The Economics of Secondary Homes, 2Q2022

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Authors' Note

The following document was prepared at the request of a residential home builder, referred to as "Builder B" hereafter. This document presents relevant forecasted macroeconomic circumstances for the project described herein in order to inform "Builder B" of the risks that they might encounter if they were to proceed with the project. After this report was presented to "Builder B", Capitalytics then reviewed our client's sales plan, pro forma, and financial position (not included herein), and discussed their risk appetite and likely outcomes for the project. At the end of that exchange, we made a confidential recommendation to "Builder B" regarding their pursuit of the project.

This document is representative of Capitalytics' analysis of the market for this project, the economic factors that could impact the success of the project, and the likely number of sales that may exist in the area identified for this project. While the information herein is obtained from public information sources, we do not warrant, recommend, or endorse the use of this information for other purposes.

Summary

Builder B has an opportunity to purchase 16 acres in Tallapoosa County, AL for the development of approximately 35 homes as of July 2022. Capitalytics has been approached to comment on the economic viability of their project plan given the current economic climate. Specifically, Builder B is concerned about the post-COVID economy, since, while they have been successful with building and selling homes recently in similarly situated locations, they are concerned about

1. Projected inflation rates, and their impact on costs[1];
2. Future perceived value of lake homes[2];
3. Future anticipated mortgage rates[3]; and
4. Public appetite for lake homes during 2023 and 2024[4].

While it may be debated whether the United States is in an economic recession, despite a low and stable unemployment rate, we are increasingly pessimistic about the state of the economy moving forward. We would argue that the economy is currently experiencing a growth recession (similar to the argument forwarded by Krugman following the 2008 housing crisis[5]), and we've likely been in a growth recession since the start of the pandemic.

At the end of the day, however, it really doesn't matter if the US is in a recession; we are seeing the markets trying to regain a more solid footing. The inflationary trends are the result of supply chain issues and easy money policy by the Federal Reserve bank over the past two years. The Fed' is trying to solidify the market and push down on the inflationary trends by increasing the Federal Funds target rate, which is expected to increase mortgage financing rates. In doing so, the housing market is cooling (not imploding), and the equities market that had over-valued a large number of companies is pressing a proverbial "reset button". By increasing the Fed Funds target rate, the Federal Reserve is trying to encourage more workers to enter back into the labor market. The fear of a recession (or the perception that the Fed' is moving out of fear) should be enough to create some urgency in the portion of the labor market that has not re-entered the market after the pandemic.

We anticipate that a sizeable number of former workers will re-enter the market and push the unemployment rate up, which could signal the US entering into a recession. Although this seems to be circular logic, the US has the same technical indicators regardless of whether we are in a recession or heading for a recession:

- Inflation between 6% and 7% for the remainder of 2022 and falling towards 5% for 2023;
- Small increases in the unemployment rate moving from Q2 into Q3 and Q4;

[1] https://www.cnn.com/2022/07/19/homes/home-building-confidence-and-new-construction/index.html
[2] https://www.al.com/business/2022/06/alabamas-lake-real-estate-market-surges-past-1-billion-mark.html
[3] https://www.forbes.com/advisor/mortgages/mortgage-interest-rates-forecast/
[4] https://www.redfin.com/news/second-home-demand-falls-may-2022/
[5] See https://money.cnn.com/2008/03/14/news/economy/krugman_subprime.fortune/index.htm and https://www.lobservateur.com/2020/05/16/kruman-what-did-we-learn-from-the-2008-financial-crisis-that-can-help-us-now/

- A cooling of the housing market (but not a re-setting to pre-pandemic prices); and
- A cooling of the equities market (but not the dramatic drops we saw at the onset of the pandemic).

We currently expect that approximately 1.5 homes fewer will sell per four week period in the Lake Martin, AL area (Tallapoosa, Coosa, and Elmore counties in Alabama) for every percentage point that the effective federal funds rate is raised by the FOMC. Alternatively, one home fewer will sell per four week period for every 1.3% that the 30-year mortgage rate (for primary residences) increases, with the understanding that second home mortgage rates are generally between 1%-4% higher than primary home mortgage rates.

Motivating Opportunity

Builder B has an opportunity to purchase 16 acres in Tallapoosa County, AL on Lake Martin for the development of approximately 35 to 40 homes as of July 2022. The expectation is that Builder B could outright purchase the parcel of land; develop the land by building roads, sewers, and other infrastructure; subdivide the parcel into an appropriate number of lots; and prepare the opportunity for sale to end buyers as soon as YE2022. If Builder B's expectations for execution costs and sale prices are accurate, they expect to profit by over $6M.

The parcel is 16 acres, and will be subdivided into between 35 and 40 lots, making each lot close to 0.5 acres. Seven of the lots are expected to be "waterfront" (with lakefront frontage), with the remainder of the lots having varying degrees of access to the lake. All lots would be included as part of a currently existing and mature Home Owners' Association (HOA), that maintains grounds and common facilities (include community boat launches) based on dues. Sale prices for the properties are currently expected to be in the range of $480,000 to $830,000 per home.

The development site sits approximately 130 miles from Atlanta, GA; 100 miles from Birmingham, AL; 50 miles from Montgomery, AL; and 30 miles from Auburn University. There is currently strong demand for remote "lake homes" in the region that has been fueled by the recent COVID pandemic. Since access to the internet is easily available in the area, public perception is that remote work and education can be leveraged from a location like this in Tallapoosa County, which is still within a short drive of major metropolitan areas.

The concerns around executing on the vision stem primarily from the current perception that financing and appetite for "lake homes" may be quickly on the fall. While it is a proven market with notable interest (due to the proximity of Auburn University), home mortgage rates and increasing living expenses are likely to impact demand for the opportunity.

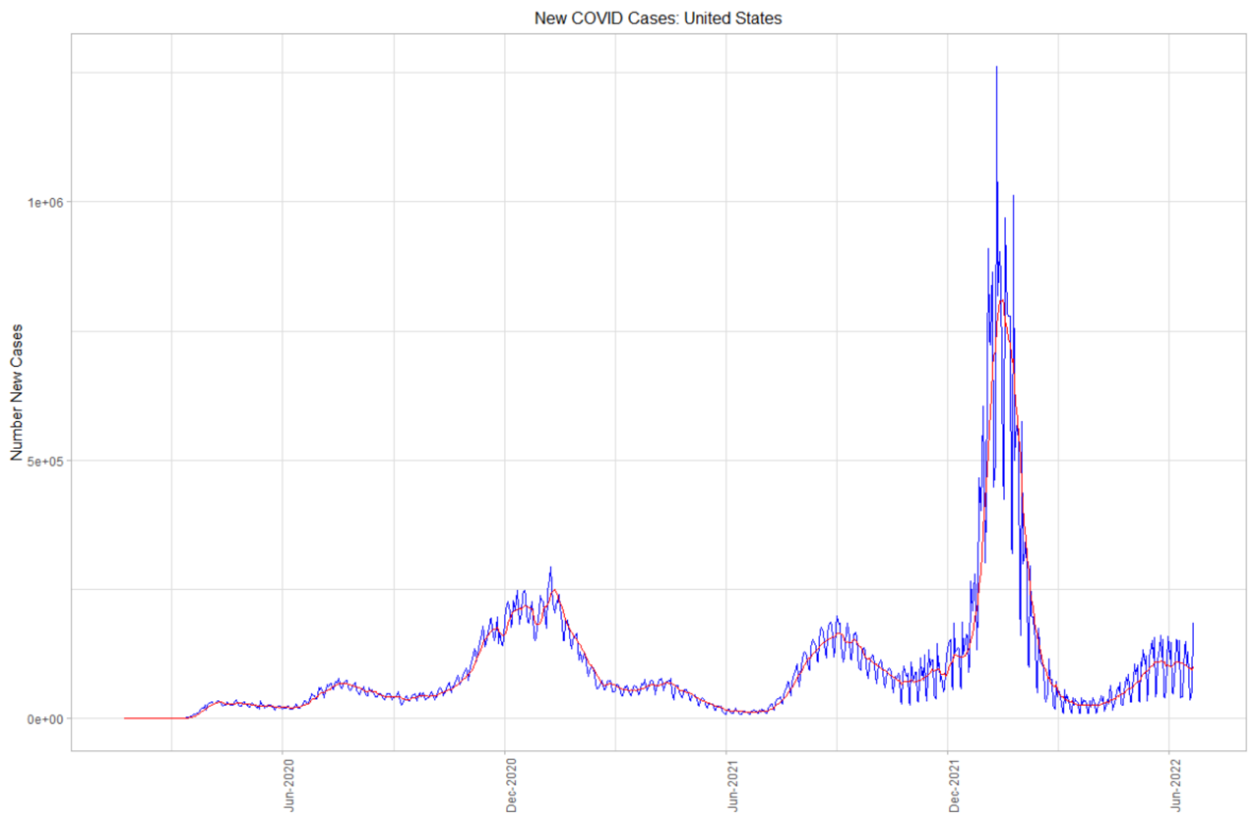
Capitalytics has been engaged to estimate whether the value of the opportunity will be significantly hampered by the changing current economic climate, to the point that Builder B should reconsider its plans.

Challenges for Builder B

COVID

For the last two years, we've started each report with an examination of the number of new COVID-19 cases and the trend of the 7-day moving average. (See Figure 1.) Although COVID is no longer front and center, it is important to keep an eye on this trend. However, we believe that the country is now operating in a "steady-state" situation where the number of new cases will be relatively stable for the foreseeable future (in the absence of a new variant or outbreak of a COVID related).

