Everyday we are faced with choices that yield hedonic responses. These responses are encoded in the brain as experienced utility signals, which can be found in the orbitofrontal cortex (OFC). These signals are used to learn the value of actions and stimuli, and affect memory encoding and retrieval. A key question in neuroeconomics and behavioral economics is what affects experienced utility. For example, is it influenced only by outcomes, or also by beliefs? Behavioral economists have proposed expectations-based models of reference dependence that incorporate deviations from expectations (“surprise”) into experienced utility. Although this class of models have become quite influential in behavioral economics, and are capable of explaining some puzzling phenomena, the fundamental assumption that experienced utility depends on both consumption and surprise has not been tested. Here, we propose to combine fMRI with a carefully designed task to test this approach.