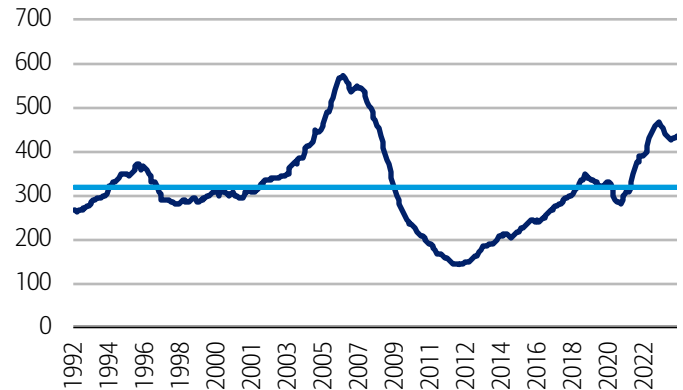


Source: Bloomberg, BofA Global Research

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Exhibit 68: Inventories of single-family homes for sale (SAAR, thous)

New single family home inventories remain above pre-pandemic levels



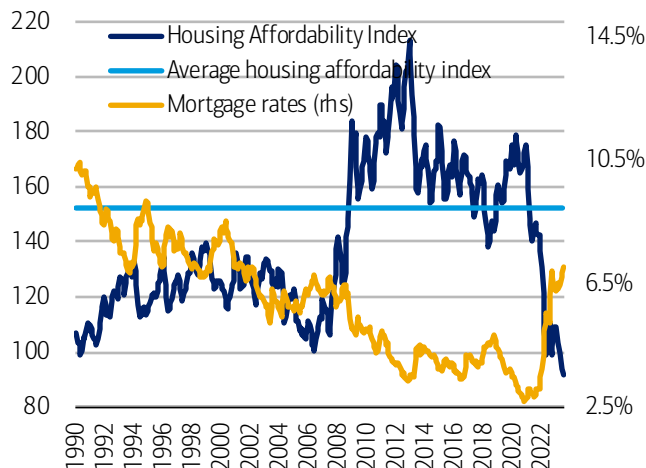
Source: Census Bureau, Haver Analytics, BofA Global Research

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- **Housing affordability index.** The NAR's **housing affordability index** was 91.7 in August (down vs. 93.9 in July and down vs. 110.5 LY). Housing affordability is below the long-term average of 138.9 and the 10-year and 20-year averages of 152.3 and 150.1, respectively. The National Association of Realtors factors in median price existing single-family homes, mortgage rates, estimated principal and interest payments, payments as a % of income, and incomes levels to calculate whether or not a typical family could qualify for a mortgage loan when calculating its housing affordability index. A value of 100 means that a family with a median income, as defined by the U.S. Census Bureau, has exactly enough income to qualify for a mortgage on a median-priced home (assuming a 20% down payment). In August 2023 the index bottomed out at 97.1 & peaked at 214.5 in Jan. '13.

Exhibit 69: Housing affordability index vs. mortgage rates

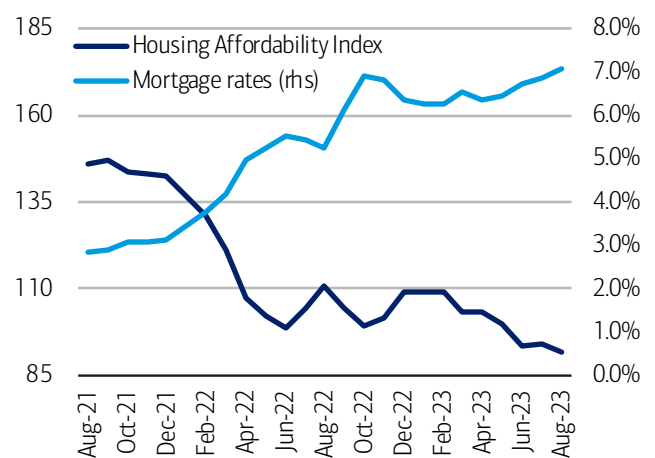
Housing affordability index was 91.7 in Aug., below the LT avg. of 138.9



Source: BofA Global Research, Haver, Federal Home Loan Mortgage Corporation Note: Contract interest rates on commitments for 30-year fixed-rate first mortgages. Prime mortgages only
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Exhibit 70: Housing affordability index vs. mortgage rates