Figure 1: Daily and Weekly Average of New COVID Cases in the United States

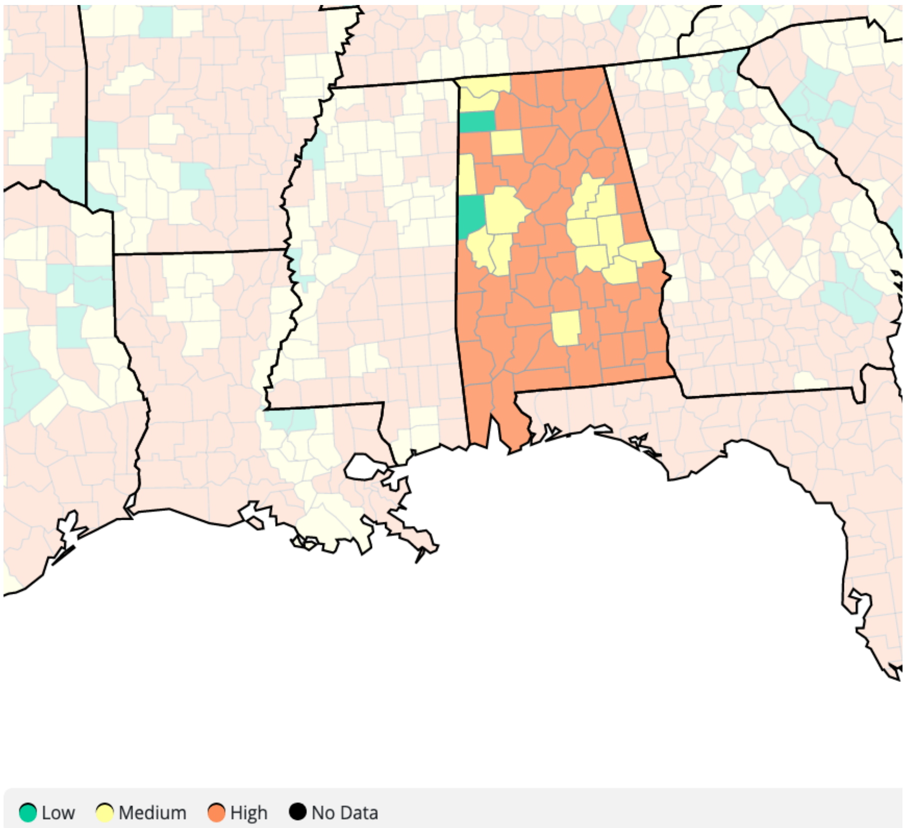


Source: Centers for Disease Control & Prevention (https://covid.cdc.gov/covid-data-tracker)

Most recently, the emergence of the BA.5 subvariant of the COVID virus has become a strain of interest in much of the United States, pressing on the capabilities of hospitals. While it is not clear if COVID will become part of our "way of life" or something that we will eventually emerge from, it is still a factor in decisions of the potential addressable market for Builder B's project.

See Figure 2 for a view of Alabama's current per-county COVID infection levels at the time of this writing; notice that Tallapoosa County is one of the counties with a lower infection rate in the eastern portion of the state.

Figure 2: COVID-19 Community Levels in Alabama



Lake Martin's Market

Lake Martin is one of the strongest "lake home" markets in the state of Alabama. While not currently viewed as "the largest" market, it competes with Smith Lake, Lake Guntersville, Logan Martin Lake, and Wilson Lake (among others) for lake home developments. Lake Homes Realty estimates that lake homes in the Lake Martin area are worth just under $120MM (15% of the state's inventory), and there are just over 220 listings (out of over 3,400 listings statewide)[6]. 37% of Lake Martin's listings are priced between $250,000 and $500,000, with 35% priced between $500,000 and $1M[7].

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[6] https://www.lakehomes.com/info/wp-content/uploads/2022/06/Lake-Real-Estate-Market-Report-Chapter-1-Summer-2022-Lake-Homes-Realty-LakeHomes-com.pdf
[7] Ibid.

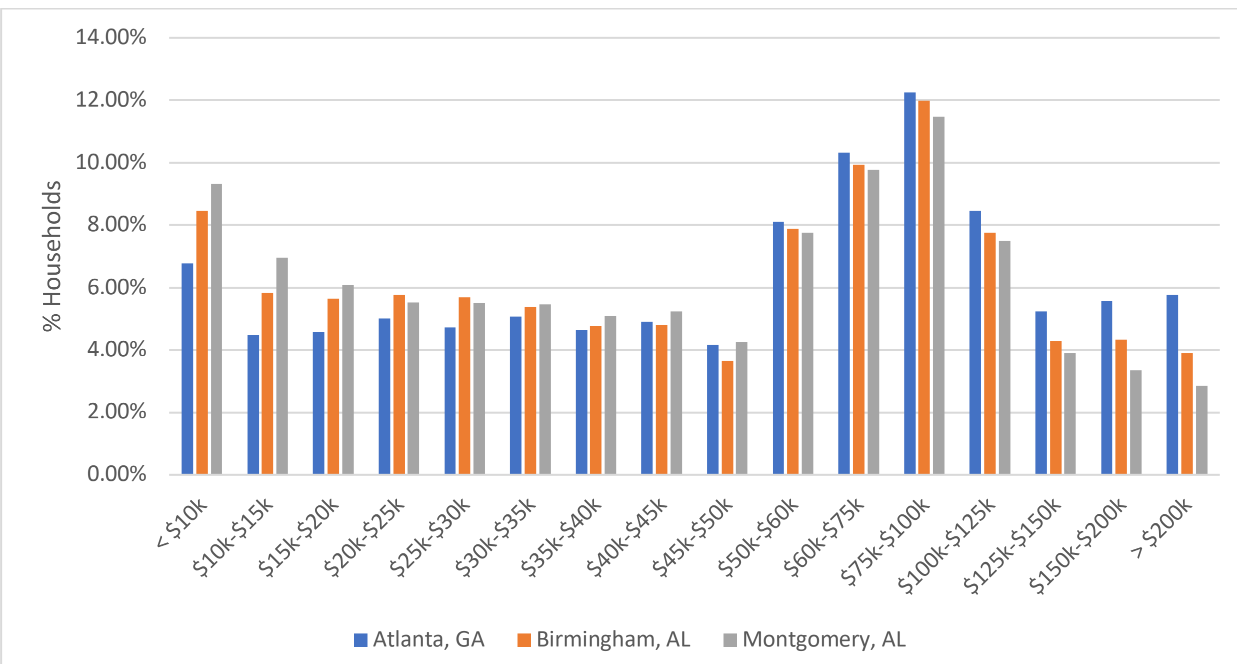
As a second home market, Lake Martin draws on the population centers closest to it: primarily Atlanta, GA; Birmingham, AL; and Montgomery, AL. (See Table 1.) The Atlanta, GA CSA is comprised of 29 counties in Georgia, with over 6M residents. The Birmingham-Hoover-Talladega, AL CBSA is comprised of seven counties in Alabama, with 1.35M residents, and the Montgomery-Selma-Alexander City, AL CBSA is comprised of five counties and approximately 500,000 residents[8].

Table 1: Statistics of Target Markets

City	Population	Per Capita Income	Civilian Labor Force	Households	Median Household Income
Atlanta, GA CSA	6,770,764	$35,780	3.2M	2.45M (2.7 p/HH)	$68,938
Birmingham-Hoover-Talladega CBSA	1,315,561	$31,760	571.3k	511.8k (2.5 p/HH)	$56,576
Montgomery-Selma-Alexander City, AL CBSA	462,882	$28,145	176.8k	180.9k (2.5 p/HH)	$51,587

The percentage of households within bands of given income levels (as of June 2021) for the given markets are shown in Figure 3. We can easily calculate that the households that are in the "$100k-$125k" band are earning a "pre-tax" compensation level between $8,333 and $10,425 per month.

Figure 3: Percentage of Households per Market by Household Income



Source: Federal Financial Institutions Examination Council (https://www.ffiec.org), and Authors' calculations

[8] https://www2.census.gov/programs-surveys/popest/tables/2020-2021/metro/totals/csa-est2021-pop.xlsx

The key requirement for qualifying for a mortgage loan on a second home is a good credit rating and a maximum debt-to-income ratio of 45%[9]. Purchasers might either use the equity in a currently existing home (e.g., a “cash-out” refinance, or a HELOC loan), or apply for a new conventional mortgage loan, with the possible additional repayment offset of planning to use a second home as an income generating property.

Again, looking at the households that are in the “$100k-$125k” band in Figure 3, we see that taxpayers that are married and filing jointly in that band will be taxed at the 22% tax rate, meaning that their amortized “post-tax” monthly compensation will drop to between $7,230 and $8,856. To continue the analysis, 45% of these figures equates to a monthly debt-load of between $3,253 and $3,985 for buyers in that income bracket that are planning to obtain mortgages to purchase their lake home. Consider the information in Figure 4 regarding the prices of lake home options at different lakes in Alabama.

Statistically, within the counties surrounding Lake Martin (i.e., Coosa County, AL; Elmore County, AL; and Tallapoosa County, AL), 16 homes are being sold in a four-week period, up to and including the period ending on July 17, 2022. We have been able to build two models to estimate this number as a function of (a) the daily federal funds rate, and (b) the average 30-year fixed mortgage rate. (We note again that second home rates are notably higher than the published average 30-year mortgage rate.) Based on our analysis, ***we find that approximately 1.5 homes fewer will sell per four week period for every percentage point that the effective federal funds rate is raised*** by the FOMC (approximately 1.5% as of July 26, 2022). Similarly, one home fewer will sell per four week period for every 1.3% that the 30-year mortgage rate increases, with the understanding that the 30-year rate was just over 5.5% as of July 21, 2022.

Inflation

The primary concerns of the economy are related to inflation and the policy responses to inflation. We believe that consumers are acutely aware of the prices changes in three areas: energy[10], food[11], and housing.

To paint the picture, the rate of inflation (as measured by annual changes in the CPI) is currently just over 8.0% annually. (See Figure 5.) Historically, this rate of inflation is the highest since near double-digit annual inflation in the early 1980’s that resulted from the OPEC oil embargoes and easy-money policy by the Federal Reserve Bank. The US experienced stable prices through the last three economic recessions (2001, 2008, and 2020). However, the supply-chain issues arising from the pandemic and the easy-money policy of the Federal Reserve Bank have created a petri dish for a period of extended high (above 3%) annual inflation.

Consumers are well aware of the inflation rate that is currently being felt. Consumers’ expectations for inflation (Figure 6 and Figure 7) suggest that they have anticipated that

[9] https://themortgagereports.com/21116/second-home-mortgage-qualify-for-vacation-residence
[10] https://www.bloomberg.com/news/articles/2022-06-09/gasoline-food-and-power-inflation-slam-us-households-and-it-could-get-worse
[11] ibid

inflation will start to level off. This is probably less reflective of an awareness of how Federal Reserve Bank policies work and more a reflection that consumers have heard that an increase in interest rates "should" tap down inflationary trends. The Fed's policy has been broadly covered, by media sources on the left and right sides of the isle (see CNN[12], Fox[13], and Newsmax[14]); consumers have been alerted to these policies and range of outcomes stemming from these policies (a recession[15]). Perhaps because of these revelations (or because consumers are having difficulties with their budgets), consumer confidence in the economy has continued to decline. (See Figure 8.) There is a small rebound at the end of the consumer-confidence series – a re-examination of this trend in a quarter will be needed to know if this is a new trend or a micro-movement in a continued downward trend.

