Brief Update Regarding Inflationary Impact on CMAST Stress Path Scenarios (Q2 2022)

In response to the current high rate of inflation, FHFA has updated the CMAST framework to incorporate a dynamic inflation adjustment which is anchored to the current year-over-year growth in CPI (less shelter). Under this new approach, the embedded inflation projection begins with the current year-over-year growth in CPI (e.g., 10.3% as of Q1 2022) and then linearly declines over the next 2 years to 0%. This mirrors the timing of historical peak-to-trough CPI declines. Under this updated approach, inflation then climbs to 1.1% in year 3, 2% in years 4-7, and then a long-term average of 2.5% in years 8-30. Prior to this update, the CMAST framework incorporated a static inflation projection where inflation was set at 0% in year 1, 1% in year 2%, 1.5% in year 3, 2% in years 4-7, and then a long-term average of 2.5% in years 8-30. Everything else equal, during periods of high inflation, this new dynamic inflation adjustment will slightly decrease the severity of CMAST's nominal house price paths. For example, as of Q1 2022, a 50% house price down shock under the static inflation adjustment would correspond to a 45% house price down shock under the dynamic inflation adjustment. Similarly, a 30% house price down shock under the static inflation adjustment would correspond to a 24% house price down shock under the dynamic inflation adjustment. As alluded to in these two examples, the magnitude of change, when moving from the static to the dynamic inflation adjustment, is inversely related to the size of the initial house price down shock under the static approach.

Brief update on the frequency of the underlying time series used to estimate state-level trend and trough (Q3 2022)

Starting with the release of the Q2 2022 CMAST state-level house price paths, FHFA has updated the underlying time series used in the estimation of trend and trough. Specifically, FHFA has moved from a set of monthly to quarterly state-level house price indexes, which results in a larger number of transactions associated with each point estimate, less estimation error, and a more reliable and robust measure of state-level house price movements. It is important to note that this change will result in a one-time, level-shift in the initial house price decline associated with state-level CMAST paths. This level-shift will be most pronounced in states with fewer historical sales and refinance transactions such as Alaska.

As an example, when moving from a monthly to a quarterly index, the Q1 2022 CMAST shock for Alaska decreases from 43.2% down to 36.0% down.[1] In the two graphs below (Figure 1 and Figure 2), we see that this decrease in severity is a function of a smoother real HPI series, which establishes a trough of -28.48% for the quarterly series vs. a trough of -33.75% for the monthly series.

Figure 1: Monthly Real HPI for Alaska

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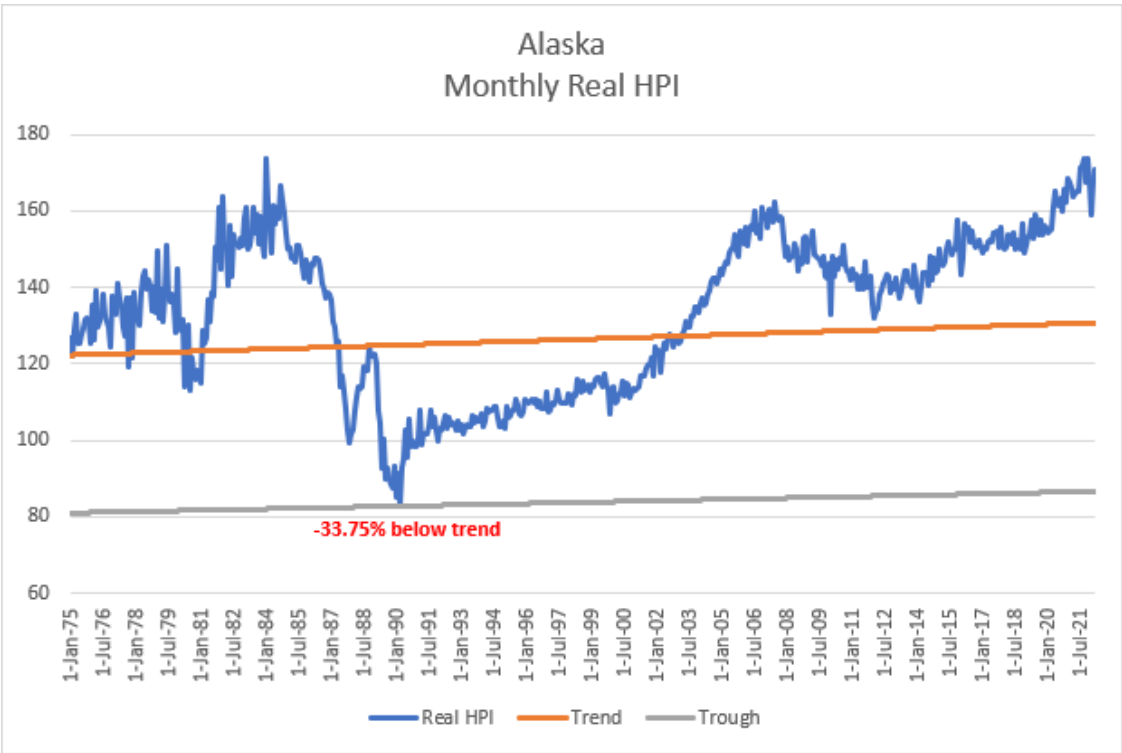
[1] Q1 2022 was the last quarter where the CMAST state-level paths were produced using both a monthly-index and a quarterly-index for purposes of parallel testing.

