Intermediate Macroeconomics

Essay Assignment Part 1: Economic Indicator

I affirm I have adhered to the Honor Code in this assignment - Ellie Nguyen

New Home Sales as an Economic Indicator

Residential investment is arguably the most cyclically sensitive of the major GDP spending categories (Steindel, 2019). It significantly contributes to real GDP growth during major swings despite its small share of GDP. Existing home sales are sales of previously built homes and do not directly contribute to real GDP. New home sales, while also not a component of real GDP, measure contracts to buy new homes, which tend to lead to the completion of new homes, contributing to real GDP. To be more specific, new home sales lead the residential investment component of GDP by about six months or so. As a leading indicator, new home sales usually turn before the business cycle turning point, making it useful for economists in predicting the U.S. economy. Thus, new home sales are more impactful than existing home sales, which are an indicator. Analyzing new home sales can yield insights into U.S. housing demand, reflecting interest rates, income, expectations of future prices, demographics, and credit standards. Housing demand heavily influences different housing cycles. Rising housing demand and no new construction can suggest a recovering economy, while a rising housing demand coupled with new construction signals that the economy is in the expansion phase. The hyper supply phase comes with decreasing demand and construction surge. Declining demand and a supply overflow can predate a recession. Therefore, I will analyze new home sales as an economic indicator in this paper.

The data for new home sales comes from a monthly survey by the Bureau of the Census three to four weeks after the month-end. First collected in January 1963, the report shows the number of new single-family homes sold during each month, adjusted for seasonal variation, and expressed at an annual rate. The data come from all four major census regions (Northeast, South, Midwest, and West) and are nationally representative. This breakdown allows economists to know when unusual weather conditions, natural disasters, or other disruptions may unduly influence sales activity in a particular region. Seasonal patterns for new home sales are quite pronounced, with fall and early winter months being the weakest periods. Thus, departures from seasonal norms during these periods can have an especially pronounced impact on the seasonally adjusted data. By definition, new homes sales account for sales for which land and structure are sold simultaneously. According to Goldman Sachs US Economic Research, only about 60% of single-family housing starts met this test, but this share rose in the late 1990s and has typically been about 75% in recent years (McKelvey, 2008). New home sales account for homes in any stage of construction, from not yet started to already finished. About 25% of the houses are sold at or after completion, but this number has risen to 35%. New home sales are measured based on the signing of a sales contract or the acceptance of a deposit. There are no adjustments to reflect any cancellation of the sales contracts in the data, unlike existing home sales that only report the transactions once they are closed. A weakness of new home sales is that the data are volatile and subject to significant revisions that can extend back several months, with a standard deviation of monthly changes in new home sales at 6.2% in 2003-2007 and around 7% overall. Thus, several months of data are needed to discern a genuine change in trend (McKelvey, 2008).

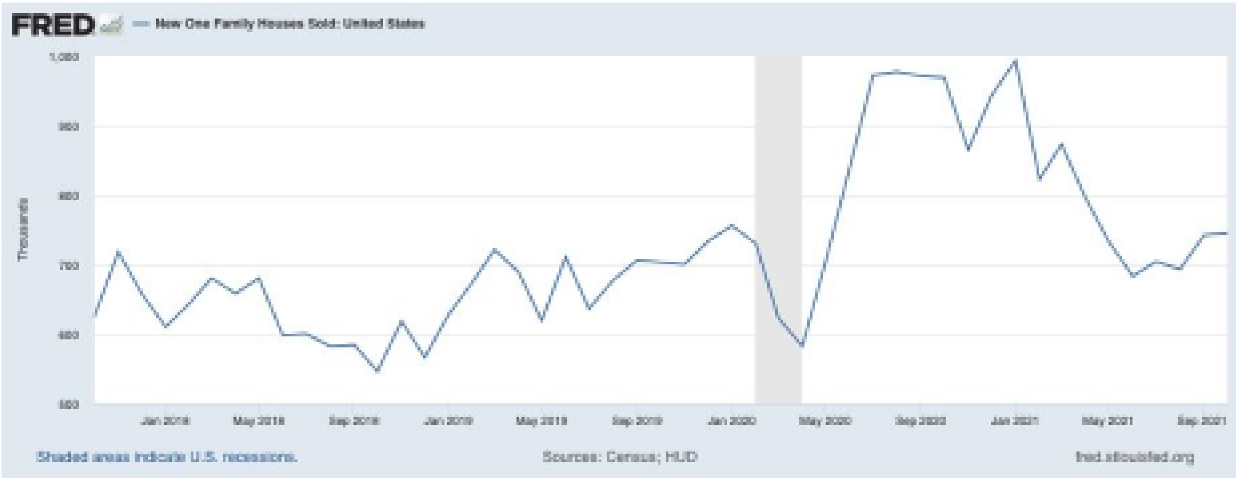

Figure 1: U.S. New Single-family Home Sales declined and recovered in 2020 (Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development)