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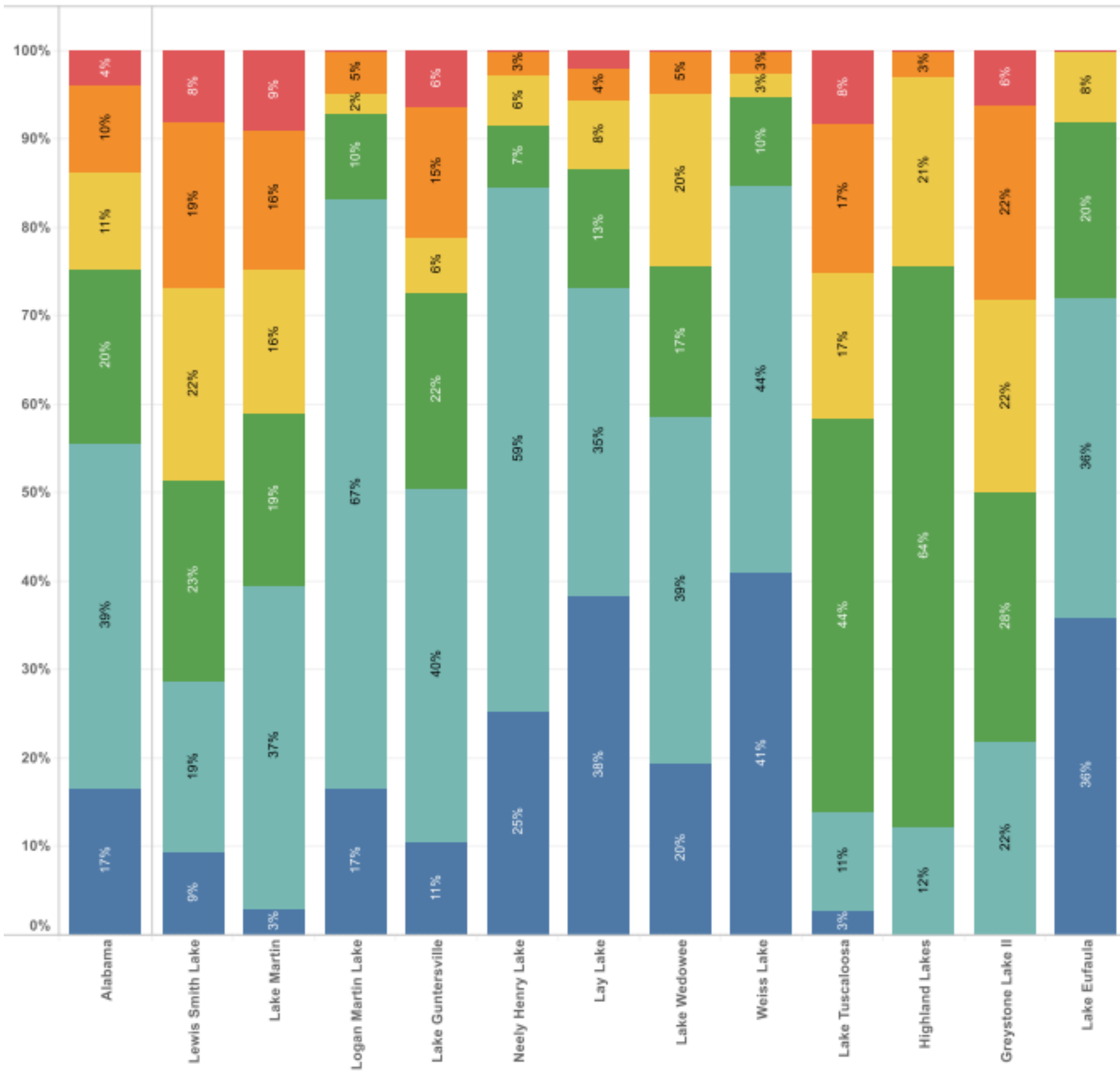
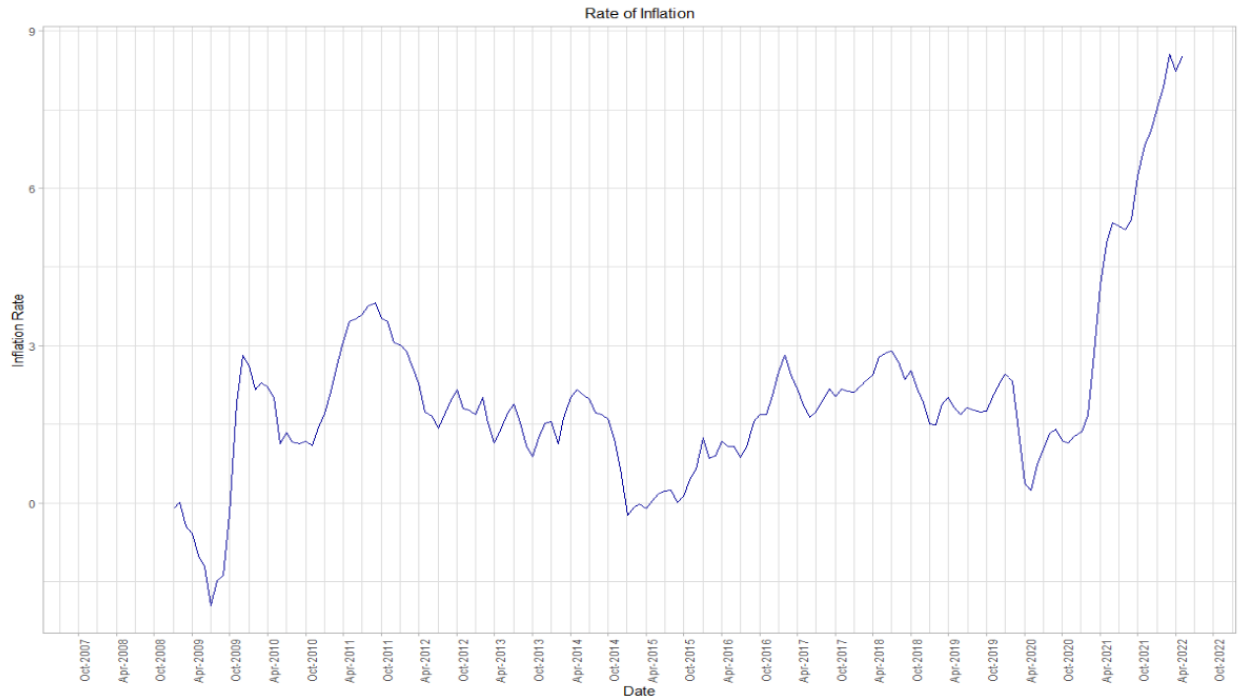
[12] https://www.cnn.com/2022/06/15/economy/fed-rate-hike-decision-june/index.html
[13] https://www.foxbusiness.com/economy/fed-could-break-economy-aggressive-rate-hike-campaign-analyst-says
[14] https://www.newsmax.com/finance/streettalk/federal-reserve-75-basis-point-rate-hike-inflation-jerome-powell-recession/2022/06/15/id/1074589/
[15] Supra 16, 17, and 18

Figure 4: Price Breakdown Across Alabama Markets[16]



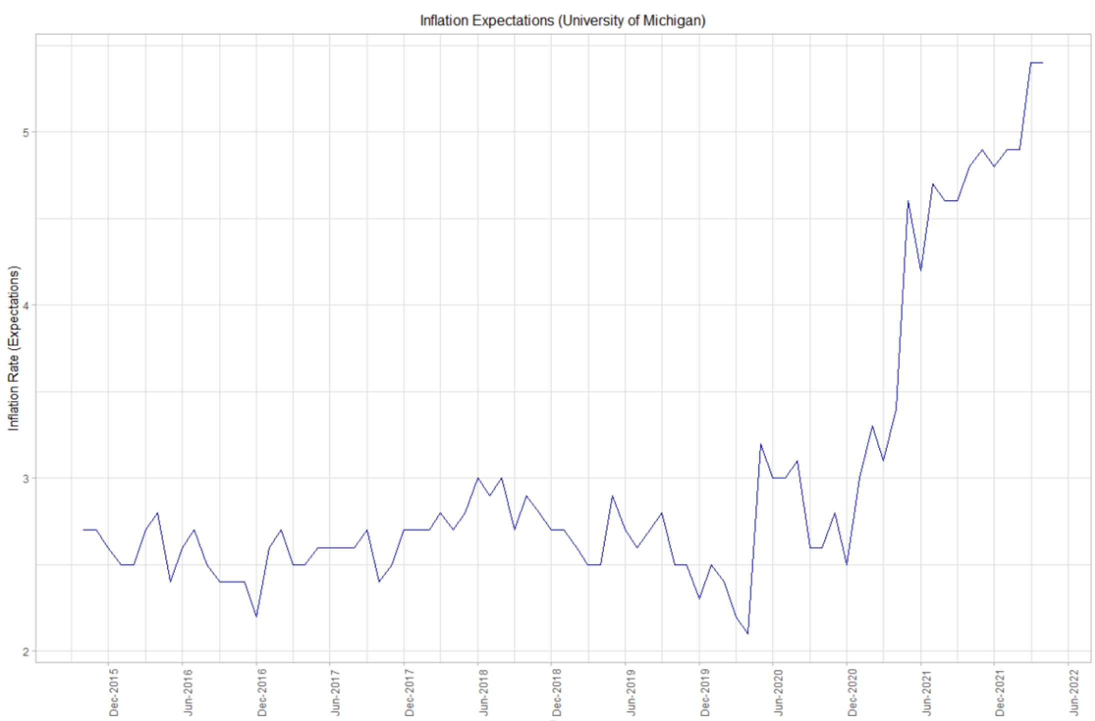
[16] https://www.lakehomes.com/info/wp-content/uploads/2022/06/Lake-Real-Estate-Market-Report-Chapter-1-Summer-2022-Lake-Homes-Realty-LakeHomes-com.pdf

Figure 5: US Average Inflation



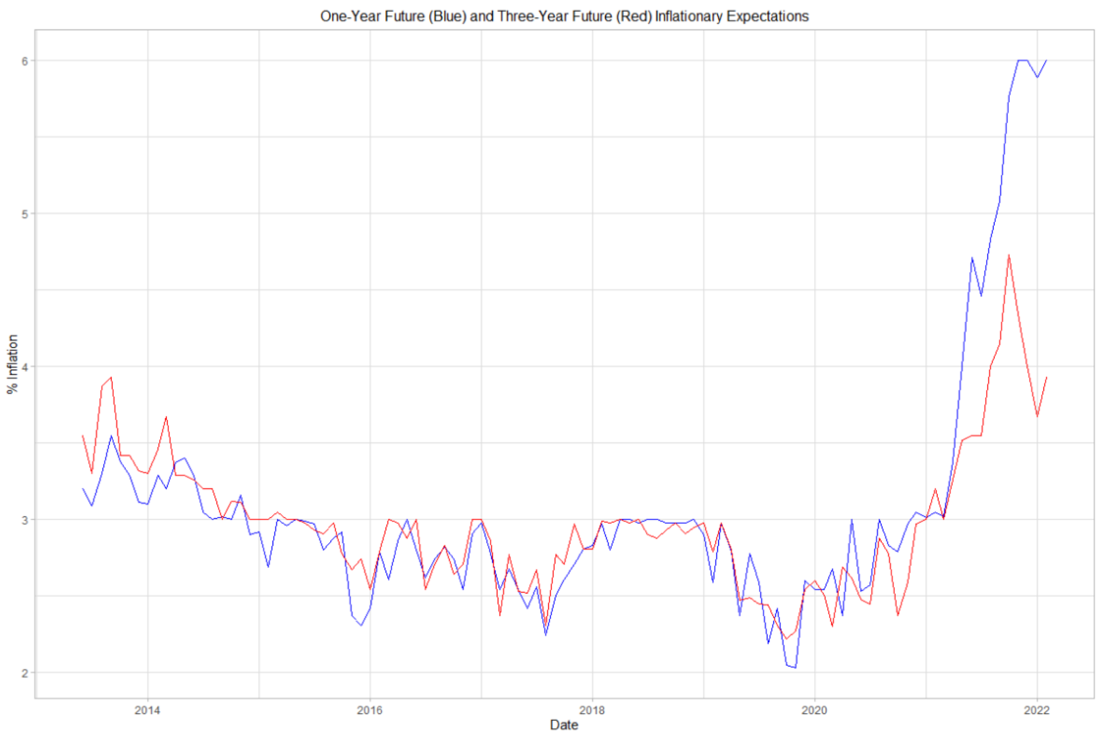
Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Figure 6: US Consumer Inflation Expectations