Housing affordability index & the 30-yr. fixed mortgage rate have a -77% correlation



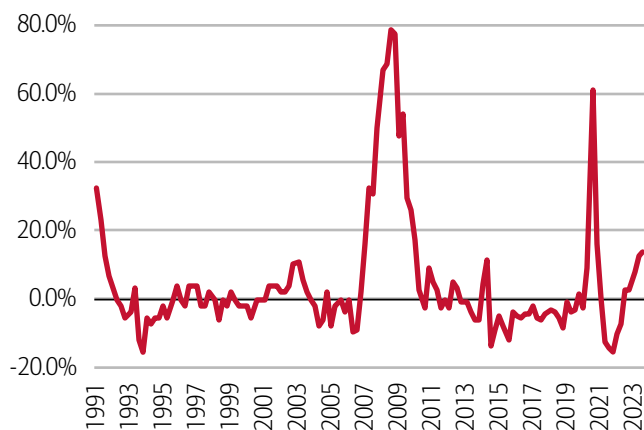
Source: BofA Global Research, Haver, Federal Home Loan Mortgage Note: Contract interest rates on commitments for 30-year fixed-rate first mortgages. Prime mortgages only
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- **Mortgage rates** were 7.6% in October, above 7.2% in September & 6.9% LY.
- **Mortgage lending standards** According to the 3rd quarter 2023 Senior Loan Officer Survey from the Federal Reserve, trends in lending standards for consumers were tightening for residential mortgages.

- **Lending standards for residential mortgages** experienced 13.8% net tightening in 3Q23 vs. 2.6% net tightening in 3Q22.

Exhibit 71: % of Bank survey respondents reporting tightening standards on residential mortgages

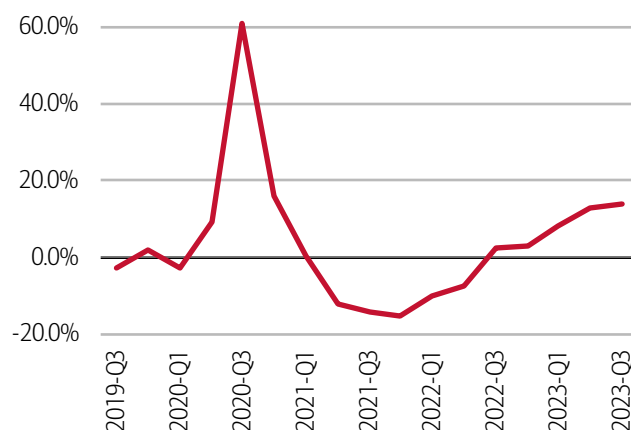
13.8% reported net tightening in 3Q23 vs. 2.6% reporting net tightening LY



Source: BofA Global Research, Haver Analytics, Federal Reserve Board Senior Loan Officer Survey
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Exhibit 72: Residential mortgage lending standards (4-yr history)

13.8% reported net tightening in 3Q23 vs. 2.6% reporting net tightening LY

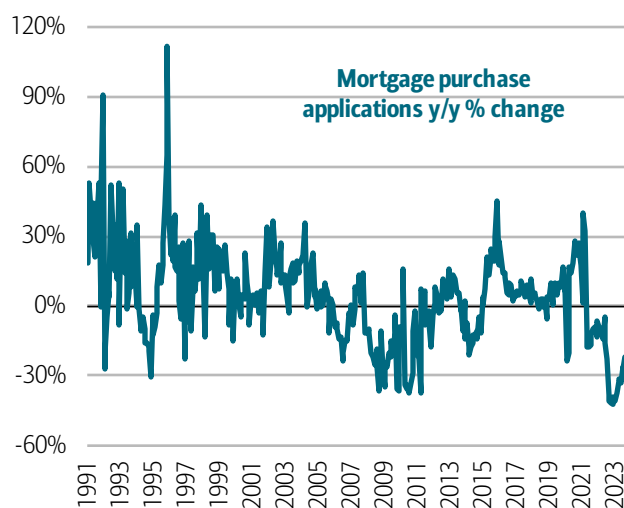


Source: BofA Global Research, Haver Analytics, Federal Reserve Board Senior Loan Officer Survey
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- **Mortgage applications.** The mortgage refinancing application index of the Mortgage Bankers Association was lower at 384.6 in September vs. 407.1 in August and was down -10.7% vs. 430.9 LY. The mortgage purchase application index was 136.6 in September, down vs. 144.9 in August & vs. 174.1 LY.

