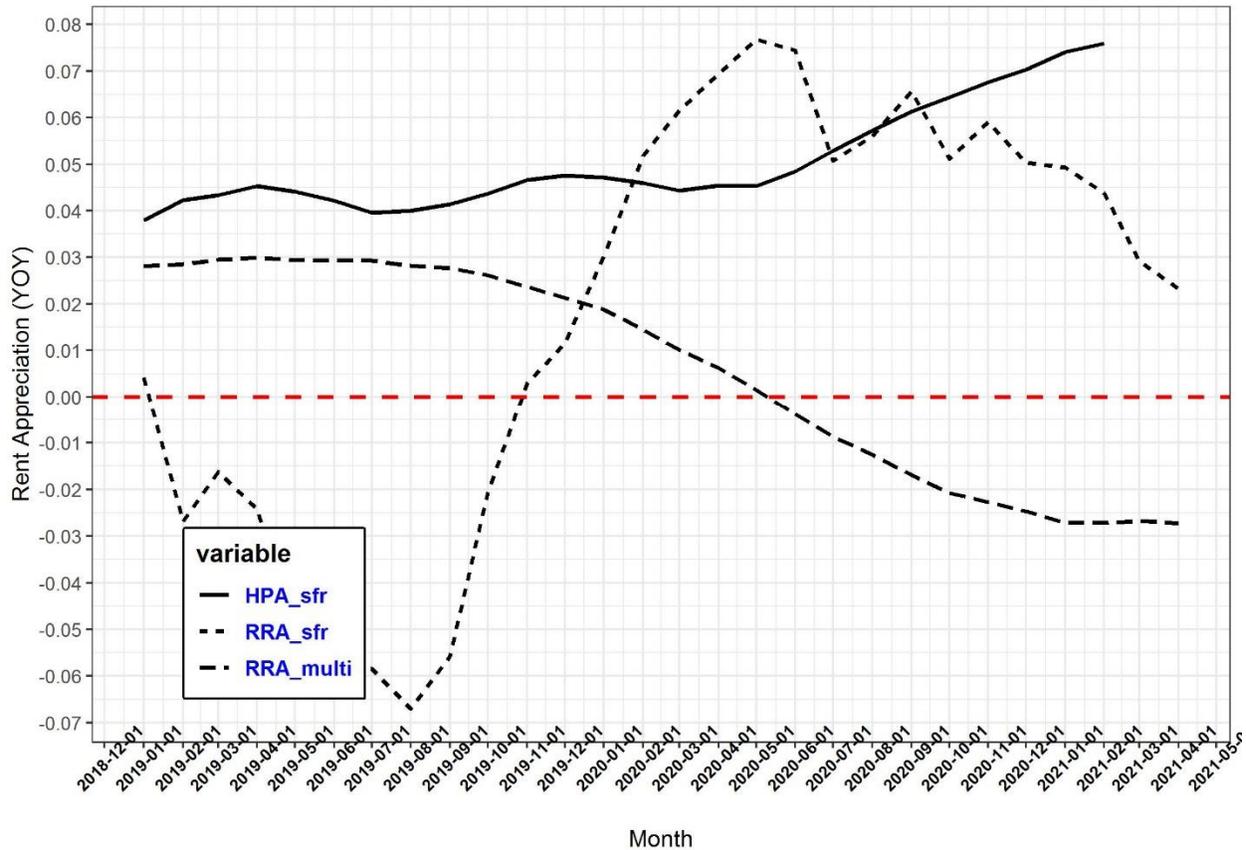


Washington, DC

A combination of low mortgage rates, and a desire for more space in order to prevent infection and have additional room to work and play, have led some apartment dwellers to terminate their rental lease and move during 2020 and early 2021. Chart 1 shows how rent appreciation in multi-unit structures (RRA_multi, dashed lines) in Washington, DC since the start of the pandemic fell and then went negative.

