

## **F22.022: Replication of: What Do Humans Perceive in Asset Returns?**

Faculty mentor: Blake Rayfield

### **Overview**

Summary of the Original Study: Hasanhodzic et al. (2019) challenge Malkiel's (1973) assertion, do market returns look systematically different from a random walk. In Hasanhodzic et al. (2019) (the original study), the authors use a simple game to determine if humans can perceive the difference between real stock market movements and a randomly generated series. These findings have important implications for the Efficient Market Hypothesis, Technical Analysis, and regulatory guidance. Why Replicate? First, the original study was done with less than 56 subjects collected from Amazon Mechanical Turk, and contained no information on age or educational attainment. Second, data were presented to the subjects in live-action, and this type of access is extremely rare. Lastly, investors were presented with two options, revealing information that provided game players an advantage not given to individual traders. Replication Plan: This study plans to replicate the original study under its original conditions to determine if conditions hold. For example, individuals will be given static charts and presented with two or more random stock charts. A survey software will collect the age, gender, education level, and average income before game-play strictly as control variables data analysis. The game software, in development, will be released with an open-source license. Subjects will be sourced from NAU and the community. Citations provided by request due to the character limit.

### **What the student will DO and LEARN**

Students will do: Help create stock market games. Utilize survey software such as Qualtrics. Elementary programming in Python Review academic Literature Students will learn: The IRB process and assist with completing and revising the application as needed. Elementary programming in Python Features of the stock market Basic financial theories including the efficient market hypothesis and behavioral finance.

### **Additional benefits**

The student will be supported in their academic career. If interested, the student may also apply for the National Conference on Undergraduate Research.

### **Additional qualifications**

Students do not need to have any specific qualifications, and the faculty member is willing to work to the students' strengths.

### **Time commitment**

6 hrs/week for 30 weeks