Exhibit 73: Mortgage Purchase Applications (y/y % change)

Mortgage purchase application index was down -22% y/y in September

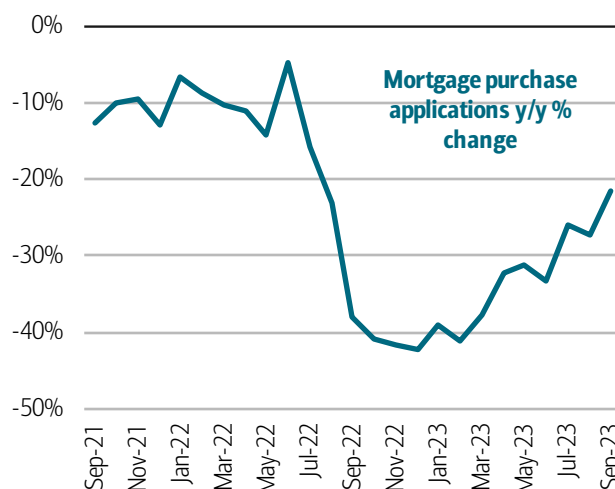


Source: BofA Global Research, Mortgage Bankers Association

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Exhibit 74: Mortgage Purchase Applications (y/y % change)

Mortgage purchase application index was down -22% y/y in September



Source: BofA Global Research, Mortgage Bankers Association

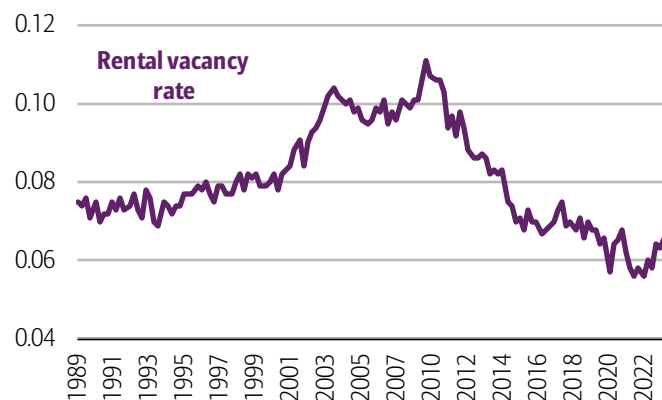
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- **Vacancy rates.** According to Census Bureau data, rental vacancy rates were 6.6% in 3Q23, up vs. 6.3% in 2Q23 and vs. 6.0% LY. Homeowner vacancy rates were 0.8% in 3Q23 vs. 0.7% in 2Q23 and 0.9% LY. The homeownership rate was 66.0% in 3Q23, slightly above 65.9% in 2Q23 and flat vs. 66.0% LY.



Exhibit 75: Rental vacancy rate (%)

Rental vacancy rates were 6.6% in 3Q23, up vs. 6.3% in 2Q23 & 6.0% LY

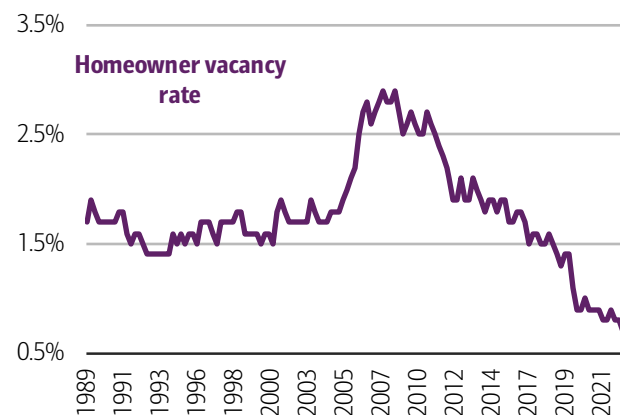


Source: BofA Global Research, US Census Bureau

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Exhibit 76: Homeowner vacancy rate (%)