Chart 1. Washington, DC: 2bd Home Price Appreciation (HPA_sfr) & Rent Appreciation SFR detached properties (RRA_sfr) & for Units in Multifamily Structures (RRA_multi)



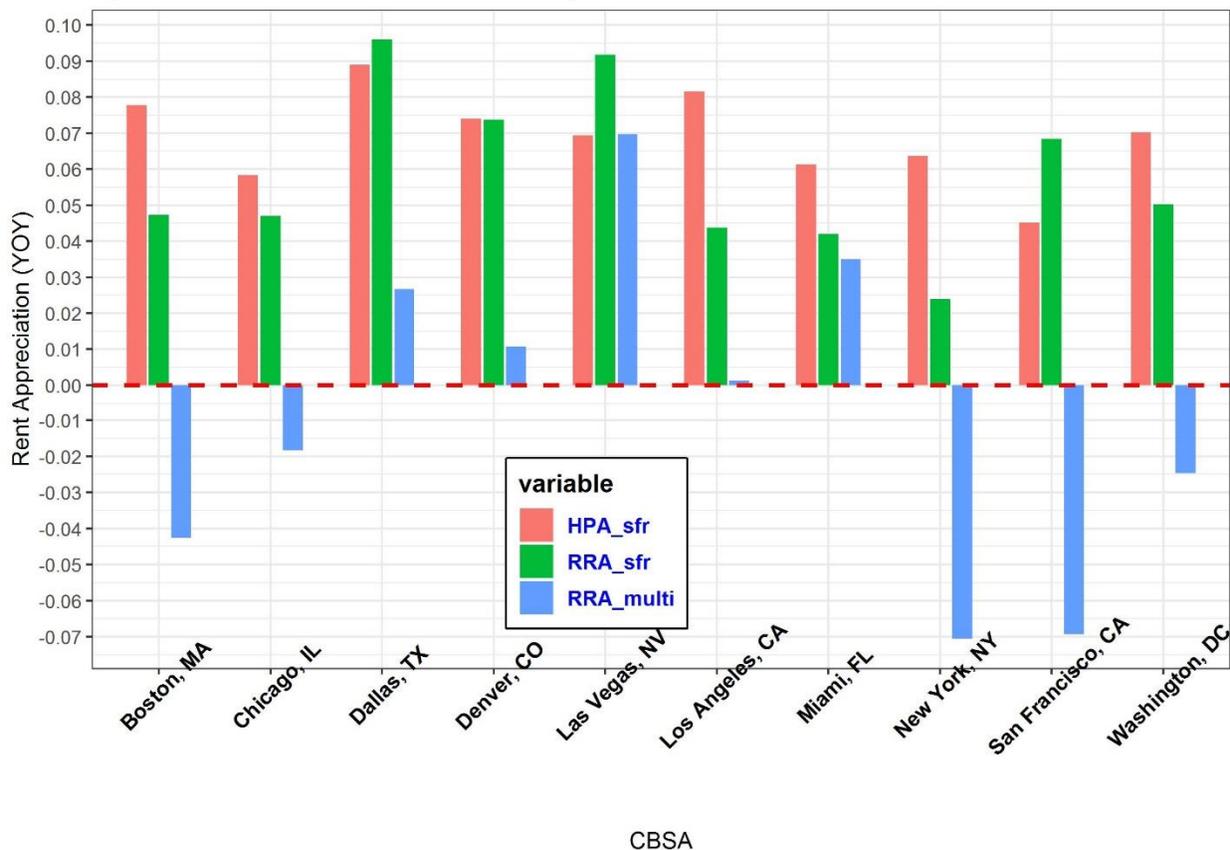
Sources: Zillow.com, Altisource.com, CHTR

It also has been widely reported that home price appreciation (HPA_sfr, solid line) during the 12 months ending in Dec-20 was very rapid in almost all cities. We can see the contrast between home price appreciation and rent appreciation for Washington, DC in Chart 1 and also relative to the nine other major Core Business Statistical Areas (CBSAs) in Chart 2.

Chart 2 shows the Dec-20 observations for same three data series: home price appreciation for single family residential properties (HPA_sfr), rent appreciation for single family residential properties (RRA_sfr), and rent appreciation for apartments in multi-unit structures (RRA_multi). In Chart 2, year-over-year home price appreciation on a two bedroom single family house in Washington, DC was about 4 percent YOY. HPA in Dallas, TX was the strongest at 8.9 percent. Chart 2 shows that New York City and

Washington, DC saw the largest apartment rental price declines. In that chart, apartment rents declined in six CBSAs. This suggests that some apartment dwellers in those six cities chose to substitute away from renting and towards purchasing a home.