Since the 2020 expansion, new home sales figures have seen a significant increase. As shown in Figure 1, similar to other economic indicators, during the recession caused by the COVID-19 pandemic, new home sales dropped to a low of 582,000 during April 2020, a drop of 23% from a figure of 756,000 during January 2020 (TradingEconomics, 2021). After the end of the recession, new home sales skyrocketed to 972,000 during July 2020 and maintained the numbers in the higher 900,000s during the four-month period from July to October 2020. Despite a slight decrease to 865,000 in November, the figure soon rose to above 900,000 by the end of 2020.

Figure 2: U.S. New Single-family Home Sales

(Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development)

Compared to previous cycles, the decrease and increase in the number of new home sales during the most recent cycle of 2020 are a lot more abrupt. During 2020, new home sales dropped dramatically in a short period of time to 582,000 during the recession before rapidly rising to 972,000, an increase of 67% from its lowest point and a figure of almost 1 million just three months after the recession (see Figure 2). In comparison, during the 2008 recession, sales numbers dropped consistently to a low point of 336,000 and plateaued at the 400,000 range for three years before showing signs of an upward trend in 2012. During the 2001-2002 period, sales figures recovered to pre-recession levels, but it did not see the meteoric rise that 2020 has. Similarly, in the 1975, 1980, 1981-1982, and 1990-1991 periods, new home sales recovered, but their drop and subsequent increase were nowhere near as quick as in 2020. The 1970 period showed an increase in new home sales despite the recession, a behavior that is different from all the other periods.

There are several factors contributing to the unusual behavior of new home sales in 2020. The initial drop in housing demand arises from uncertainty and job losses during the short recession. As shown in Figure 5, the unemployment rate rose quickly from around 3% to 15%. In contrast, the unemployment rate has since gone down to 4%, coinciding with the same period during which new home sales surged. There are other factors that contribute to this upsurge. The first factor is the increase in demand for housing, coupled with the move from the city to the suburbs initiated by the increase in the number of people working from home. The number of new households that moved to the suburbs grew 43 percent last year (Molla, 2021). 4.8 million millennials were turning 30 and were looking for their dream house, further helping the figures rise substantially (Santarelli, 2022). After the recession, there was a rebound in income from reopening the economy, heavy COVID relief spending from the government, and from fiscal support in the form of transfers and PPP job protection, which further increased demand.

Figure 3: Mortgage Interest Rates have declined in the United States

(Source: Freddie Mac)

The second factor is the response from the government, who was a lot better prepared compared to previous recessions. Their economic responses ranged from using conventional and unconventional monetary policy to lower long-term interest rates, imposing moratoria on foreclosures/home repossessions and renter evictions, and aggressively modifying mortgages to prevent defaults, to making large transfer payments to households, the unemployed and

furloughed workers and supporting firms with significant credits (Duca et al., 2021). Decreasing interest rates helped significantly, as mortgage debt accounts for about 70% of all household debt (Congressional Research Service, 2021). Most households were not overly indebted in 2020, a contrast to the Great Financial Recession. During the recession in 2008, the Federal Reserve purchased mortgage-backed securities, which helped decrease mortgage interest rates, but the rates still stayed above 5%. As shown in Figure 3, the interest rate on a 30-year mortgage averaged 6% from 2002 to housing's peak in 2005, but from April 2020 to today stays at just 3%, a massive difference for prospective home purchasers (Wolf, 2021). During the recessions that occurred prior to 2000, the rate consistently remained above 7.5, reaching as high as 18.63 during the 1981-1982 recession. These differences are astronomical, as an increase from 3.1% to 3.6% on a $500,000 mortgage means an additional $50,000 in payment. Another effective measure is the Paycheck Protection Program (PPP), which kept small businesses afloat and minimized layoffs. According to Sewon Park from Harvard Kennedy School, after the PPP Flexibility Act, which loosened requirements for loan forgiveness, additional PPP saved 97.9% of jobs lost (Park, 2021).

The last factor is supply constraints, which combined with soaring demand, had resulted in a severe housing shortage. According to the National Association of Realtors (NAR) report, the U.S. is short of 5.5 million housing units. However, experts suggest that the number is closer to 6.8 million when considering other factors in the market (Owen. 2021). To make matters worse, builders were slowing production to deal with higher costs for construction materials, some of which have hit record highs this year (Olick, 2021). The construction worker shortage has also reached crisis levels, further contributing to supply constraints (Kromrei, 2021).