Homeowner vacancy rates were 0.8% in 3Q23 vs. 0.7% in 2Q23

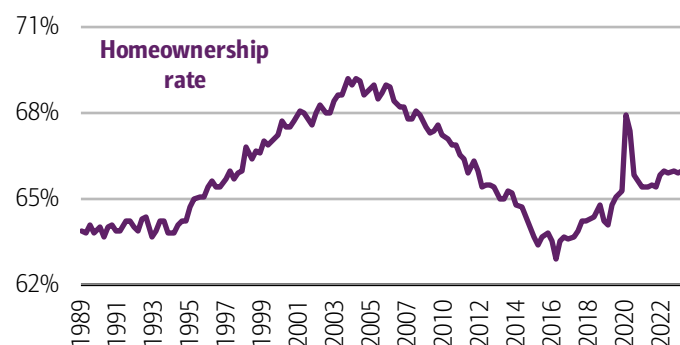


Source: BofA Global Research, US Census Bureau

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Exhibit 77: Homeownership rate

The homeownership rate was 66.0% in 3Q23

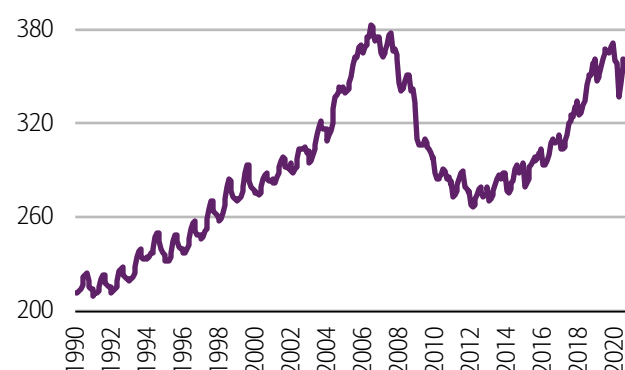


Source: BofA Global Research, US Census Bureau

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Exhibit 78: Real estate agents and brokers employed LT chart (000s)

Number of employees on business payrolls (NSA)



Source: Bureau of Labor Statistics, BofA Global Research

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Cost of Living Trends

- CPI:** CPI was 3.7% in September (flat vs. August & down vs. 8.2% LY), which is above the long-term (since 1982) average of 2.91% and the 10-yr average of 2.67%.

Exhibit 79: CPI by category (y/y change)

CPI increased 3.7% in September, flat vs. August & down vs. 8.2% LY

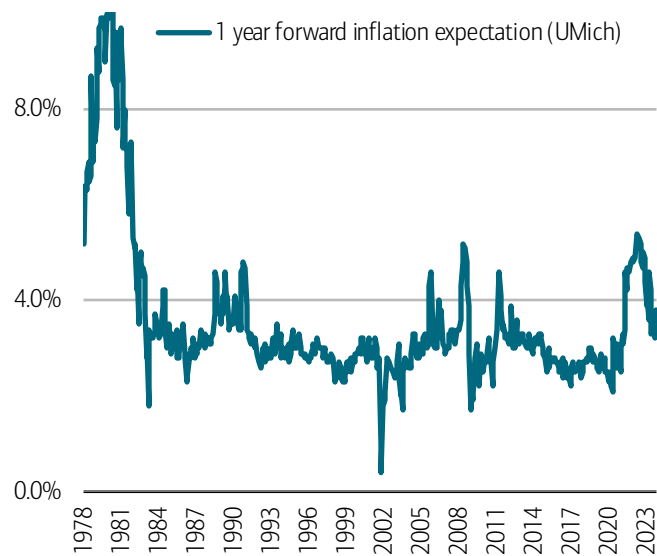
CATEGORY	September	October	November	December	January	February	March	April	May	June	July	August	September
Food	10.8%	10.6%	10.3%	10.1%	9.9%	9.2%	8.3%	7.5%	14.8%	5.7%	4.8%	4.2%	3.7%
Housing	8.0%	7.9%	7.8%	8.1%	8.2%	8.2%	7.8%	7.5%	42.0%	6.3%	6.2%	5.7%	5.6%
Apparel	5.5%	4.1%	3.6%	2.9%	3.1%	3.3%	3.3%	3.6%	3.7%	3.1%	3.2%	3.1%	2.3%
Transportation	12.6%	11.2%	7.8%	3.9%	3.8%	2.6%	-1.0%	0.2%	16.7%	-5.1%	-3.0%	1.4%	2.4%
Medical Care	6.0%	5.0%	4.2%	4.0%	3.1%	2.3%	1.5%	1.1%	6.5%	0.1%	-0.5%	-1.0%	-1.4%
Recreation	4.1%	4.1%	4.7%	5.1%	4.8%	5.0%	4.8%	5.0%	6.4%	4.3%	4.1%	3.5%	3.9%
Education	0.2%	0.0%	0.7%	0.7%	1.0%	1.0%	1.4%	1.6%	6.4%	1.1%	1.2%	1.0%	1.0%
Other	6.9%	6.5%	7.0%	6.4%	6.2%	6.1%	6.1%	6.6%	3.5%	6.3%	6.1%	5.8%	6.0%
Total CPI	8.2%	7.7%	7.1%	6.5%	6.4%	6.0%	5.0%	4.9%	4.0%	3.0%	3.2%	3.7%	3.7%