Figure 2: Quarterly Real HPI for Alaska
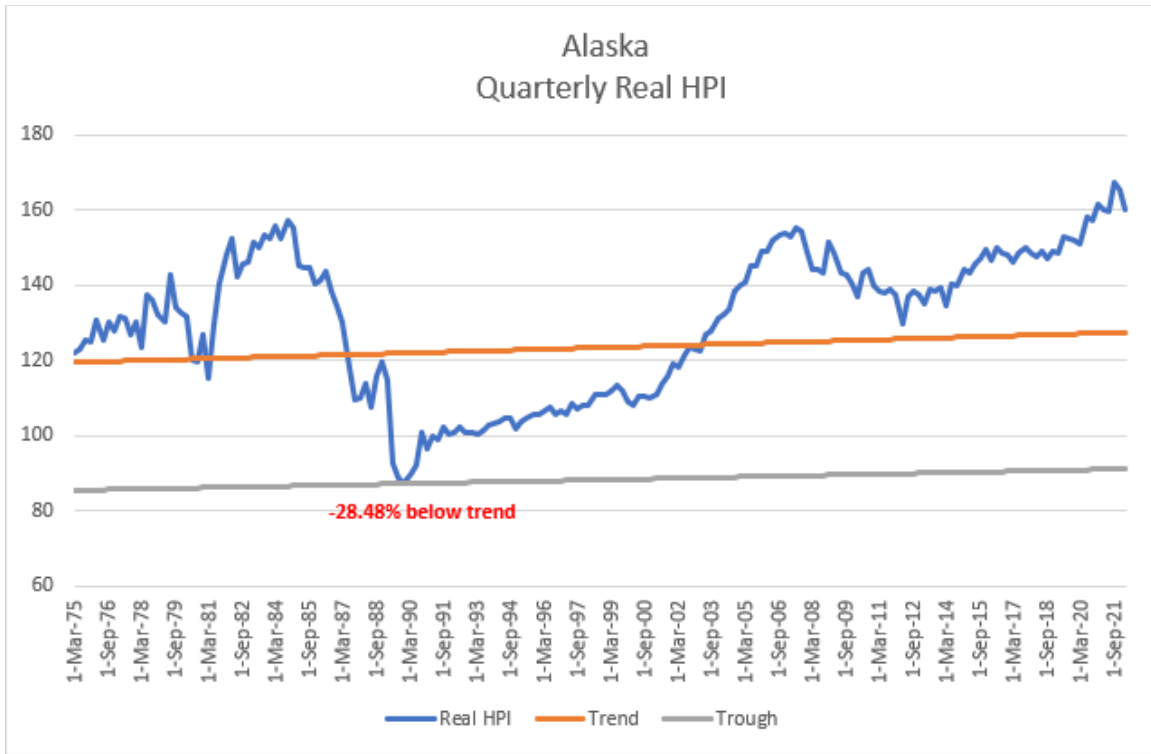
For the majority of states, moving from a monthly to a quarterly house price index results in a decrease in the severity of the corresponding CMAST stress path. The magnitude of this change and the extent to which it varies across states is illustrated in Figure 3. As shown, the two major exceptions to this rule are Delaware and Vermont. In Delaware, moving to a quarterly time series results in a Q1 2022 CMAST down shock of 8% (versus a 5.6% down shock when estimated using a monthly index). This is a result of a slightly lower index estimate in Q1 1982 using the quarterly index. In Vermont, moving to a quarterly time series results in a Q1 2022 CMAST down shock of 17.8% (versus a 10.8% down shock when estimated using a monthly index). This is being driven by two factors - the last historical value associated with each time series (162.3 using the quarterly index versus 155.8 using the monthly index) and the steeper slope of the trend line when estimated using the quarterly index.

Figure 3: Comparison of Level-Shifts across States