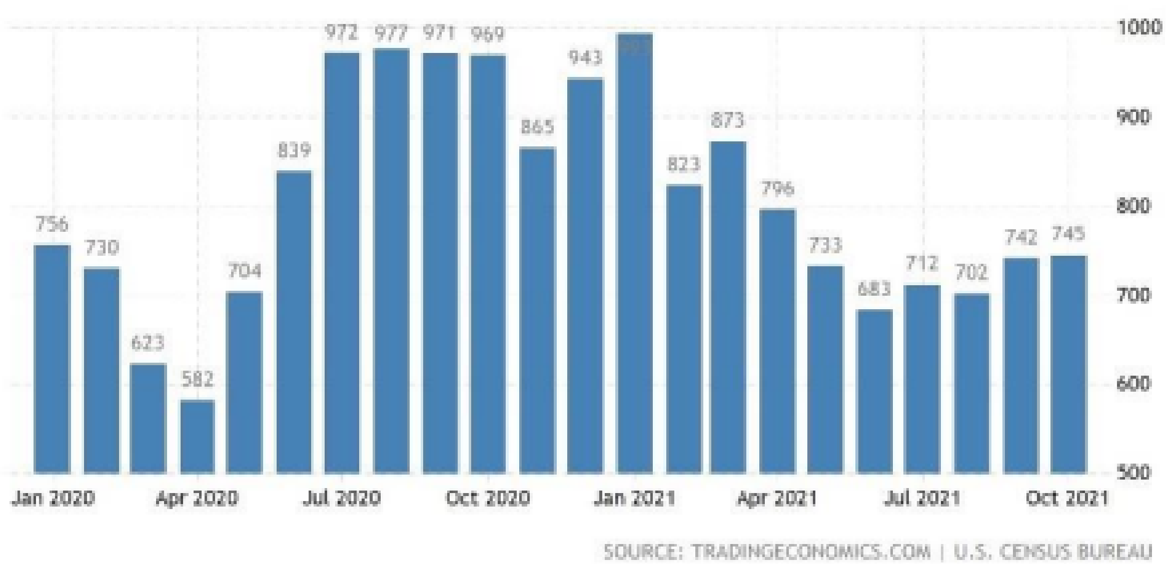

Figure 4: New Home Sales from Jan 2020 to Oct 2021
(Source: U.S. Census Bureau, TRADINGECONOMICS.COM)

In the last six to twelve months from the peak, the number of new home sales remained above 800,000 until they dropped to 796,000 in April 2021 and dropped to their lowest point of 683,000 in June 2021 (see Figure 4). New home sales have returned to and are retaining their levels just before the brief recession of 2020. Considering that new home sales are a leading economic factor, these figures suggest that overall, the macroeconomy has recovered from the effects of COVID-19. Indeed, a healthy number of new home sales can reflect several economic influences. The first area susceptible to changes in new home sales is the construction industry. As the National Association of Home Builders (NAHB) reports, building 1,000 average single family homes creates 2,900 full-time jobs and generates $110.96 million in taxes and fees for all levels of government to support police, firefighters, and schools (NAHB, 2020). An increase in new home sales means that a number of other businesses, not just the construction industry, also benefit, as new homeowners would need to purchase furniture, groceries, and cable subscriptions (Lisa, 2021). This ripple effect is why new home sales are a strong indicator of a healthy economy.