Source: Bureau of Labor Statistics

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Exhibit 80: 1 yr forward inflation expectation (UMich Survey)

The 1 yr forward inflation expectation rose to 4.2% in Oct. vs. 3.2% in Sept.

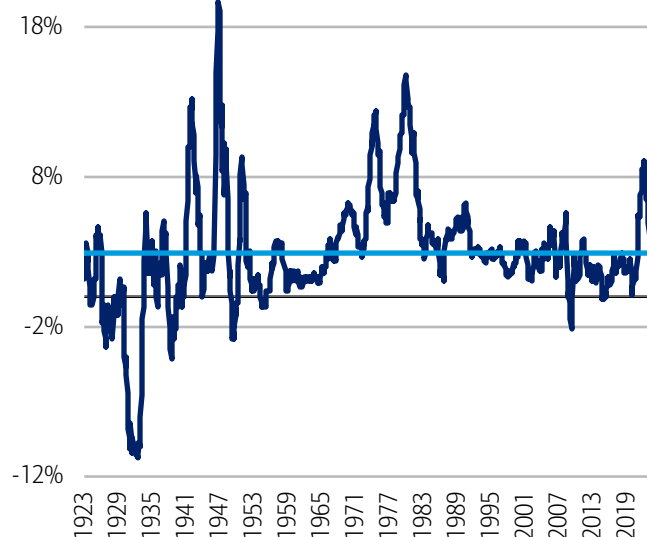


Source: University of Michigan

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Exhibit 81: Historical Consumer Price Index

CPI raised to 3.7% in September and remains slightly above LT average of 2.9%



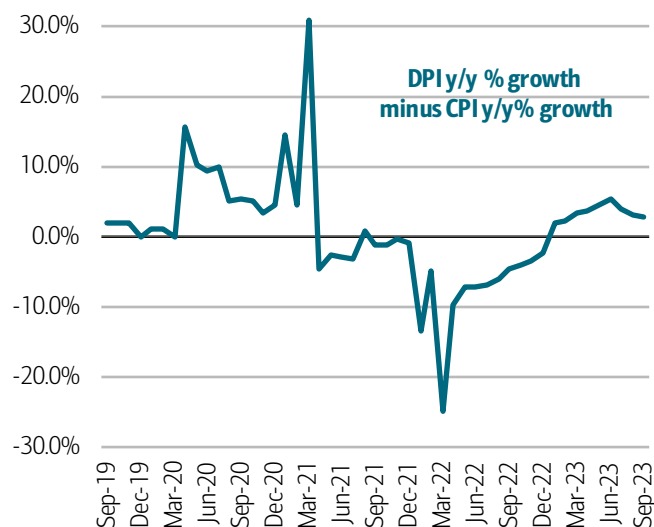
Source: BofA Global Research, Bureau of Labor Statistics

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- **Federal Funds Rate.** The Federal Funds rate was 5.33% in September, flat from August and above 2.56% LY.

