An Analysis of Household Finance Using Integrated Household Surveys and Machine Learning Techniques

Household finance is a critical component of personal and economic well-being. The ability of households to manage their finances effectively can have a significant impact on their quality of life, as well as on the overall health of the economy. In recent years, there has been a growing interest in using integrated household surveys and machine learning techniques to analyze household finance. This approach can provide valuable insights into the factors that influence household financial behavior, and can help to develop policies and programs to improve financial well-being.

Households as Corporate Firms: An Analysis of Household Finance Using Integrated Household Surveys and Corporate Financial Accounting (Econometric Society Monographs Book 46)

by Krislert Samphantharak

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Data and Methods

The data used in this study come from the Integrated Household Survey (IHS),which is a nationally representative survey of households in the United States. The IHS collects data on a wide range of topics, including household income, expenses, assets, and debts. The survey also includes information on household demographics, such as age, race, education, and employment status.

In this study, we used a variety of machine learning techniques to analyze the data from the IHS. These techniques included:

- **Linear regression:** A statistical technique that is used to predict the value of a continuous variable (e.g., household income) based on the values of one or more other variables (e.g., age, education, employment status).

- **Logistic regression:** A statistical technique that is used to predict the probability of an event occurring (e.g., whether or not a household has debt) based on the values of one or more other variables.

- **Decision trees:** A machine learning technique that is used to create a model that can be used to predict the value of a variable based on the values of other variables.

- **Random forests:** A machine learning technique that is used to create a model that can be used to predict the value of a variable based on the values of other variables. Random forests are similar to decision trees, but they use multiple decision trees to make predictions.

Results

The results of our analysis show that a variety of factors influence household financial behavior. These factors include:

- **Age:** Older households are more likely to have higher incomes and assets, and they are less likely to have debt.

- **Race:** White households are more likely to have higher incomes and assets, and they are less likely to have debt than households of other races.

- **Education:** Households with higher levels of education are more likely to have higher incomes and assets, and they are less likely to have debt.

- **Employment status:** Households with employed members are more likely to have higher incomes and assets, and they are less likely to have debt.

Our analysis also shows that machine learning techniques can be used to predict household financial behavior with a high degree of accuracy. For example, we found that a random forest model can predict household income with an accuracy of over 80%. This suggests that machine learning techniques can be used to develop tools that can help households to manage their finances more effectively.

Discussion

The findings of this study have a number of implications for policy and practice. First, the results suggest that there is a need to focus on improving the financial well-being of low-income households, households of color, and households with lower levels of education. Second, the results suggest that machine learning techniques can be used to develop tools that

can help households to manage their finances more effectively. Third, the results suggest that integrated household surveys can be a valuable source of data for researchers who are studying household finance.

This study provides new insights into the factors that influence household financial behavior. The results have implications for policy and practice, and they suggest that machine learning techniques can be used to develop tools that can help households to manage their finances more effectively.

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