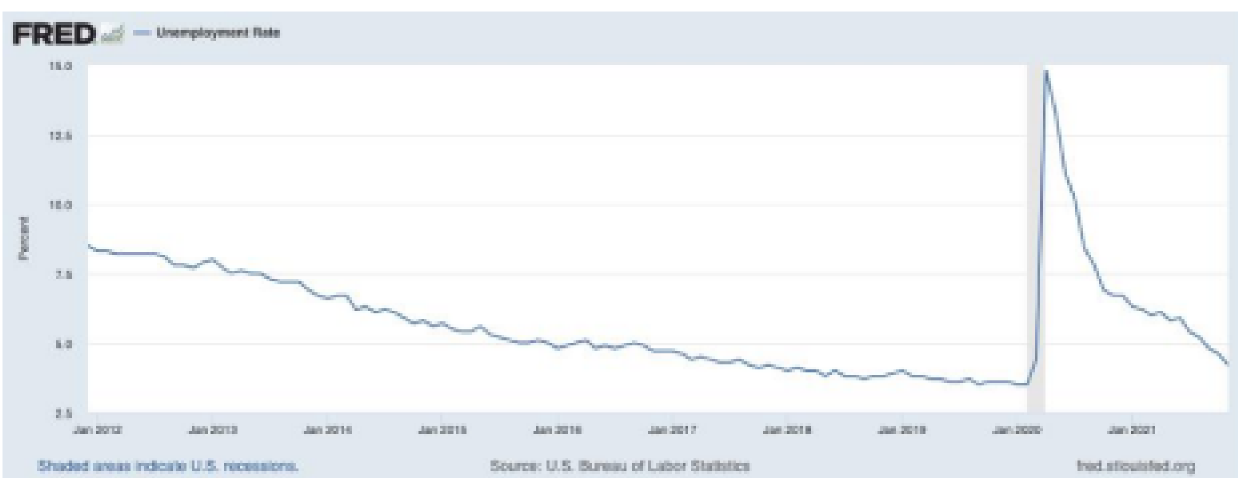

Figure 5: The Rise and Fall of Unemployment
(Source: U.S. Bureau of Labor Statistics)

The growth surge in industries like construction, retail, and cables partly due to the increase in new home sales helps increase the number of jobs available. As shown in Figure 5, the unemployment rate has been healthy lately, staying at 4.2 percent, around the 4 percent unemployment rate - near the natural rate viewed by economists around which an economy would be efficient. This happens at the same time that new home sales numbers top forecast since March, suggesting that demand is stabilizing after high prices and a lack of inventory pushed the figures to below pre-pandemic levels (Pickbert, 2021). The sales drop in June was purely due to a lack of housing supply, as builders have neither land, construction materials, nor labor to add more houses to the inventory, thus pushing prices to record levels. Builders were telling consumers not to buy houses, and in the case they do, they have to add escalation clauses to account for spiraling construction costs.

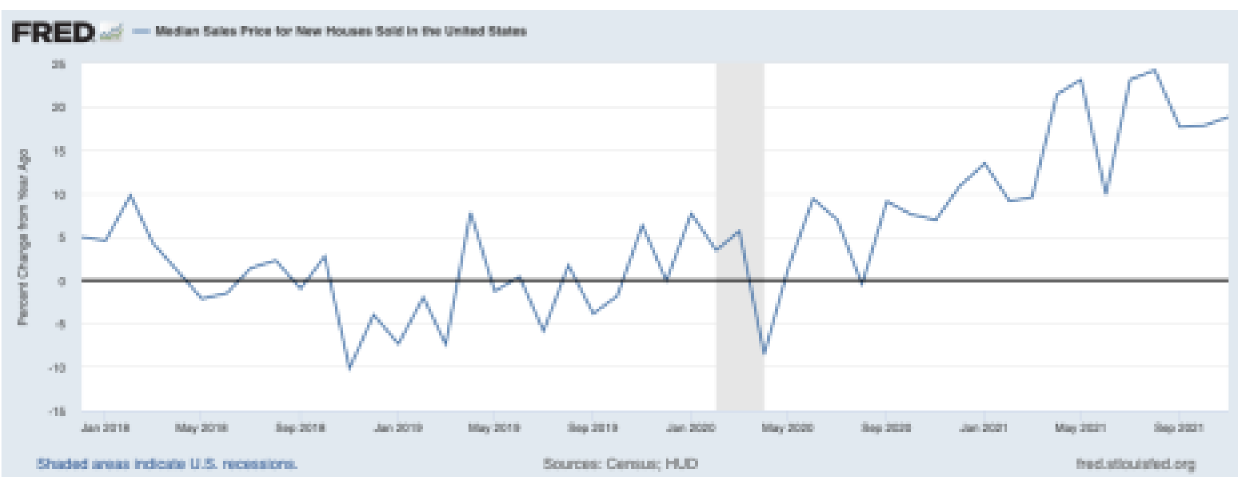

Figure 6. Median New House Prices have risen sharply since spring 2020 (Source: U.S. Census Bureau, U.S. Department of Housing and Urban Development)

