Don't Fight the Fed? An Analysis of the Role of Monetary Policy in the Formation of Bubbles in the Housing Market

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Research Question

Does expansionary monetary policy contribute to the formation of bubbles in the housing market?

Motivation of Topic

Just a few years ago, one of the biggest and worst economic disasters in history occurred: the 2008 Financial Crisis. The crisis was triggered by the collapse of an enormous bubble in the housing market. Research suggests that bubbles are multi-causal. While the greedy, profit-motivated banks and their high-risk mortgage-backed securities are certainly largely responsible, are there other reasons the bubble became so big?

The Federal Reserve uses monetary policy to stimulate or slow down the economy to avoid extreme levels of inflation or recession. The economy may see a healthy level of growth after the enactment of expansionary monetary policy, which would generally signify success on behalf of the Fed, but is that where the impact of the Fed's actions ends? This study attempts to identify a potential unintended effect of expansionary monetary policy that may have severe implications for global economic activity.

Summary of Empirical Analysis

Observed Time Period: *1987-2021*

Observed Sample, 12 Cities: *Atlanta, Boston, Chicago, Denver, Detroit, Los Angeles, Miami, Minneapolis, San Diego, San Francisco, Tampa, Washington DC*

Dependent Variable: *Housing Index*

Independent Variable: *Real Interest Rate*

Control Variables: *Income, Population, Unemployment Rate*

Regression Equation and Results

$$HousingIndex_{it} = \beta_o + \gamma RealIR_{it} + \delta Income_{it} + \theta Population_{it} + \lambda Unemployment_{it} + \varepsilon_{it}$$

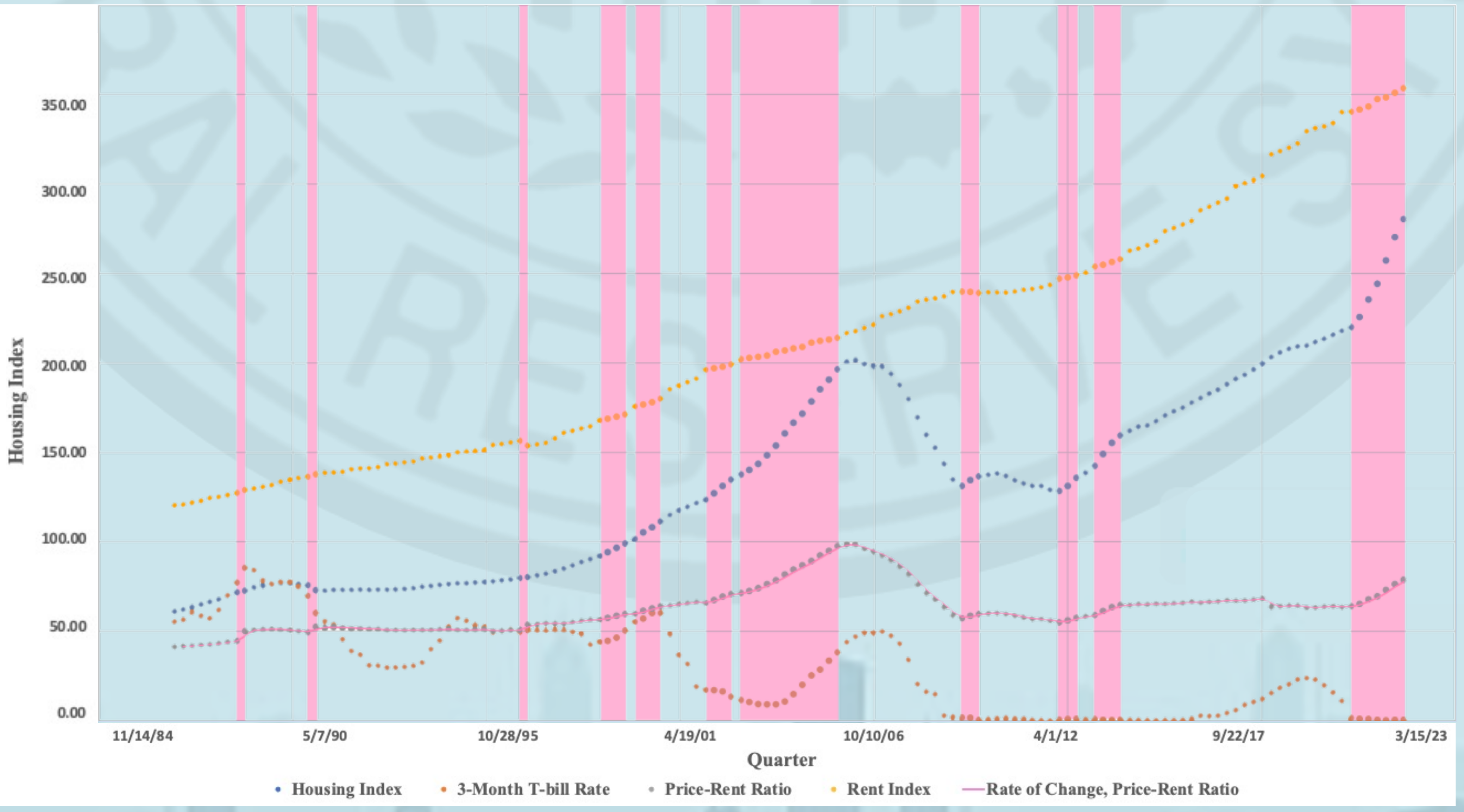
Regression	*R-squared*	γ
$HousingIndex_{it}$	0.833	-2.387***