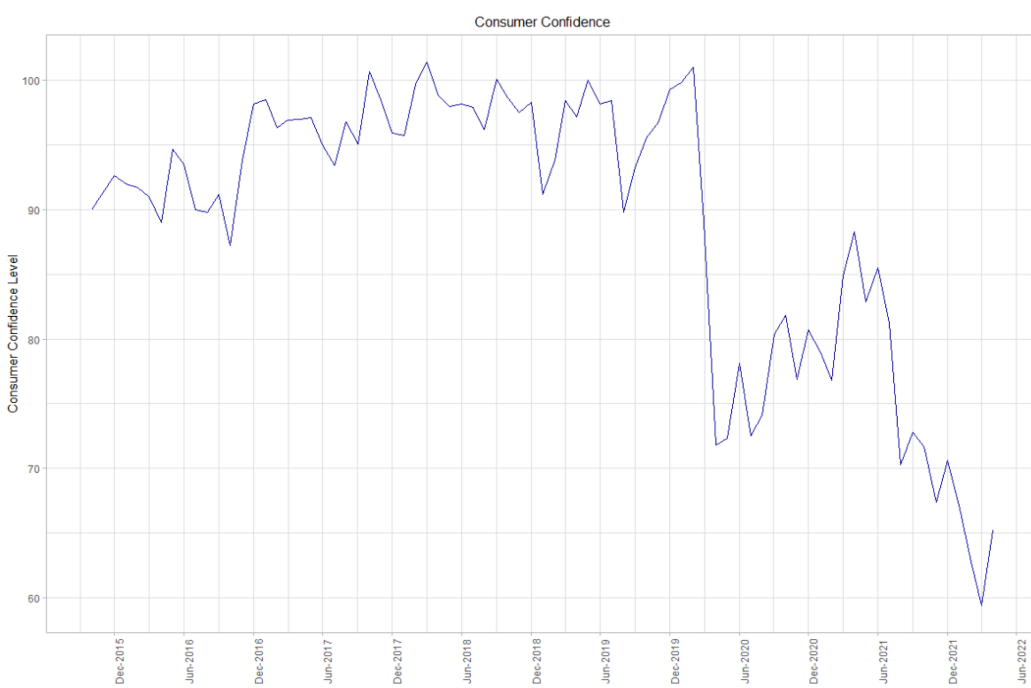
Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Figure 7: US Consumer Inflation Expectations, One Year and Three Year



Source: https://www.newyorkfed.org/microeconomics/sce#/inflexp-1

Figure 8: US Consumer Confidence

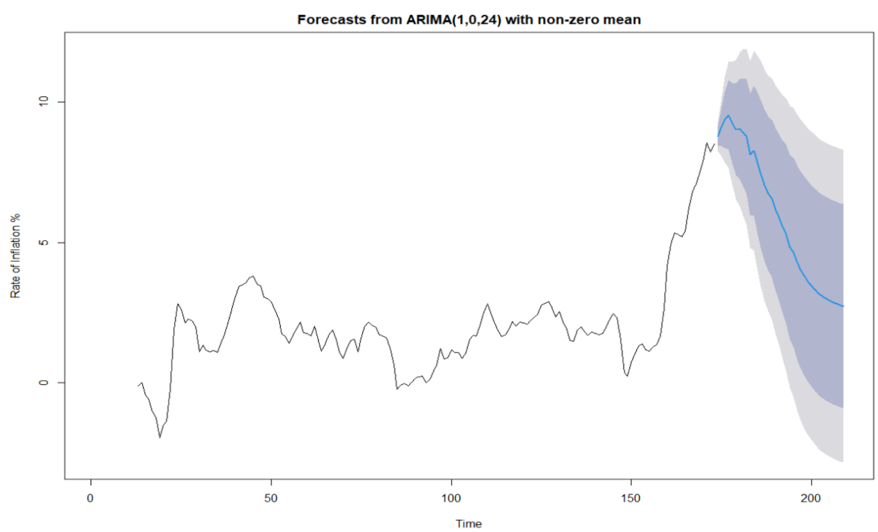


Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Our models for forecasting inflation are suggesting additional upticks in inflation (depending on the time horizon) followed by a longer period of downward pressure on prices. (See Figure 9 and Figure 10.) We agree that the Fed's interest-rate policies in the first two quarters of 2022 (with emphasis on the last 10 to 12 weeks) have been very hawkish. The aggressive policy of the Fed' is, perhaps, a little over-due (considering we were anticipating Fed policy moves in January and February of 2022). The 50 bp move followed by the 75 bp move are aimed at altering the course of inflation. We anticipate that this move will have the desired effect, pushing prices down. We are unsure, however, as to the magnitude of the Fed's next policy move (a 50 bp move versus a 75 bp move). The Fed is telegraphing its move by suggesting it will increase target rates by another 50 or 75 bp. The Fed has acknowledged that this approach may cause an economic recession (with a best outcome of a "soft landing").

The FOMC raised interest rates for the first time (post-pandemic) as part of its March 2022 meeting. They have subsequently raised rates during May, June, and July 2022, putting overnight lending rates at 1.58%[17]. Furthermore, when the 75 bp increase was announced on June 15th, Chairman Jerome Powell stated that "… either a 50-basis-point or a 75-basis-point increase seems most likely at [the FOMC's next] meeting" (which did occur in July, and put rates at close to 2.3%).[18]

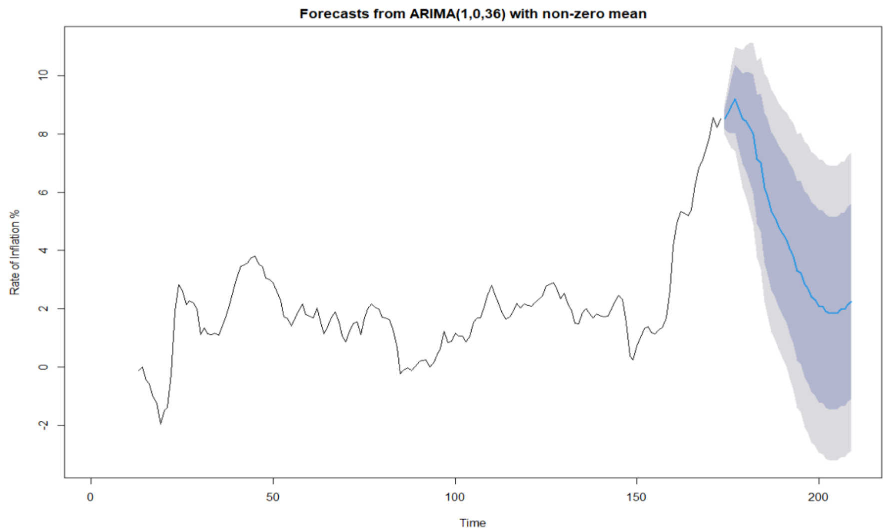
Figure 9: 24-month ARIMA Model for US Inflation



Source: Authors' calculations based on CPI

[17] See https://fred.stlouisfed.org/series/DFF
[18] https://www.wsj.com/livecoverage/federal-reserve-meeting-interest-rates-june-2022/card/fed-s-powell-says-another-75-basis-point-hike-possible-at-july-fomc-i8KHwEvqwQnupCgry5hR

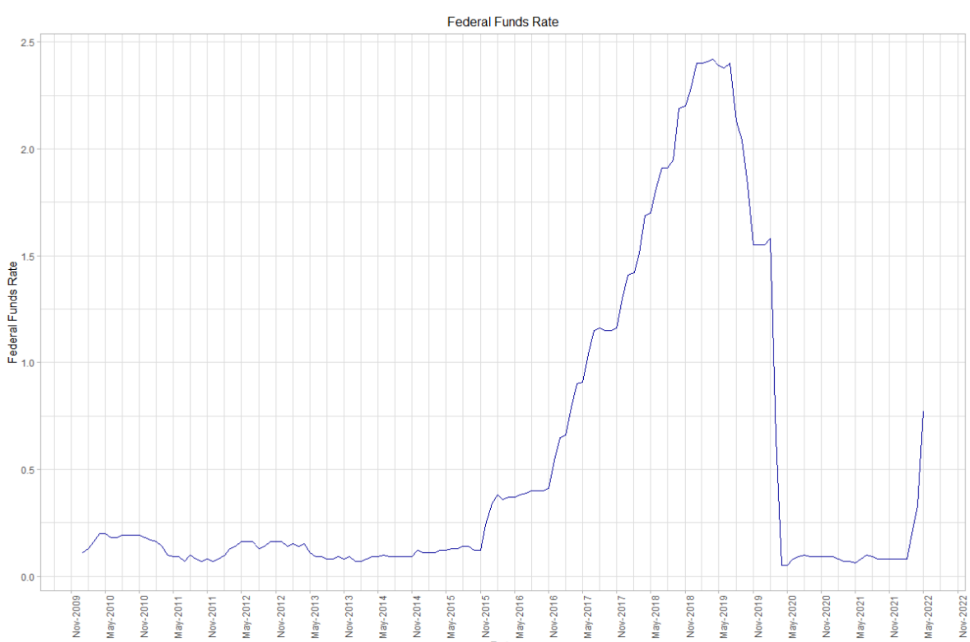
Figure 10: 36-month ARIMA Model for US Inflation



Source: Authors' calculations based on CPI

It is important to note that **an** increase in the Federal Funds rate target was entirely anticipated. But, the timing of the Fed's moves (zero moves in January or February followed by a small increase in March) have created a bit more of a "buzz" about the Fed's policies and the likelihood that the Fed could push the economy into a recession. The rate of the Fed's target increases are larger than the Fed's increases starting in 2015. (Figure 11)