Exhibit 82: DPI y/y % growth minus CPI y/y % growth (4 yr. history)

Real DPI after subtracting CPI including gas & food

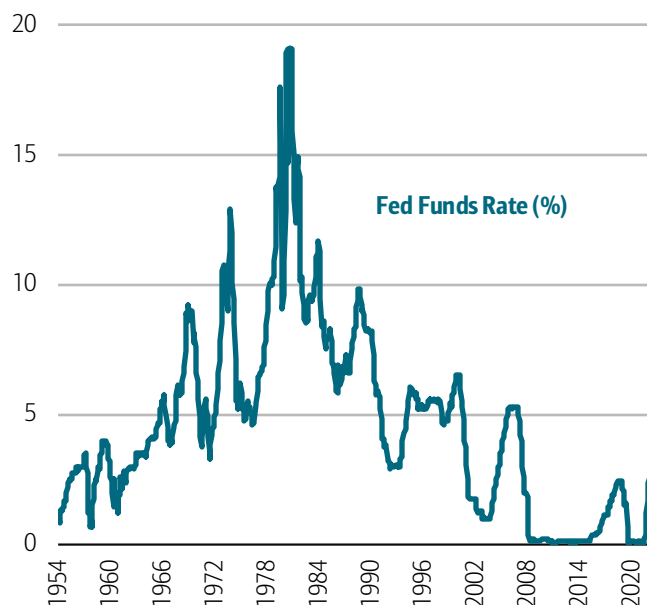


Source: BofA Global Research, Haver Analytics, BEA.gov, based on seasonally adjusted figures

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Exhibit 83: Fed Funds Rate (Long-Term)

The Federal Funds rate was 5.33% in September above 2.56% LY



Source: Federal Reserve

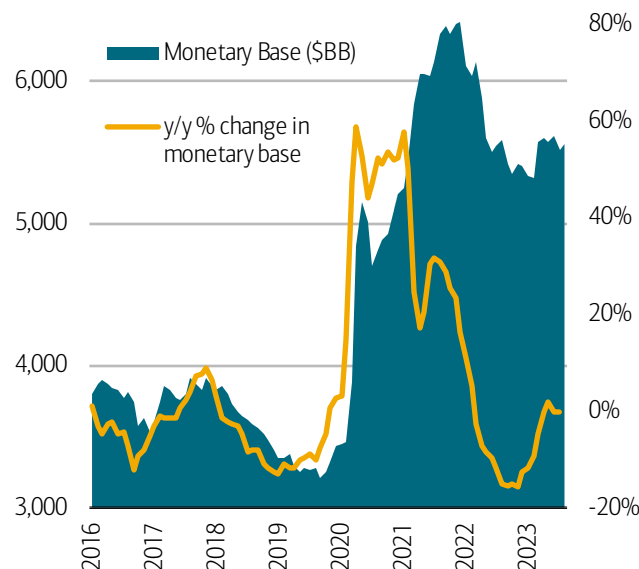
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- **Monetary Base.** The monetary base increased +2.9% y/y in September, up vs. -0.4% in August and from -15.3% LY.



Exhibit 84: Monetary Base 5-year history

The monetary base increased +2.9% in Sep. vs. -0.4% in Aug. & -15.3% LY

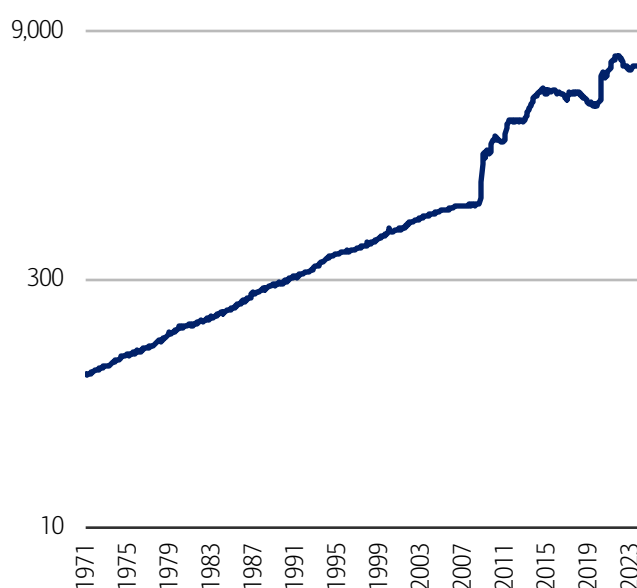


Source: Federal Reserve

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Exhibit 85: Monetary Base (LT history – log scale)