Chart 2. Ten City Home Price and Rent Appreciation As Of Dec-20
Apartment Rents Declined In Five Major CBSAs



Sources: Zillow.com, Altisource.com, CHTR

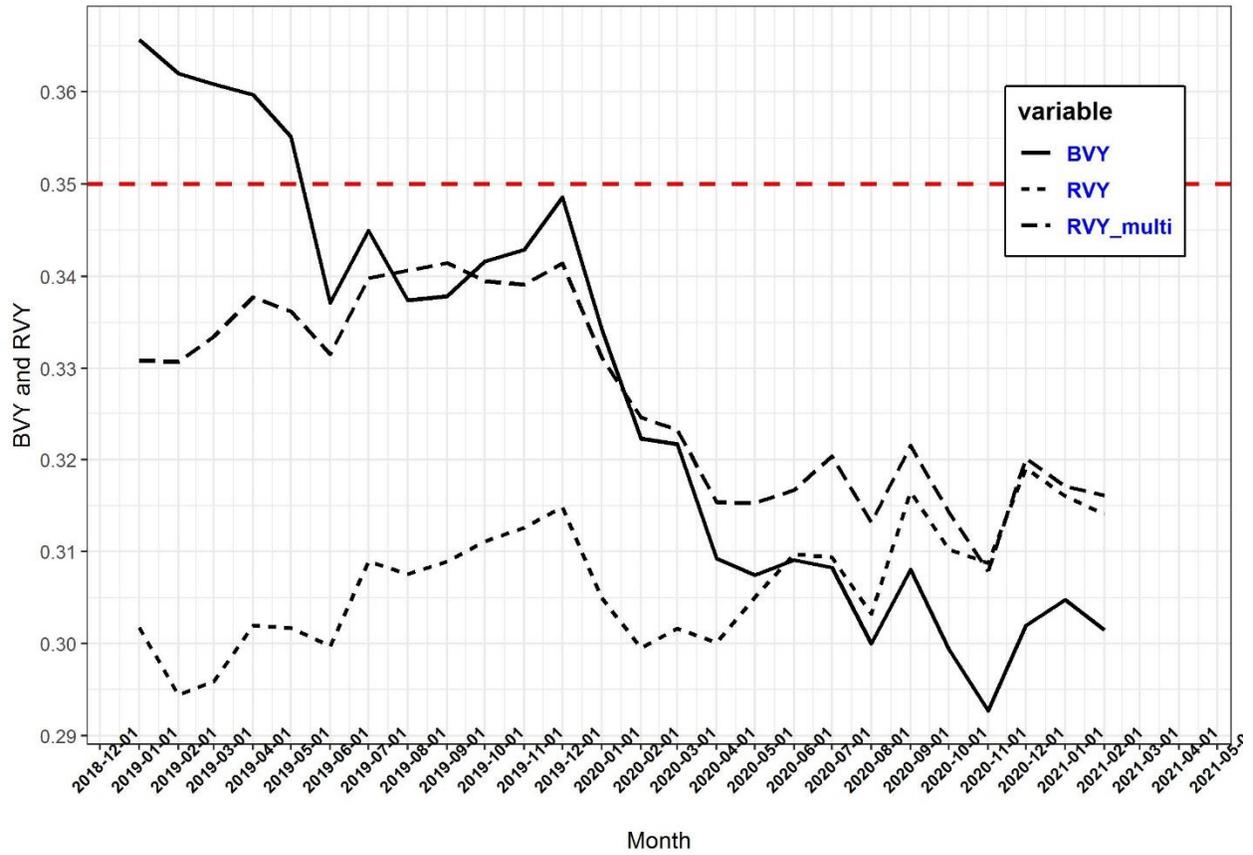
How have these changes impacted relative affordability in Washington, DC? In Chart 3, we show the cost of owning relative to renting. In that chart, we also show how rents for single family residential detached properties (RRA_sfr) contrast to rents for apartments.

Going back to Chart 1, we showed how RRA_sfr in Washington, DC has increased in lock-step with HPA_sfr. However, despite the rise in home prices in the Washington, DC CBSA, declines in mortgage rates have pushed the cost of buying a new home down. Chart 3 shows that it became slightly less expensive to buy a two-bedroom home than to rent a nearly identical SFR detached 2 bedroom home due to countervailing impact of lower mortgage rate, in Mar-21. This suggest that renters of SFR detached properties are relatively less well off. We also see that renters of two bedroom apartments have seen a substantial cost reduction in their cost of living space, but still face high monthly housing costs.

One has to suspect that renters are credit constrained.

Chart 3. Washington, DC: Buy vs Income (BVY) Versus Rent vs Income (RVY)

The yearly cost to rent a 2 bedroom detached home remained slightly lower than the cost to own it in 2020:Q4.



Sources: Zillow.com, Altisource.com, CHTR