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# Researching Tax Questions from Different Academic Perspectives:

*Thoughts from a Financial Accountant /  
Experimental Economist*

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# Overview

## Big Question

- How do taxes affect savings behavior?

## Smaller Question

- What can *experiments* tell us about the big question?

## Issues

- What are the relative strengths of experimental methodologies?
- What key factors are involved in the decision to save?
- What interesting things have been (or could be) done?

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# The Experimental Methodology

## Strengths

- Control over the environment
  - Ability to turn one dial at a time
  - Power of random assignment
  - *Dramatically improves our ability to **test relationships and make causal inferences (if-then)***
  
- Ability to observe the otherwise unobservable
  - Not constrained to naturally occurring situations
  - Can elicit data that is not available in large, aggregate databases
  - *Removes “**missing cell**” and “**no data**” problems allowing for cleaner tests and better measurement of underlying decision processes*

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# The Experimental Methodology (cont.)

## Weaknesses

- Use of artificial stimuli and/or settings
  - Cannot put participants into perfect replications of real world scenarios
  - *Significantly limits our ability to **parameterize** and can raise questions of **generalizability***
  
- Open to internal validity problems
  - Need to have valid links between theoretical constructs and their operationalizations
  - *A poorly designed experiment generates data that is of little use*

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# The Experimental Methodology (cont.)

## Main Types of Experiments in Accounting/Finance

- Judgment and Decision Making
  - **Settings:** Surveys and vignettes
  - **Key characteristics:** Use of contextually rich questions or stimuli; systematic variation in aspects of the survey or vignette.
  
- Experimental Economics
  - **Settings:** Interactive games, laboratory markets
  - **Key characteristics:** Careful control or manipulation of information, market structures, and/or incentives (with real payouts).

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# Understanding the Decision to Save

## A Choice of Consumption

- Do I want to consume good A or good B?
  - Marginal utility of each good
  - Marginal cost of each good
  - A host of psychological factors (framing, sunk costs, guilt, regret, etc.)
  
- Experimental methods work well here.
  - Relatively easy to present participants with a meaningful choice between two goods and manipulate factors that might alter their choice.

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# Understanding the Decision to Save (cont.)

## A Choice to Consume or Save

- Do I want to consume a good now or later?
  - Current marginal utility vs. the *anticipated* future marginal utility
  - Current marginal cost vs. the *anticipated* future cost
  - Expected risk and return on investment of unused resources
  - A host of psychological factors (including impatience, myopia, culture, etc.)
  
- Do experimental methods work just as well here? What's different?

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# Understanding the Decision to Save (cont.)

## Unique Factors

- Requires forecasting
  - How much will the good consumed in the future be desired?
  - How much will that good cost?
  - How much can be gained (in present value terms) by saving?
  - How risky is the investment? (what's the appropriate discount rate?)
  
- Requires (consideration of) deferring consumption
  - How painful is the act of delaying consumption?
  - How disciplined can one be?

→ *Experiments are good for investigating the first set of factors, but the latter set is trickier.*

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# Interesting Recent Research

## Framing Windfall Gains (Epley et al; Epley & Gneezy)

- A windfall gain can be framed as either a return of lost prior wealth or as an increase in current wealth.
- A set of experiments provides participants with alternatively framed windfalls – “bonus income” vs. “rebate”.
- **Experiment 1:** Participants are polled a week later on how much of the windfall was spent.
  - **Mean spending:** \$22 (bonus) vs. \$10 (rebate)
  - **Percent spending nothing:** 26% (bonus) vs. 73% (rebate)
- **Experiment 3:** Participants can spend money in the “lab store”.
  - **Mean spending:** \$11 (bonus) vs. \$2 (rebate)
  - **Percent spending nothing:** 16% (bonus) vs. 79% (rebate)

→ *Experiment 3 is cool!!*

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## Interesting Recent Research (cont.)

### Altering how a refund is paid out (Chambers & Spencer)

- A refund can be distributed as a lump sum or as a stream of payments.
- A survey asks participants how much they would save if a refund (\$300 - \$3,000) came annually or monthly.
- **Results:** Participants save much more when the refund is paid as a lump sum.
  - **Annual payment:** approx 80% is saved for all refund amounts
  - **Monthly payment:** mean savings ranges from approx 30 to 70%
  - **Effect of refund amount:** rate of saving converges as refund amount increases

→ *This got me thinking about the importance of experiencing an effect over time, rather than just anticipating it.*

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# Proposal

## General Design

- **Overview:** Address questions of how taxes affect savings vs. spending behavior in a laboratory context where spending can be controlled. (Perhaps in Second Life?)
  
- **Potential Experimental Design:**
  - Participants commit to participate over a period of time.
  - Each week, they have the opportunity to earn money by performing a series of tasks.
  - Money can be invested in a risky or riskless asset or spent in the “lab store”.

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## Proposal (cont.)

### Potential Independent Variables:

- Tax rates
- Tax basis
  - Income-based (regular vs. investment income)
  - Consumption-based
  - Wealth-based
- Investment characteristics
  - Various risk/return tradeoffs for a given investment
  - Mix of available investment options
- Presence/absence of investment/savings targets
  - e.g., participants might be penalized/rewarded for saving \$X by a given date

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## Proposal (cont.)

### Potential Dependent Variables:

- Forecasts of expected future earnings
  - From performing tasks in future periods
  - From investment income
- Forecasts of expected future behavior
  - Expected spending vs. savings in future periods
- Actual amount of income spent vs. saved each period
- How wealth is reallocated each period

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## Proposal (cont.)

### Advantages

- ❑ Allows for meaningful choice between consuming immediately or saving for future consumption
- ❑ Income and spending can be measured precisely
- ❑ Expectations can be elicited and coupled with real choice

### Disadvantages

- ❑ Requires money
- ❑ Participants may be difficult to recruit or might drop out
- ❑ Generalizability might be limited, unless recruiting from a wider population than college undergrads.

→ *But there are lots of interesting studies that could be done with a little innovation and creativity!!*

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