Before looking at new home sales forecasts, one would first inspect the forecast for home prices. Due to the housing shortage, Zillow is confident that home sales in general, not just new home sales, will continue to rise considerably alongside strong price growth (Zillow Research, 2021). Zillow projects that home prices will increase 13.6% from now to October 2022. This sentiment is shared by Goldman Sachs, as it states that its "call for a multiyear boom in home price remains intact" (Walker). Zillow predicts a 16% increase in home prices between now and December 2022, or 14.5% on an annualized basis. Zillow and Goldman Sachs predict a rise of 13.6% and 16%, respectively, and positive sentiment is shared by Fannie Mae and Redfin, albeit not as rapid. Their predictions arise from the fact that the upcoming years are amidst the five year period (2019 - 2023) wherein the five largest millennial birth years (1989 - 1993) will likely buy their first home at the age of 30 (Lambert, 2021). The number of homes will not be able to keep up with the demand for next year, and the only factor that can slow the price growth is rising mortgage rates, which will hamper buyers' purchasing power. Fannie Mae and Redfin project the 30-year fixed mortgage rate to rise to 3.4% and 3.6%, respectively. As shown in Figure 6, since the 2020 recession, the percent change from a year ago of median sales price has only been negative once, hitting -0.46% in August 2020. Since then, median sales price growth has always been positive, suggesting that price predictions from Zillow, Goldman Sachs, Fannie Mae, and Redfin are reasonable. However, the huge runup of house prices and the likelihood of increases in interest rates to fight inflation suggest that the outlook for house prices is not as bright as their predictions indicate.

Overall, for new home sales, the industry consensus points towards positive growth in 2022. Aside from the 30-year-old age group, about 45 million millennials between the ages of 26 and 35 will be potential homeowners next year, making it even more likely that the market for new homes will still perform well. The NAHB Housing Market Index (HMI), a metric for gauging builder opinion on the level of current and future single-family home sales, also shows positive sentiment from the construction industry, as the index scores 83 points, 3 points higher than in November, and 23 points higher than the 50 points threshold above which readings indicate a favorable outlook on new home sales. Furthermore, the influx of new homes will not only aid in alleviating the housing shortage that is still persistent in the U.S., but it will also help ease house price appreciation throughout the country.

In the past, the new home sales have both underperformed and outperformed predictions, and no model can be 100 percent accurate. Furthermore, as prices rise relative to fundamentals such as income, they lower housing affordability (Duca & Murphy, 2021). With fewer households qualifying for mortgages to buy homes, upward pressure on demand will wane. According to the Federal Reserve Bank of Dallas, as valuation pressures start to dominate, expected house-price appreciation rates will slow, raising the user cost of housing, reducing demand, and reversing the upside momentum we see now (Duca & Murphy, 2021). Other factors may affect new home sales, such as the future of work-from-home. If this trend continues, one may expect the figures to be on the rise, but there is no way to predict for sure what will happen, given the unpredictable nature of the COVID pandemic. However, with the housing shortage, the wave of millennials seeking to purchase their first homes, and more successful countercyclical policy than in the 2008 recession, it is hard to believe that the overall housing market, not just new home sales, will decline much for some time.

The overall big picture is relatively positive. New home sales figures are growing, and the unemployment rate has decreased to its natural rate, suggesting that the overall economy is healthy. This is why the best course of action for policymakers right now is to continue the current path in terms of policy planning. However, due to the unpredictable nature of the COVID pandemic and the rise of the Omicron variant, it has become harder to predict what will happen to the ongoing global economic recovery. Harvard Professor Eric Maskin is not overly concerned and has expressed that Omicron need not be terribly disruptive to the economy (Pazzanese, 2021). Nonetheless, scientists still need to understand how transmissible and virulent the variant is, and if current vaccines work well against it. Omicron may not be the last variant that raises concern for the world either. One other concern is that the record-breaking prices for housing, coupled with the construction industry ramping up their production capabilities, will lead to an abundance of homes that are too expensive for potential homeowners to afford. This may lead to a housing bubble where expensive houses keep getting added to the inventory without any purchasers. There are several ways the government can act to address this potential dilemma. The first way is through tightening monetary policy to reduce inflationary pressures, whereby the government can print less money than they currently are, thereby increasing interest rates to fight potential inflation.

Moreover, while housing demand is stable, disruptions in the manufacturing and supply of building products are extending the overall build cycles (Pickbert, 2021). Bloomberg also reported that almost one-third of homes sold has yet to be started in their construction, a result of supply chain disruption and labor shortages. The government needs to tackle this problem if they are to address another pressing issue: housing shortage. Since the U.S. population expands over time, better policies could include more inclusionary zoning to provide affordable housing for low-to-moderate-income residents, and make moving to houses far away from central areas more attractive by investing in infrastructure to improve internet connection, transportation, and quality of life in remote areas. This will help increase the supply of housing.

In conclusion, while new home sales are an important leading economic indicator and can show a lot about the economy's health, indicators do not work together solely in a vacuum. Any prediction on the future of the economy needs to take into account external influencers such as the work-from-home culture or the pandemic situation in addition to its analysis of the new home sales indicator.

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