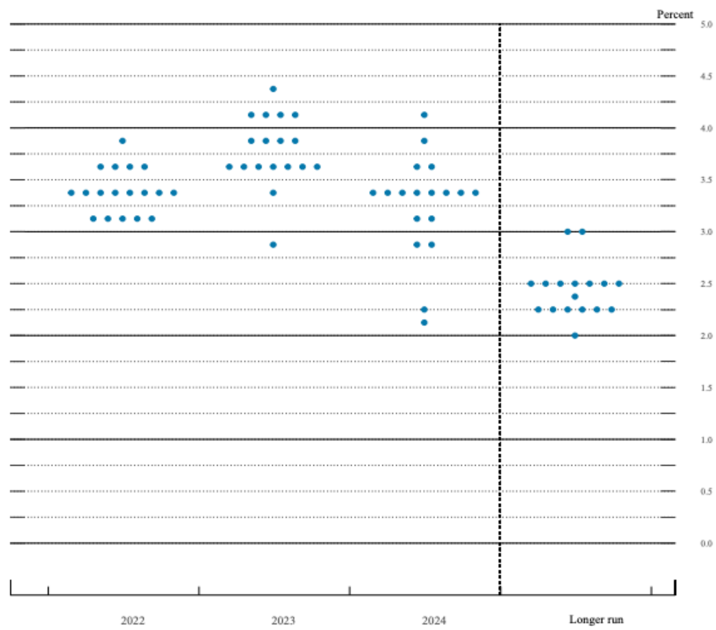
Figure 11: US Federal Funds Rate



Source: Federal Reserve Economic Database (https://fred.stlouisfed.org)

We now believe that there will be at least six increases (with three having already been made), and that they will total at least 250 bp, by YE2022. Further, we believe that interest rates will continue to rise to at least 5% by 2Q2023 in order to "catch up" with inflation; in other words, if the FOMC does not raise its target to 5% by the end of 1H2023, then it will be increasingly difficult to quell the current tide of inflation.

Figure 12: FOMC "Dot Plot" from June 2022 Board of Governors' Meeting



Source: https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20220615.pdf

30-year Mortgage Rate

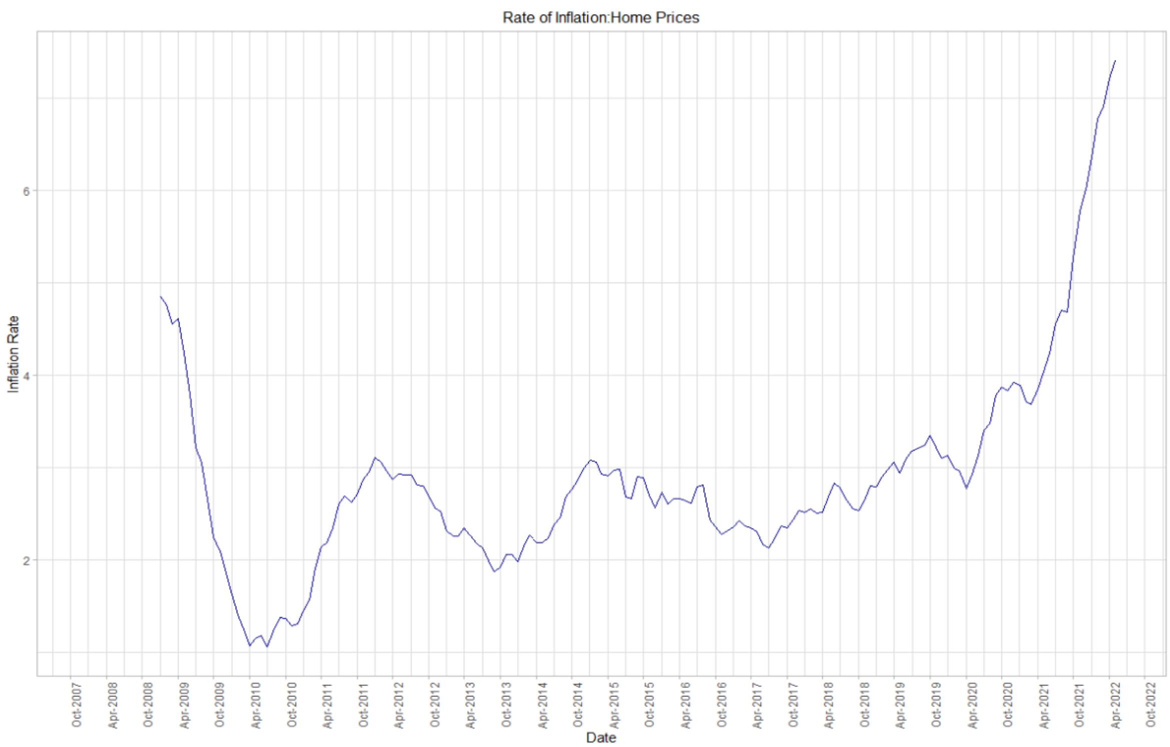
30-year fixed rate mortgages have been driven by mid-range (i.e., 7- to 10-year) treasury note yields, which are, in turn, affected by overnight lending rates. Mortgage rates have been hovering around 3% for over a year due to the FOMC holding overnight lending rates to "near zero". However, as the FOMC has raised overnight lending rates, so have banks raised mortgage rates. Daily 30-year fixed mortgage rates are 5.78% as of this writing, having peaked at 5.3% prior to the FOMC voting to raise rates to 1.58%.

If Chairman Powell and the FOMC is willing to increase overnight lending rates to the 5.0% mark that we have previously suggested, ***we believe that mortgage rates could be as high as 9.5% by mid-2023. Second home mortgage lending rates*** have typically been offered at 1% to 4% higher than first home mortgage rates, meaning that they ***could rise to above 12% by mid-2023***.

Housing Prices

Since early in the pandemic the US has seen an upward spike in the price of single-family housing units. (Figure 13) The year-over-year inflation for housing is now hovering between 7 and 8%. The figure above uses the Case-Shiller home price index to estimate annual inflation for single-family housing units. The recent increase in the Federal Funds rate target is likely to push down the quantity demand for residential housing and will, within the next quarter, start pushing down the inflationary trend for housing.

Figure 13: US Average Inflation, Residential Housing Prices



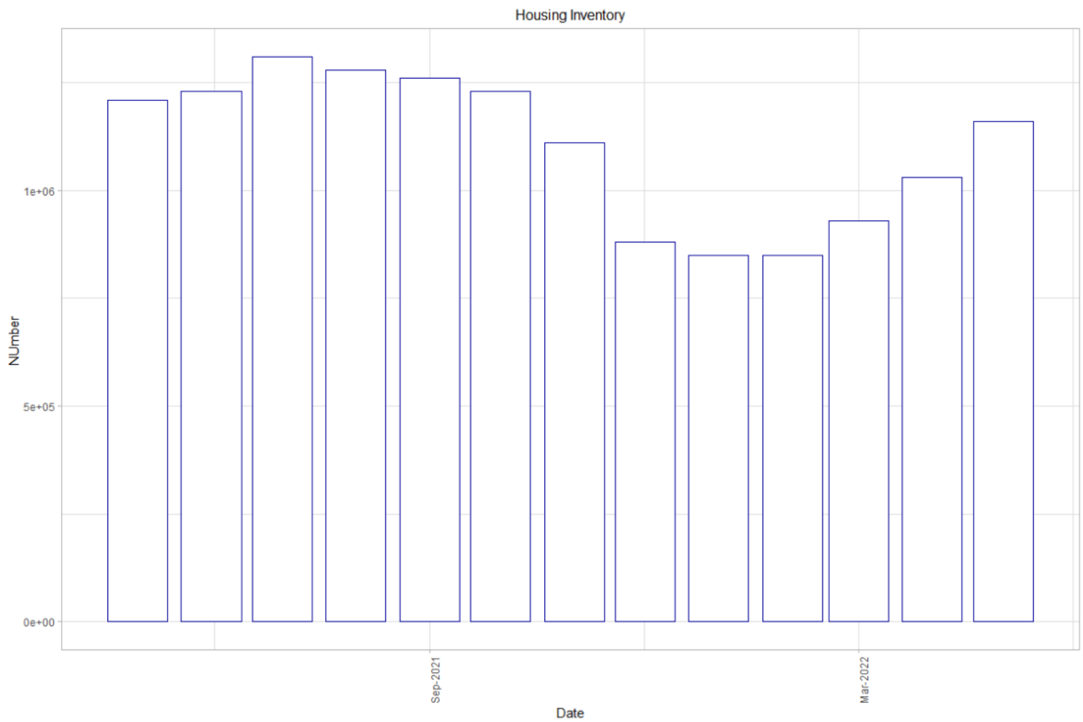
Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

We have already seen an uptick in the housing inventory (after the Federal Reserve started its hawkish interest rate changes in March 2022); this trend is likely to continue as the Federal Reserve Bank has indicated[19] that its interest rate target changes will be in 50 bp to 75 basis point range for the next few Fed meetings. The uptick in inventory (existing homes, see Figure 14) is coinciding with a decrease in new-home permits (Figure 15). The increase in the interest rates will hit consumers interested in acquiring a home mortgage and developers who need to secure financing for new home projects. The down tick in new building permits could fuel another round of high prices, but the increase in inventory and the higher mortgage rates will slow demand and ultimate aid in stabilizing prices. We are unlikely to suffer from a repeat of

[19] https://www.businessinsider.com/federal-reserve-interest-rate-hikes-double-sized-future-meetings-powell-2022-5

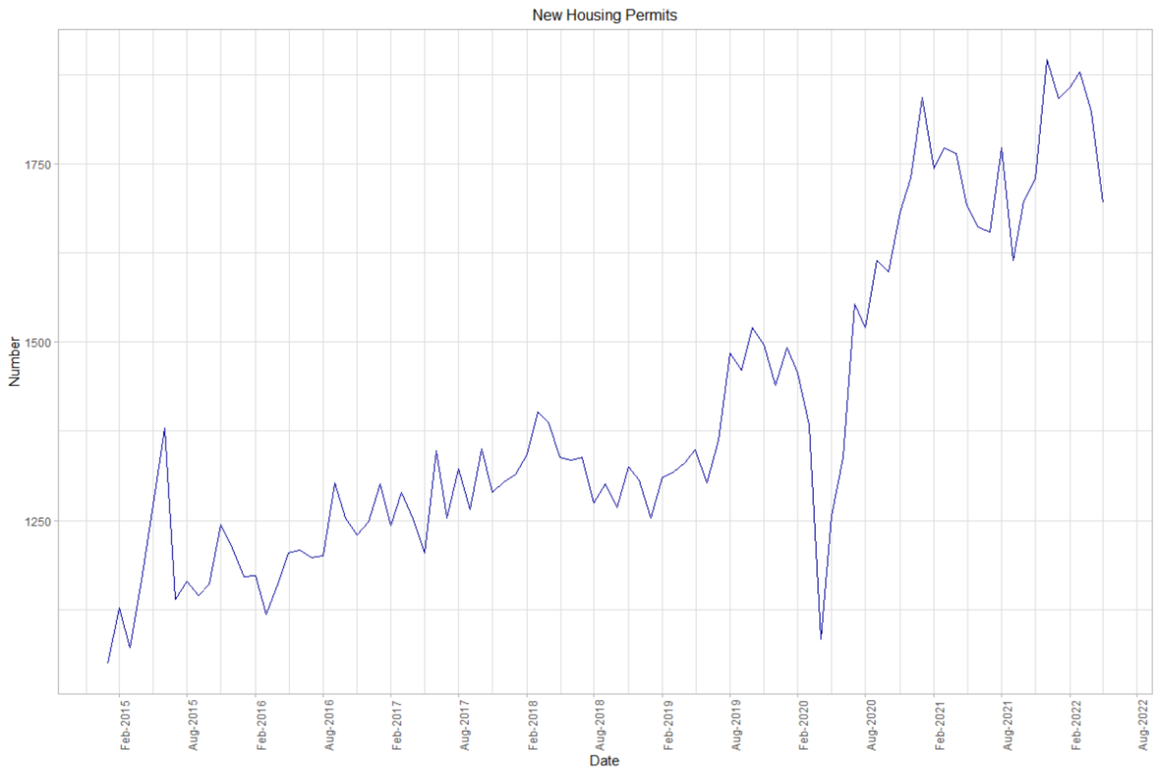
the housing bubble we saw in 2008. Instead, we believe that a "softer landing" in the housing space is most likely to occur.