The monetary base has seen a fairly steady increase over the last 50 years

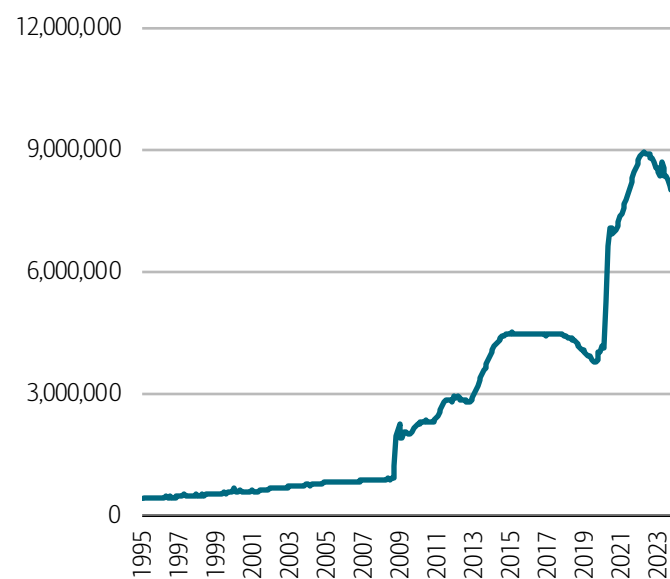


Source: Federal Reserve

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Exhibit 86: All federal reserve banks total assets (\$MM)

All federal reserve banks total assets decreased 9% y/y in September

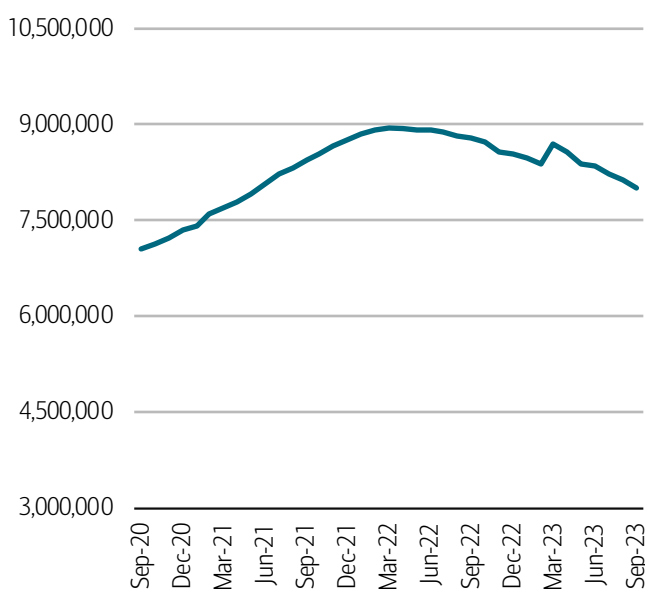


Source: Federal Reserve

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Exhibit 87: All federal reserve banks total assets (\$MM) (3 yr. history)

All federal reserve banks total assets decreased 9% y/y in September



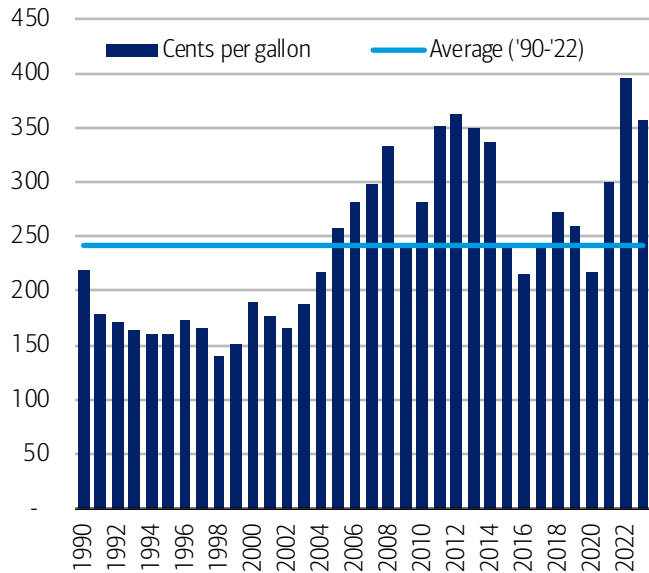
Source: Federal Reserve

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- **Gas prices.** US retail gas prices are \$3.61 in October (through 10/30), down vs. \$3.84 in September and down -5.8% y/y vs. \$3.83 last year.

