

2014 Russell Ackoff Doctoral Student Fellowship Proposal
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1. Project title and descriptive summary

The Marginal Propensity to Consume an Employer Bonus

Background

Individual spending choices are the bricks that make up the edifice of the modern economy. Economists and decision-making scholars have long grappled with the difficult task of modeling and understanding people's spending. The primary purpose of this research is to answer a central open question related to individual spending choices: what is the marginal propensity to consume an employer bonus?

The life-cycle hypothesis in economics models consumers as long-term planners who optimize consumption over an entire lifetime (Romer, 2011). Though tractable and appealing in some ways, this concept implies that consumption of bonuses and income shocks should be very low – a prediction that has been contradicted by much recent empirical work (e.g. Agarwal and Qian, 2013, Shapiro and Slemrod, 2009). By closely analyzing spending choices before and after employer bonuses, this research will shed light on the life-cycle hypothesis and other models of consumption. It will also add to recent literature on behavioral determinants of consumption choices such as mental accounting (Christiansen and Pan, 2010) and framing effects (Card and Ransom, 2011). It will have implications for the optimal design of employee incentives and government stimulus packages.

Data

The proposed research will examine the marginal propensity to consume through analysis of a large dataset containing detailed information on individuals' transactions. The data contains information on 6,476,788 transactions associated with 52,033 accounts owned by 13,029 users. For each transaction, the data includes the associated account, the transaction date, the transaction category, and the amount. For each account, the data includes the account type, the institution, and the interest rate. For each person, the data includes employer, age, and reported income.

Methods

Our initial data analysis will be relatively simple: first, we will identify individuals' paychecks and income streams. Next, we will identify anomalously large paychecks that coincide with employers' bonus schedules. Finally, we will identify spending that occurs soon before and soon after receiving a bonus. The degree to which spending around a bonus differs from spending around a normal paycheck will serve as a measure of the marginal propensity to consume bonuses.

The high level of detail in the dataset will enable other analyses that go further than previous work. For example, we will be able to examine the categories of transactions that are associated with bonus spending – the data includes detailed categories for each transaction such

as “Restaurant,” “Dry Cleaning,” “Dental,” etc. Previous work has examined consumption reactions to income shocks that are limited to one consumption category such as healthcare (Gross and Tobacman, 2013); this research will examine and compare many categories. Additionally, variation in bonus timing during the year and bonus size will enable us to investigate the optimal time of year and the optimal size of an employer bonus. Finally, differences in individuals’ income and age will enable novel analyses of the role of these variables in predicting consumption of income shocks.

Intended Contribution

The life-cycle hypothesis is a central part of modern economic theory. Its predictions depend heavily on knowledge of the marginal propensity to consume (Jappelli and Pistaferri, 2010). This research will use a dataset with an unprecedented level of detail to estimate individuals’ marginal propensity to consume employer bonuses. This will help inform models of consumption choices. Understanding the consumer response to income shocks also has implications for governments worldwide that frequently attempt to stimulate consumption by income shocks in the form of tax rebates and stimulus packages.

References

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2. Name of faculty advisor

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