Figure 14: US Housing Inventory



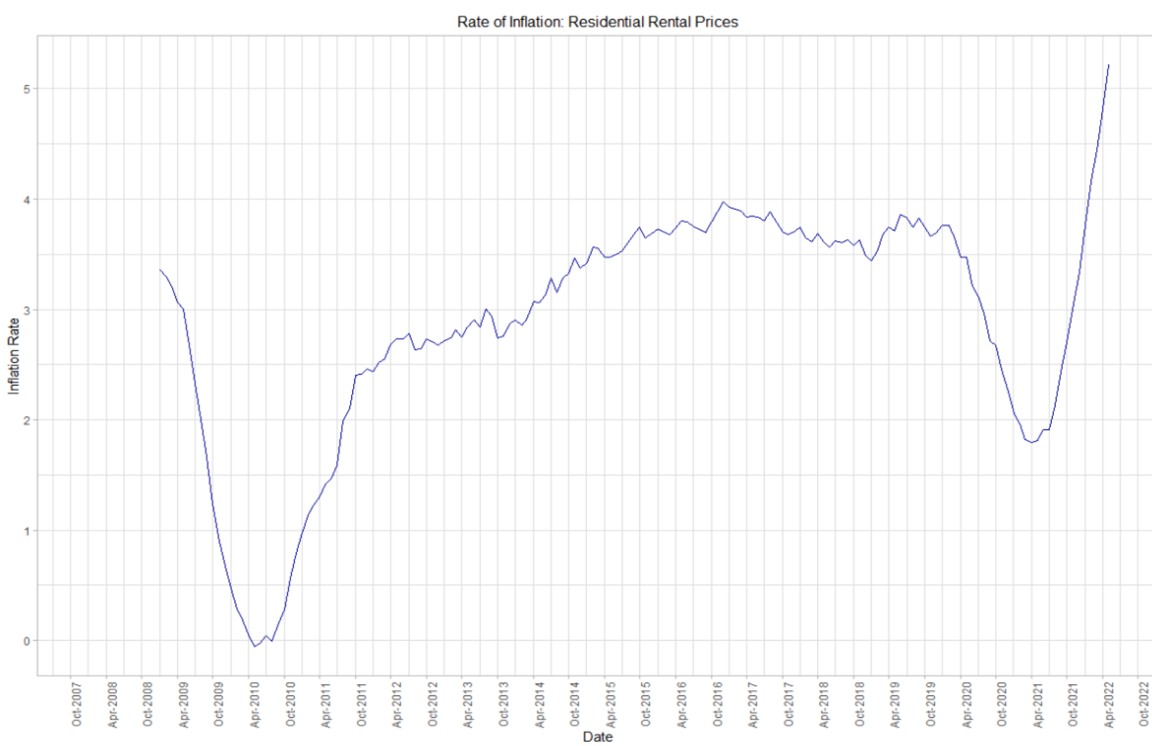
Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Figure 15: US New Housing Construction Permits



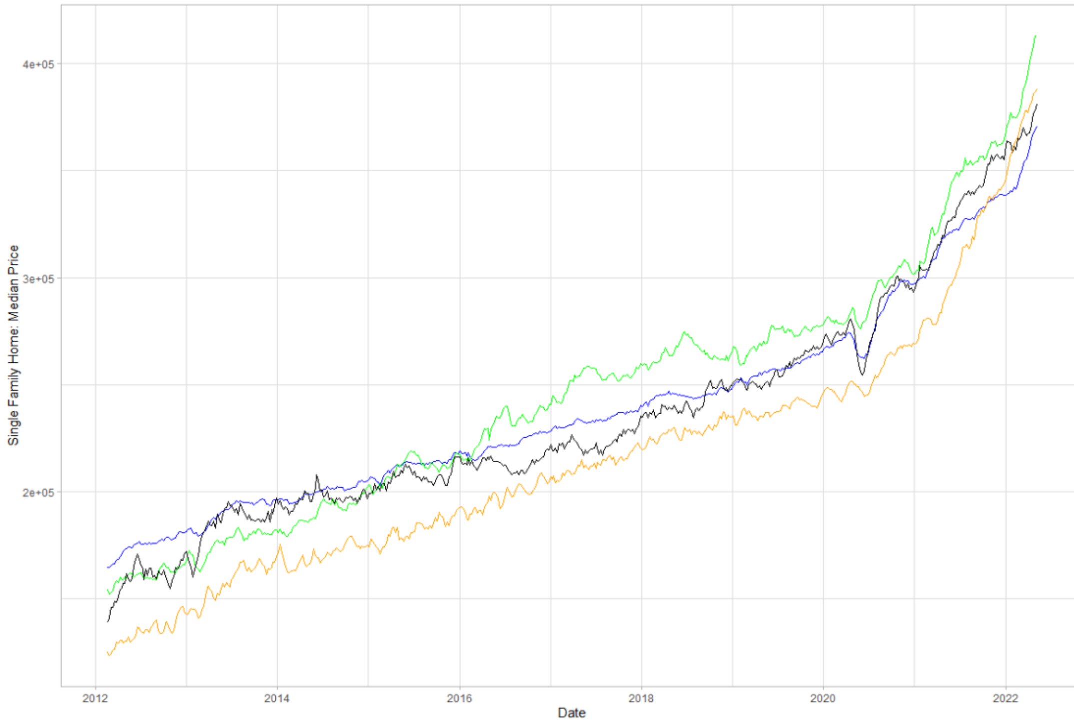
Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Figure 16: US Average Inflation, Residential Housing Rent



Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

Figure 17: Median Single Family Residence Price, US National Average and Selected Cities



Source: Zillow.com

Figure 17 shows the median price for single family residences (SFR) for the United States (blue), Dallas Fort Worth, TX (green), Atlanta (black) and Tampa Bay, FL (orange). These data are only available through April 30, 2022, so they do not reflect the changes in the market after the Federal Reserve Bank's policy moves in May and June, 2022. The rapid increase in the median price of SFRs is one of the contributors to the inflationary trend of the US. We will monitor this metric closely in the next quarter and identify the inflection point of the housing market.

Recent discussions with real estate agents and brokers suggest that the housing market is making small moves towards the pre-pandemic state. It is important to note that the housing market does not appear to be heading towards a 2008-type housing crisis or re-set. We are seeing the following adjustments:

- Inventories are up (although just slightly);
- New home permits are falling;
- Pricing increases are slowing down (current prices are not falling; they are increasing at a slower rate); and,
- Mortgage defaults are not significantly increasing.

Fuel and Energy Prices

Because fuel and food are two of the biggest components in consumer's budgets, it is critical to understand the inflationary aspects of these areas. Gasoline prices have been the most obvious sign to consumers about the rising inflation rates (see Figure 20); the daily reminder of rising rates (see Figure 21) has put the reality of increasing prices "front-and-center" of people's minds. The US average retail gasoline price for regular unleaded gasoline is $4.382/gallon[20] as of this writing, rising about five cents in a week. This price is also a $0.55 decrease from one month ago, and a 36.9% increase over prices one year ago. Table 2 highlights the issues that are troubling consumers – double-digit year-over-year inflation and near double-digit monthly inflation on gas prices.

Table 2: Average Gas Prices (per Gallon) in Selected States

	GA		FL		AL		AK	
	Regular	**Diesel**	**Regular**	**Diesel**	**Regular**	**Diesel**	**Regular**	**Diesel**
Average 6.22.2022	$4.44	$5.53	$4.74	$5.70	$4.54	$5.62	$4.49	$5.40
Average 6.15.2022	$4.50	$5.55	$4.87	$5.72	$4.62	$5.64	$4.54	$5.33
Average 5.22.2022	$4.14	$5.26	$4.48	$5.57	$4.30	$5.36	$4.12	$5.23
Average 6.22.2021	$2.90	$3.09	$2.94	$3.10	$2.79	$3.02	$2.77	$3.04
M/M % Change	7.1%	5.1%	5.9%	2.2%	5.6%	4.9%	9.1%	3.4%
Y/Y % Change	53.1%	78.8%	61.3%	83.8%	62.7%	86.2%	62.2%	77.4%

	LA		MO		MS		TX	
	Regular	**Diesel**	**Regular**	**Diesel**	**Regular**	**Diesel**	**Regular**	**Diesel**
Average 6.22.2022	$4.49	$5.37	$4.64	$5.37	$4.46	$5.37	$4.61	$5.31
Average 6.15.2022	$4.55	$5.34	$4.68	$5.28	$4.52	$5.36	$4.69	$5.27
Average 5.22.2022	$4.24	$5.17	$4.16	$5.16	$4.18	$5.18	$4.29	$5.16
Average 6.22.2021	$2.72	$2.91	$2.75	$2.96	$2.72	$2.91	$2.74	$2.91
M/M % Change	5.9%	3.9%	11.6%	4.1%	6.6%	3.6%	7.5%	2.9%
Y/Y % Change	65.1%	84.4%	68.8%	81.3%	64.1%	84.7%	68.0%	82.2%

Source: https://gasprices.aaa.com/

[20] https://gasprices.aaa.com/

In past recessions (the 2008 recession, in particular), the drop in gas prices might have been considered a tax-break of sorts. But, because miles driven by consumers decreased so dramatically at the start of the pandemic (down more than 40% between February 2020 and April 2020[21]), the decrease in gas prices at the start of the pandemic likely didn't resonate as a true savings. In contrast, the current increase in gas prices is occurring while vehicle travel miles[22] and airline passenger miles[23] are increasing. The current year-over-year increase in average gas prices per gallon (Figure 18) is eclipsing the inflation for gas prices following the 2008 recession by nearly 50%. This increase in gas prices is fueling (pun intended) the overall inflation rate.