Exhibit 88: US Yearly Average Regular Retail Gas Prices

Gas prices were up ~32% y/y in 2022

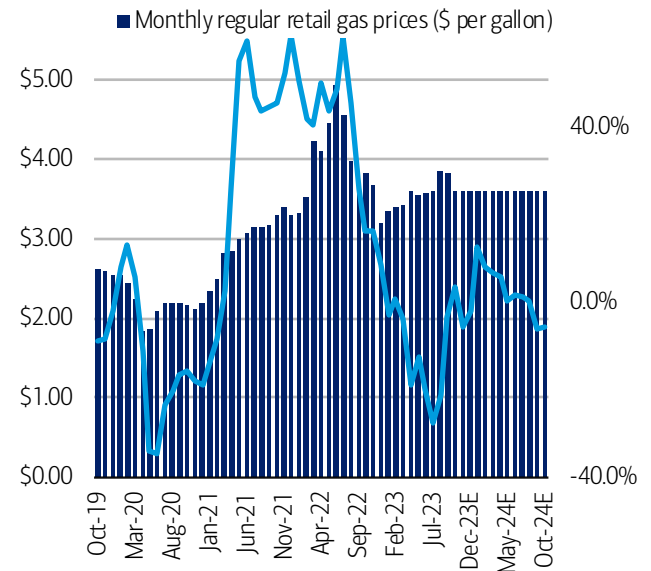


Source: Energy Information Administration, BofA Global Research; 2023 represents YTD average through 10/30

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Exhibit 89: Y/Y retail gas price change forecast

Gas prices were down -5.8% y/y in October

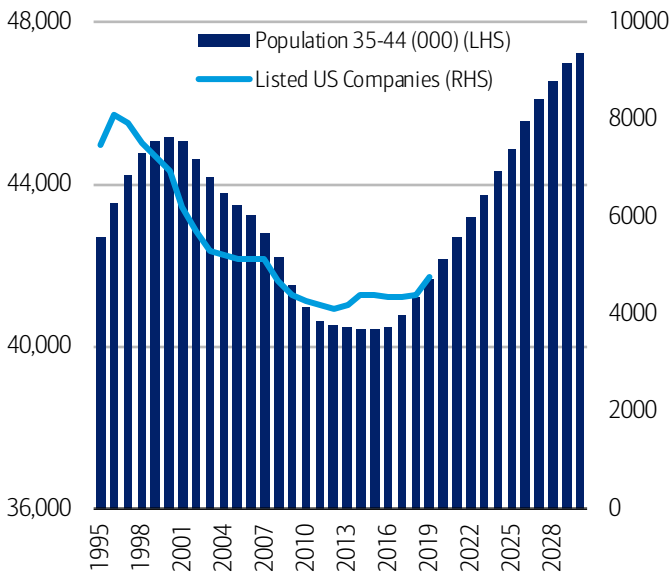


Source: Energy Information Administration, BofA Global Research

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Exhibit 90: Population 35-44 vs. Listed US Companies

Population 35-44 is correlated with # of U.S. listed public companies

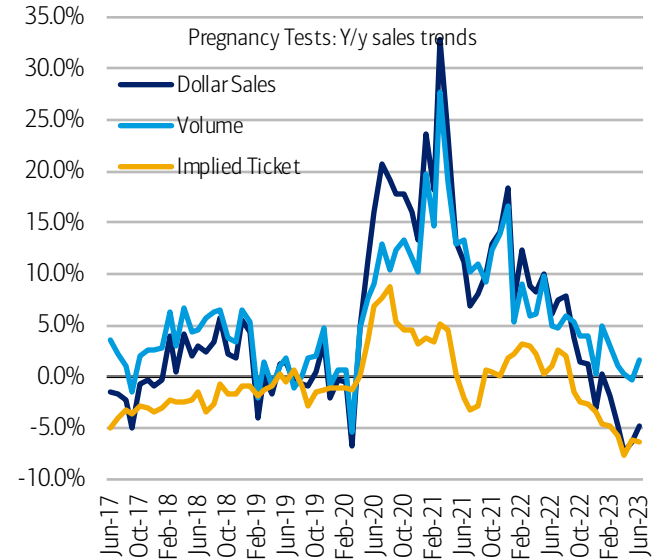


Source: Federal reserve bank of St. Louis, Euromonitor

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Exhibit 91: All Outlets Combined pregnancy tests monthly y/y % sales trends

Pregnancy test dollar sales & volume improve in June



Source: Nielsen, BofA Global Research

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