Housing Bubble Indicator

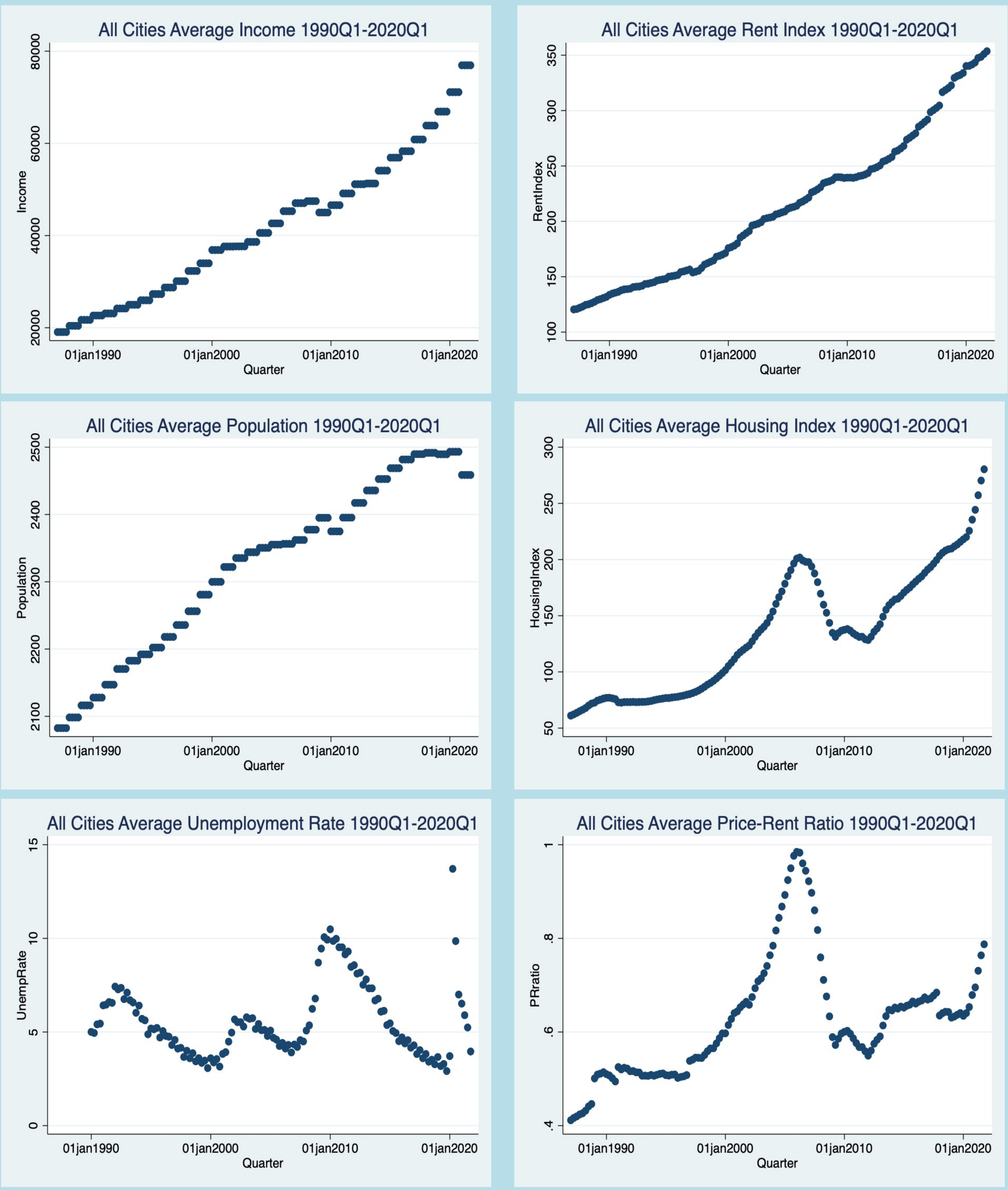
Bubble formation occurs where

$$\frac{PriceRentRatio_{n+1} - PriceRentRatio_n}{Quarter_{n+1} - Quarter_n} > 1$$

Bubble Formation as Indicated by Slope of Price-Rent Ratio



Visualization of Variables



Conclusion

The results of the empirical analysis were ultimately in line with the hypothesis that monetary policy may be contributing to the formation of bubbles within the housing market. This supports the theory that expansionary monetary policy results in an increase in the money supply, which stimulates activity in the housing market and drives up prices. With the approach taken in this study of defining bubble growth as occurring where the price-rent slope surpassed a certain threshold, bubble formation was successfully identified during several periods coinciding with opposing interest rate policy.