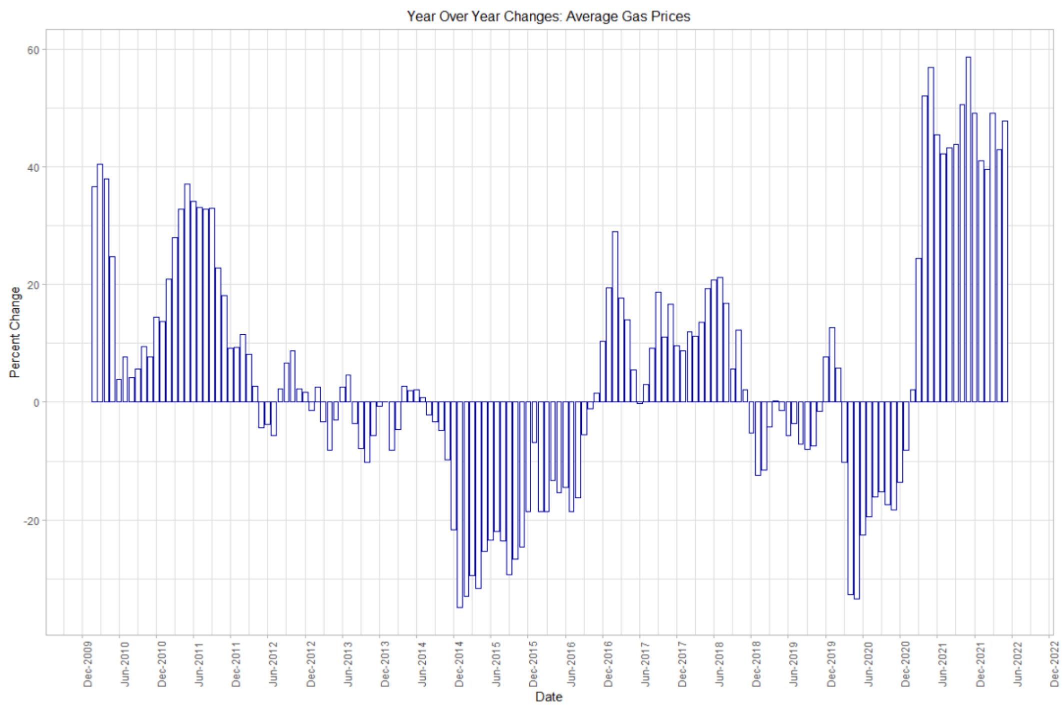
The US Government's recent responses to fuel inflation have included

- Releasing fuel from the strategic oil reserves[24];
- Suggestion of creating a Federal Tax Holiday on gas taxes[25];
- Suggestion (or creating) State Tax Holidays on gas taxes[26]; and,
- Putting "pressure" on petroleum companies to lower profit expectations[27].

All of these policies are more for "show" than for substance; there is little evidence that any of these policies will impact the prices or price-trajectories for gasoline.

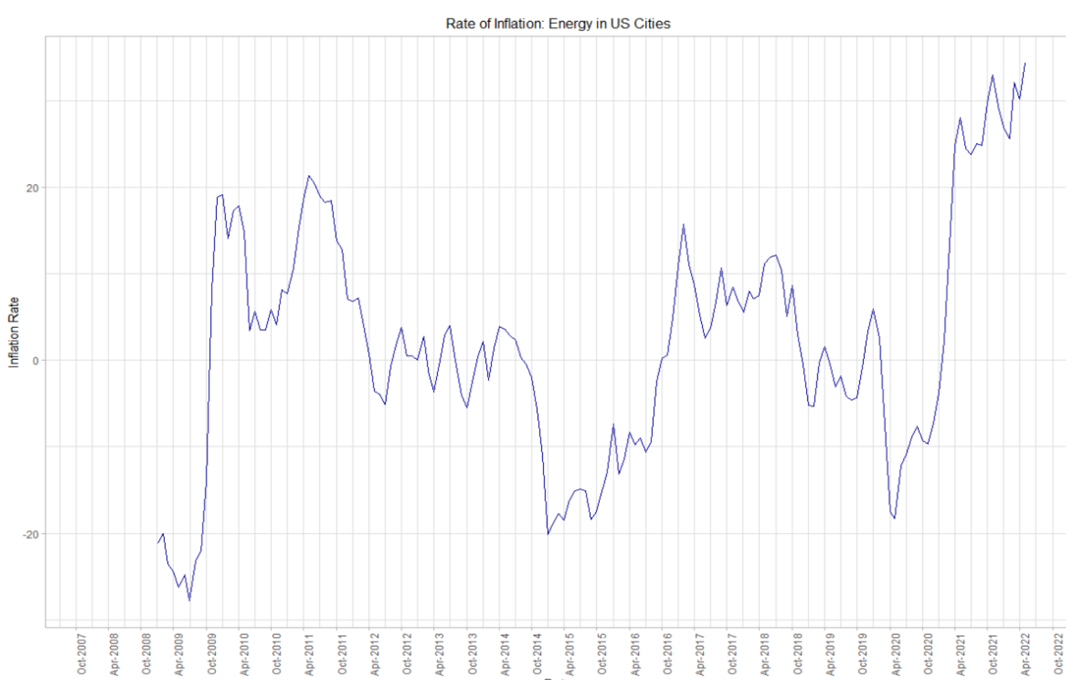
[21] See https://fred.stlouisfed.org/series/TRFVOLUSM227SFWA
[22] Ibid
[23] See https://fred.stlouisfed.org/series/RPMD11
[24] https://www.cnbc.com/2022/03/31/us-to-release-1-million-barrels-of-oil-per-day-from-reserves-to-help-cut-gas-prices.html
[25] https://www.kiplinger.com/taxes/604395/gas-tax-holiday
[26] https://budgetmodel.wharton.upenn.edu/issues/2022/6/15/effects-of-a-state-gasoline-tax-holiday
[27] https://www.nytimes.com/2022/06/15/business/biden-oil-companies-gas-prices.html

Figure 18: Y/Y Percent Change in Retail Gasoline Prices (Reg. Unleaded)



Source: https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epm0_pte_nus_dpg&f=m

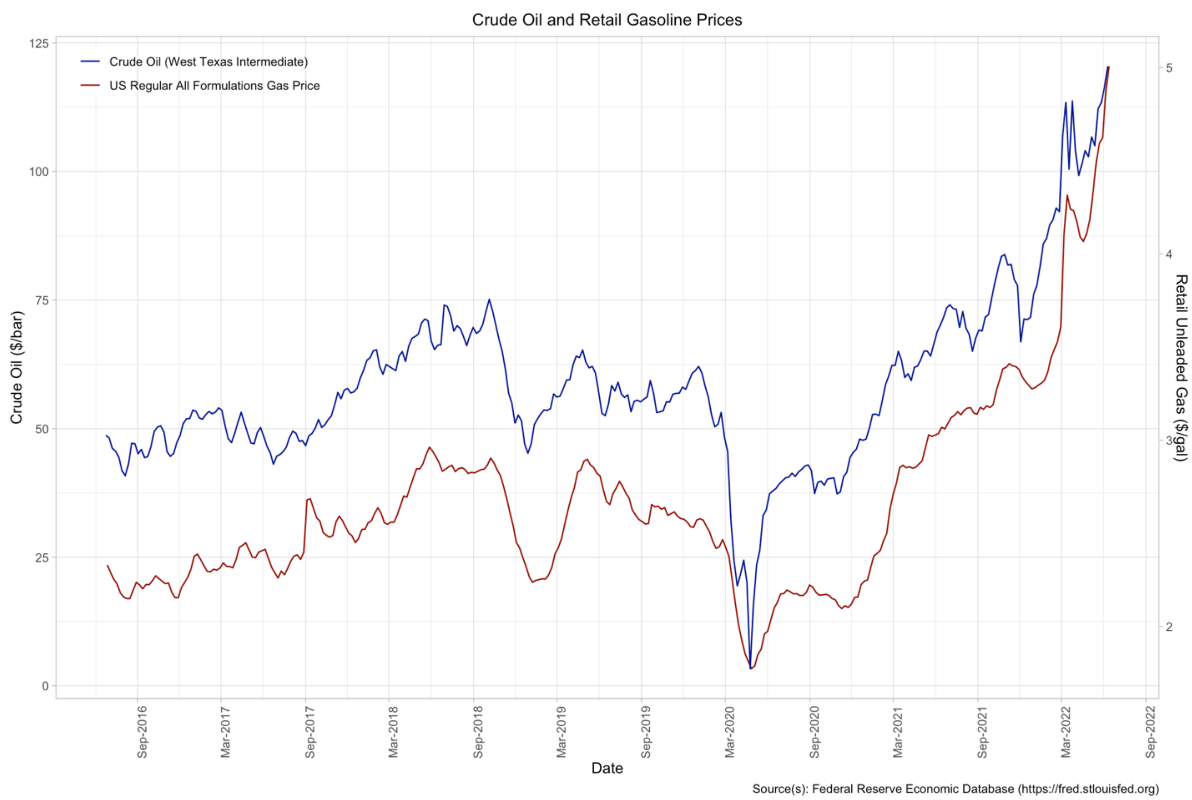
Figure 19: US Average Inflation, Energy in US Cities



Source: Federal Reserve Economic Database (https://fred.stlouisfed.org/)

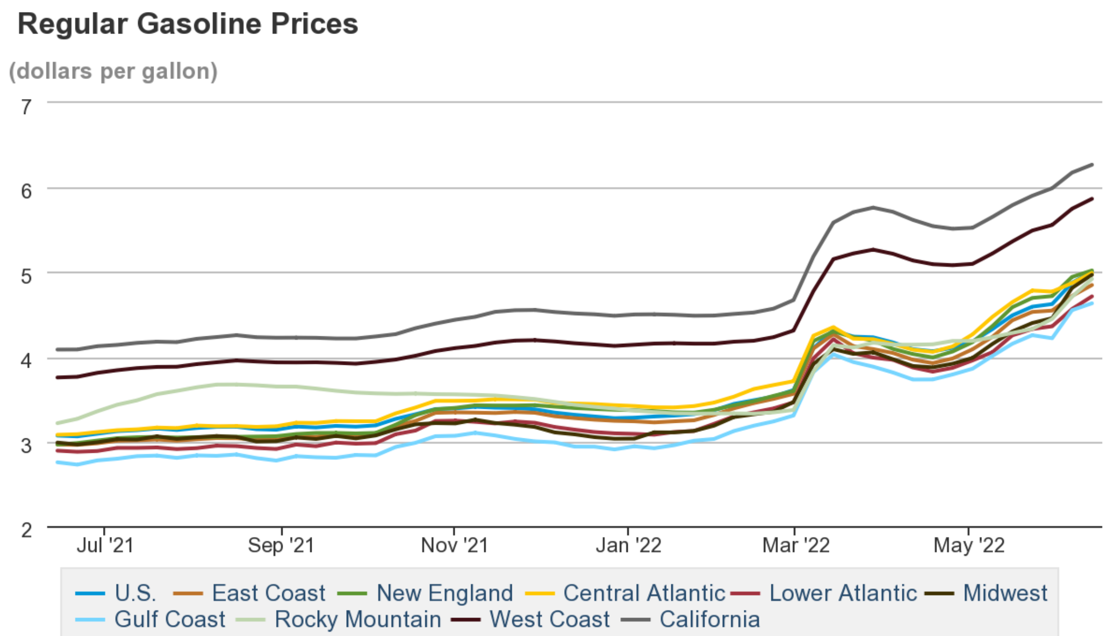
The rate of year-over-year inflation for energy (shown in Figure 19) has been bouncing between 25% and 35% for the last 16 months. Because the energy and fuel portion of consumer's budget is considerably price inelastic in nature (recent estimates suggest the price elasticity of demand for gasoline is between -0.27 and -0.35[28]), the increase in energy and gasoline prices contribute significantly to the overall inflation rate.

