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*Behavioural/Data Science Intern – Summer 2025*

*Exploratory Data Analysis*

Main Insights

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## **1. Financial Assets Data**

## **Univariate Analysis**

### ***1.1.1 ID***

Number of unique IDs: 297

Maximum frequency of asset allocation: 5

Minimum frequency of asset allocation: 1

Mean frequency of asset allocation: 2.65

Number of unique allocation IDs: 786

### ***1.1.2 Asset Allocation Type***

Percentages of each asset allocation type:

A pie chart with numbers and text

AI-generated content may be incorrect.

Note. Crypto was allocated most frequently (33.97%), whilst cash was allocated the least (9.8%).

### ***1.1.3 Asset Currency***

Frequency of each asset currency:

A graph of blue bars

AI-generated content may be incorrect.

Note. Most asset allocations were made using AUD (count: 168), whilst GBP was the least (count: 144).

### ***1.1.4 Asset Value***

Distribution of asset value (GBP) per entry:

A graph of a distribution of asset value

AI-generated content may be incorrect.

Note: Mean (£174.18), std (£51.09), min (£83.42), max (£299.99)

### ***1.1.5 Frequency (Asset Allocation Time)***

Daily frequency of asset allocations (total asset allocations made per day):

A graph with orange lines

AI-generated content may be incorrect.

Note: Min (3), max (20), mean (8.64).

Monthly frequency of asset allocations (total asset allocations made per month):

A graph of a bar chart

AI-generated content may be incorrect.

Note: Min (70), max (266), mean (196.5).

## **Multivariate Analysis**

### ***1.2.1 Asset Value by Allocation Type***

Total asset values (GBP) by allocation type:

A graph of a bar chart

AI-generated content may be incorrect.

Note. Crypto has the highest total asset value (£47182.14), and cash has the lowest (£13461.12).

### ***1.2.2 Asset Value by Currency***

Total asset values (GBP) by currency:

A graph of blue rectangular objects

AI-generated content may be incorrect.

Note: USD has the highest total asset value (£28349.73), and GBP has the lowest (£27114.72).

### ***1.2.3 Asset Value Over Time***

Daily total asset value (GBP) over time:

A graph showing a line of a graph

AI-generated content may be incorrect.

Note: Min (£441.89), max (£3126.49), mean (£1504.44).

### ***1.2.4 Asset Value by Allocation Type and Currency Over Time***

Weekly average asset value (GBP) over time by asset type:

A graph of different colored lines

AI-generated content may be incorrect.

Weekly average asset value (GBP) over time by asset currency:

A graph of different colored lines

AI-generated content may be incorrect.

# **2. Financial Personality Data**

## **2.1 Personality Dimensions Data Summary**

Personality Dimensions Summary:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Confidence | Risk Tolerance | Composure | Impulsivity | Impact Desire |
| Mean | 0.50 | 0.50 | 0.51 | 0.50 | 0.49 |
| Std | 0.10 | 0.07 | 0.07 | 0.30 | 0.29 |
| Min | 0.18 | 0.30 | 0.31 | 0.01 | 0.01 |
| 25% | 0.43 | 0.45 | 0.46 | 0.23 | 0.24 |
| 50% | 0.51 | 0.50 | 0.51 | 0.51 | 0.49 |
| 75% | 0.56 | 0.55 | 0.55 | 0.74 | 0.73 |
| Max | 0.89 | 0.74 | 0.70 | 1.00 | 1.00 |

Distributions:

A graph of different sizes and shapes

AI-generated content may be incorrect.

## **2.2 Correlations**

Correlation Matrix: A diagram of a personality

AI-generated content may be incorrect.

Note: Confidence and risk tolerance have the highest positive correlation (0.92), whilst impulsivity and composure have the lowest positive correlation (0.02). Impulsivity and impact desire have a negative correlation (-0.03).

# **3. Merged Data (Financial Assets Data and Financial Personality Data)**

## **3.1 Personality vs Asset Value (GBP)**

Correlation Matrix: A diagram of a number of red and blue squares

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Note: There is a weak positive correlation between composure and asset value (0.04), and between impact desire and asset value (0.02). There is also a weak negative correlation between impulsivity and asset value (0.01). There is no correlation between asset value and confidence or risk tolerance.

Scatterplots of Personality vs Asset Value (GBP):

A collage of graphs

AI-generated content may be incorrect.

## **3.2 Personality vs Allocation Type**

Box Plots of Correlations between Mean Personality Dimension and Asset Allocation Type:

A group of blue boxes with white text

AI-generated content may be incorrect.

Correlations:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Confidence | Risk Tolerance | Composure | Impulsivity | Impact Desire |
| Crypto | 0.51 | 0.50 | 0.51 | 0.57 | 0.55 |
| Commodities | 0.50 | 0.50 | 0.51 | 0.51 | 0.51 |
| Equities | 0.50 | 0.50 | 0.50 | 0.49 | 0.48 |
| Bonds | 0.50 | 0.50 | 0.50 | 0.48 | 0.48 |
| Real Estate | 0.50 | 0.50 | 0.50 | 0.46 | 0.48 |
| Cash | 0.50 | 0.50 | 0.50 | 0.43 | 0.47 |

Note: Impulsivity and crypto have the highest correlation (0.57), whilst impulsivity and cash have the lowest correlation (0.43). Correlations between personality and asset allocation types vary the most for impulsivity, and the least for risk tolerance.

## **3.3 Personality vs Asset Currency**

Box Plots of Correlations between Mean Personality Dimension and Asset Currency:

A group of blue and white graphs

AI-generated content may be incorrect.

Correlations:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Confidence | Risk Tolerance | Composure | Impulsivity | Impact Desire |
| GBP | 0.51 | 0.51 | 0.52 | 0.52 | 0.52 |
| AUD | 0.51 | 0.51 | 0.50 | 0.51 | 0.51 |
| USD | 0.50 | 0.50 | 0.50 | 0.51 | 0.49 |
| EUR | 0.50 | 0.50 | 0.50 | 0.51 | 0.48 |
| JPY | 0.49 | 0.49 | 0.50 | 0.44 | 0.45 |

Note: Composure and impulsivity vs GBP have the highest correlation (0.52 respectively), whilst impulsivity and JPY have the lowest correlation (0.44). Correlations between personality and asset allocation types vary the most for impulsivity, and the least for confidence and risk tolerance.

## **3.4 Personality vs Asset Value Over Time**

Confidence:

A graph showing a line graph

AI-generated content may be incorrect.

Risk Tolerance:A graph of a chart

AI-generated content may be incorrect.

Composure:

A graph showing the value of a company

AI-generated content may be incorrect.

Impulsivity:

A graph showing a line of different colored lines

AI-generated content may be incorrect.

Impact Desire:

A graph showing the value of a company

AI-generated content may be incorrect.

Note: Asset value trends do not vary significantly for different personality dimensions.

# **4. Summary of Personality vs Financial Assets**

In conclusion, the correlations between personality dimensions and financial asset components are weak. This conclusion is based on the following observations:

1. The correlation between asset value and all personality dimensions are weak.
2. All personality dimensions have similar correlations with asset type and currency, implying that **no single personality dimension stands out as a primary driver of investment in a particular asset type or currency.**
3. Asset value trends do not vary significantly for different personality dimensions.