Housing Market Narrative Visualization

Messaging

This narrative visualization examines whether the American housing market is overdue for a price correction by analyzing data from 2018 to 2025. The core message demonstrates that while the Federal Reserve's aggressive interest rate increases successfully slowed home price growth, they failed to bring prices back to pre-pandemic levels. Meanwhile, market fundamentals show clear signs of cooling, such as fewer homes selling and properties that remain on the market significantly longer. This disconnect between persistently unaffordable prices and weakening demand indicators suggests the housing market may be positioned for a price correction.

Narrative Structure

This visualization follows the martini glass structure, where the initial scenes deliver a guided narrative before allowing user exploration at the end. The first two scenes function present author-driven storytelling that establishes context and builds the argument sequentially.

Scene 1 demonstrates the pandemic price explosion, while Scene 2 reveals the Federal Reserve's response and its limited effectiveness on price levels. Scene 3 transitions to reader-driven exploration. Users can interact with the data through hover functionality to examine specific time periods and metrics, allowing them to draw their own conclusions about market conditions.

This structure ensures viewers first understand the foundational narrative before being equipped to explore the data independently, which is crucial for comprehending the complexity of housing market dynamics.

Visual Structure

Each scene employs the same consistent visual to maintain coherence throughout the narrative. The same base housing market data, median home price line chart, and colors are used throughout the narrative, with additional information for the argument presented in each scene.

Scene 1 uses a single red line to clearly establish the price trajectory over time, making the pandemic surge immediately apparent. Even though pre-pandemic data is used to contrast the steady price increase with the price explosion during covid, only a couple of years of this data was added to ensure the viewer is focused on the point highlighted by the narrative.

Scene 2 introduces a dual-axis approach with red representing home prices (same as before) and blue representing mortgage rates, enabling direct comparison of these related but differently scaled metrics.

Scene 3 combines home price data (again in red) with sales volume (green) to reveal the market cooling story.

The consistent color coding helps viewers easily track these key variables across scenes. Each chart includes clear axis labels, legends, and titles that guide interpretation. The progression from simple (one variable) to complex (multiple variables) mirrors the increasing sophistication of the argument being presented.

Navigation elements including numbered progress indicators and Previous/Next buttons provide clear wayfinding. The visual consistency ensures that transitions between scenes feel natural while the increasing complexity matches the deepening analysis.

Scenes

The visualization contains three carefully ordered scenes that build a logical argument:

- **Scene 1: "The Pandemic Housing Boom"** establishes the baseline by showing steady price growth from 2018 through early 2020, followed by a brief COVID-related dip and subsequent explosive growth. This scene sets up the expectation that the pandemic created an unprecedented market situation requiring intervention.
- **Scene 2: "The FED Strikes Back"** introduces the Federal Reserve's response through dramatic interest rate increases from historic lows near 2.6% to over 7%. By overlaying mortgage rates with continued price growth, this scene demonstrates that while rate increases slowed price appreciation, they did not reverse the pandemic gains.
- **Scene 3: "Housing Market Reality Check"** presents the current market state, showing that despite prices still being elevated, sales volume has plummeted, and market dynamics have fundamentally shifted. This scene provides the evidence for potential correction by revealing the disconnect between price levels and market activity.

The ordering follows a classic problem-response-outcome structure that allows viewers to understand both the historical context and current implications.

Annotations

The annotations follow a consistent template featuring semi-transparent white boxes with dark borders and directional arrows pointing to relevant data points. This template ensures visual consistency while maintaining readability over the underlying charts. Annotations were also carefully placed to not cover interesting data.

Each annotation serves a specific messaging purpose, reinforcing the argument in each scene and in the overall narrative:

- Scene 1's annotation highlights the brief COVID price dip and subsequent price explosion.
- Scene 2 highlights historic low interest rates as the boom catalyst, and Fed's aggressive rate spikes as a response.
- Scene 3's annotation highlights sales volume downwards trend despite high prices persistence.

The annotations do not change within a scene.

Parameters

The visualization uses several key parameters to manage state and scene construction:

- **currentScene** tracks which of the three scenes is active (values 1, 2, or 3), controlling content display and navigation button states.
- **housingData** and **mortgageData** arrays store the parsed CSV data used across all visualizations.
- **xScale**, **yScale**, and related D3 scale functions define the coordinate systems for each chart, with parameters adjusted per scene to accommodate different data ranges and dual-axis requirements.
- Scene-specific parameters include **margin** objects defining chart boundaries, **width** and **height** values for consistent sizing.
- **mouseDate** and **bisect** parameters are used in scene 3 to identify the closest data point for display instead of having a tooltip on the line of the chart, making for a better user experience.

These parameters enable the dynamic generation of each scene while maintaining data consistency and visual coherence across the narrative.

Triggers

The primary triggers connect user interface actions to state changes through clearly defined affordances:

- **Navigation buttons** ("Previous" and "Next Scene") serve as the main triggers for scene transitions, with the Next button text changing to "Complete" in the final scene to signal narrative conclusion. These buttons are disabled appropriately (Previous disabled in Scene 1, Next disabled in Scene 3) to provide clear usage boundaries.
- **Progress indicators** (numbered dots 1, 2, 3) provide visual feedback about current position and navigation state, with the active scene highlighted in blue while inactive scenes remain gray.
- **Scene 3's hover interaction** serves as the exploration trigger, activating on mouse move events across the entire chart area. The cursor changes to a crosshair to indicate

interactivity, while tooltip displays and indicator dots provide immediate feedback about available data exploration.

The affordances clearly communicate interaction possibilities: obvious buttons for navigation, visual progress indicators for orientation, and cursor changes plus instructional text for exploration capabilities when they become available.