Figure 20: Crude Oil vs Retail Gasoline Prices



[28] https://www.dallasfed.org/research/economics/2020/0616

Figure 21: Regular-grade Gasoline Prices (US$/gal) by region

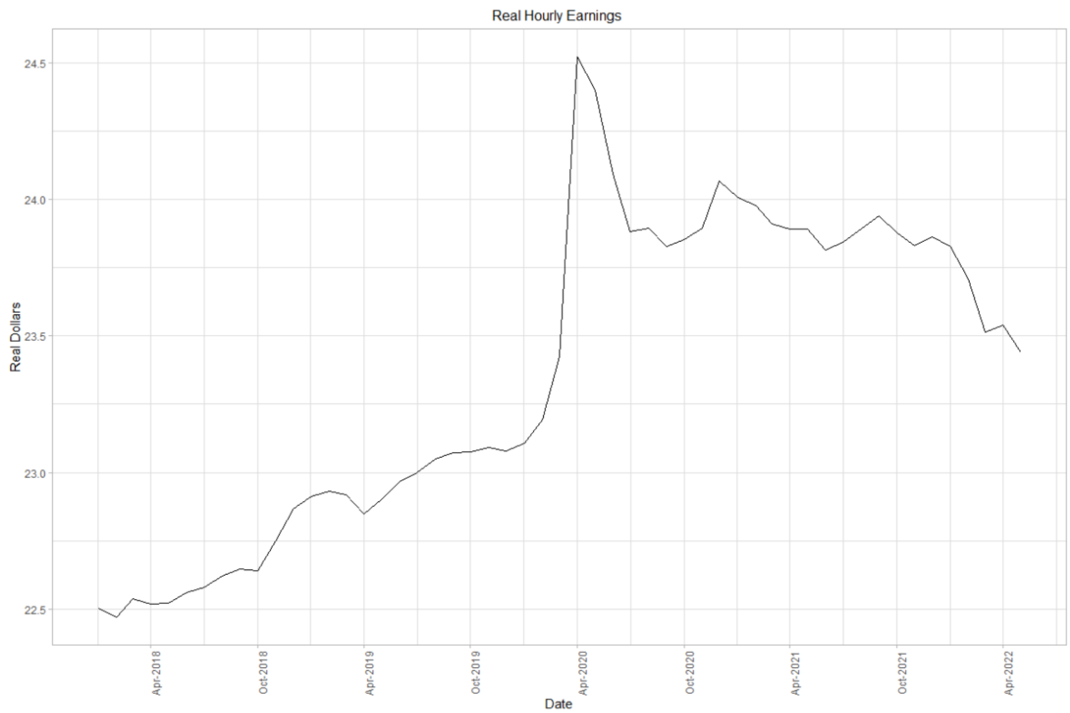


Source: https://www.eia.gov/petroleum/gasdiesel/

Wages

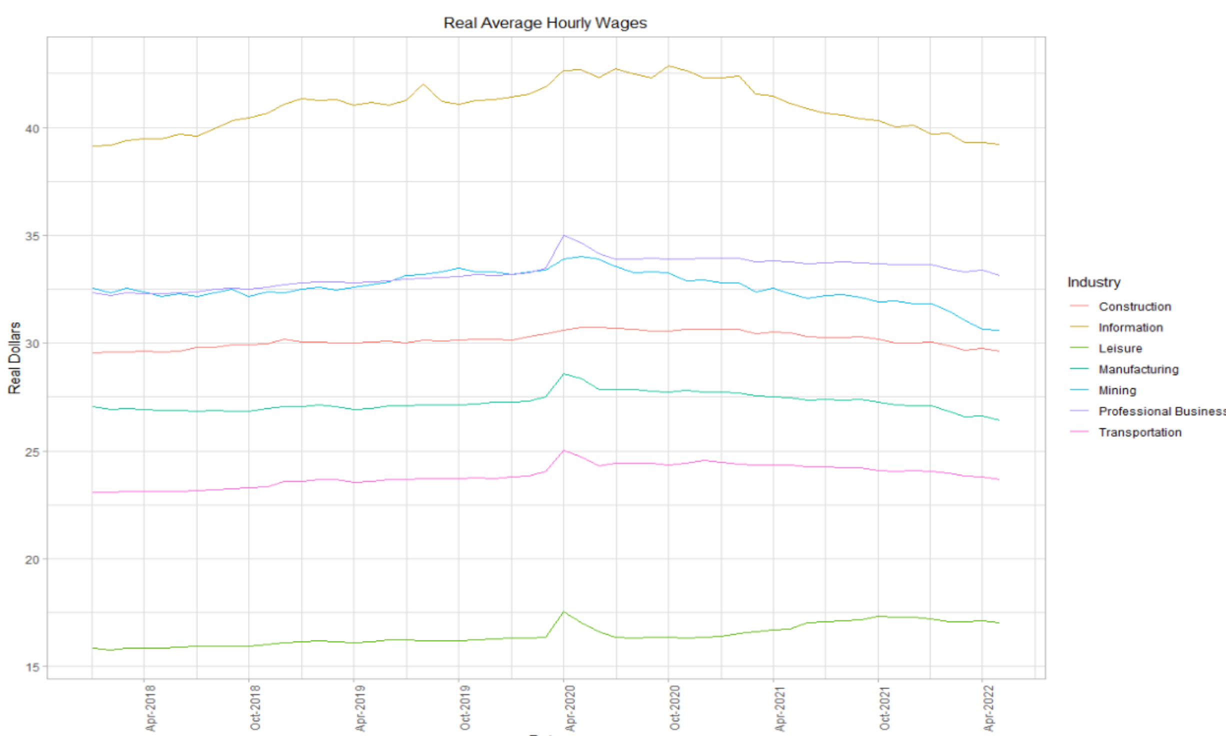
Figure 22 and Figure 23 show the real wages and the real wages by industry. The real wages for the US as a whole have shown a continued downward trend. Although nominal wages are increasing slightly, the buying power of those wages have decreased extensively as a result of the near double-digit inflation. Except for the leisure sector and professional businesses, which have only decreased slightly between 4Q2021 and 1Q2022, the other sectors have experienced a downward trend in real compensation.

Figure 22: Real Hourly Wages (Nationwide)



Source: Federal Reserve Economic Database (https://fred.stlouisfed.org)

Figure 23: Real Hourly Wages for Select Industries (Nationwide)



Source: Federal Reserve Economic Database (https://fred.stlouisfed.org)

Appendix A: Mortgage Delinquencies

The following table presents the delinquency rates of mortgages held by Freddie Mac for May 2022 in Alabama, broken down by MSA.

Table 3: Percentage of Freddie Mac Mortgages by Status (Current, 30 dpd and 30+ dpd) as of February 2022: Alabama & SMSAs

MSA	# Units	Total	Current	30-59 dpd	60-89 dpd	90-119 dpd	120+ dpd	% 30dpd	% >30 dpd	% >= 30 dpd
Anniston-Oxford, AL	1 unit	1326	1299	15	1	1	10	1.13%	0.91%	2.04%
	2 units	3	3	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	7	7	0	0	0	0	0.00%	0.00%	0.00%
Auburn-Opelika, AL	1 unit	5229	5180	20	8	1	20	0.38%	0.56%	0.94%
	2 units	29	29	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	1	1	0	0	0	0	0.00%	0.00%	0.00%
Birmingham-Hoover, AL	1 unit	34309	33907	188	29	19	166	0.55%	0.62%	1.17%
	2 units	27	27	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	17	17	0	0	0	0	0.00%	0.00%	0.00%
Columbus, GA-AL	1 unit	402	395	2	0	0	5	0.50%	1.24%	1.74%
	2 units	5	5	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	0	0	0	0	0	0	0.00%	0.00%	0.00%
Daphne-Fairhope-Foley, AL	1 unit	8849	8755	49	6	3	36	0.55%	0.51%	1.06%
	2 units	17	17	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	4	4	0	0	0	0	0.00%	0.00%	0.00%
Decatur, AL	1 unit	2451	2426	13	1	1	10	0.53%	0.49%	1.02%
	2 units	5	5	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	12	12	0	0	0	0	0.00%	0.00%	0.00%
Dothan, AL	1 unit	2344	2314	14	0	3	13	0.60%	0.68%	1.28%
	2 units	1	1	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	2	2	0	0	0	0	0.00%	0.00%	0.00%
Florence-Muscle Shoals, AL	1 unit	3008	2959	24	1	2	22	0.80%	0.83%	1.63%
	2 units	3	3	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	1	1	0	0	0	0	0.00%	0.00%	0.00%
Gadsden, AL	1 unit	1378	1350	11	2	1	14	0.80%	1.23%	2.03%
	2 units	2	2	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	1	1	0	0	0	0	0.00%	0.00%	0.00%
Huntsville, AL	1 unit	15740	15610	62	5	4	59	0.39%	0.43%	0.83%
	2 units	22	22	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	50	50	0	0	0	0	0.00%	0.00%	0.00%
Mobile, AL	1 unit	6280	6185	45	2	5	43	0.72%	0.80%	1.51%
	2 units	14	14	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	6	6	0	0	0	0	0.00%	0.00%	0.00%
Montgomery, AL	1 unit	6786	6714	29	5	1	37	0.43%	0.63%	1.06%

	2 units	19	19	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	11	11	0	0	0	0	0.00%	0.00%	0.00%
Tuscaloosa, AL	1 unit	5677	5602	38	3	4	30	0.67%	0.65%	1.32%
	2 units	4	4	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	1	1	0	0	0	0	0.00%	0.00%	0.00%
Outside all MSAs	1 unit	11954	11743	91	14	8	98	0.76%	1.00%	1.77%
	2 units	45	45	0	0	0	0	0.00%	0.00%	0.00%
	3+ units	11	11	0	0	0	0	0.00%	0.00%	0.00%

Source: STACR Freddie Mac, as of 23 May 2022