Self-Regulation without Self-Control: How to Write a Contract with Myself

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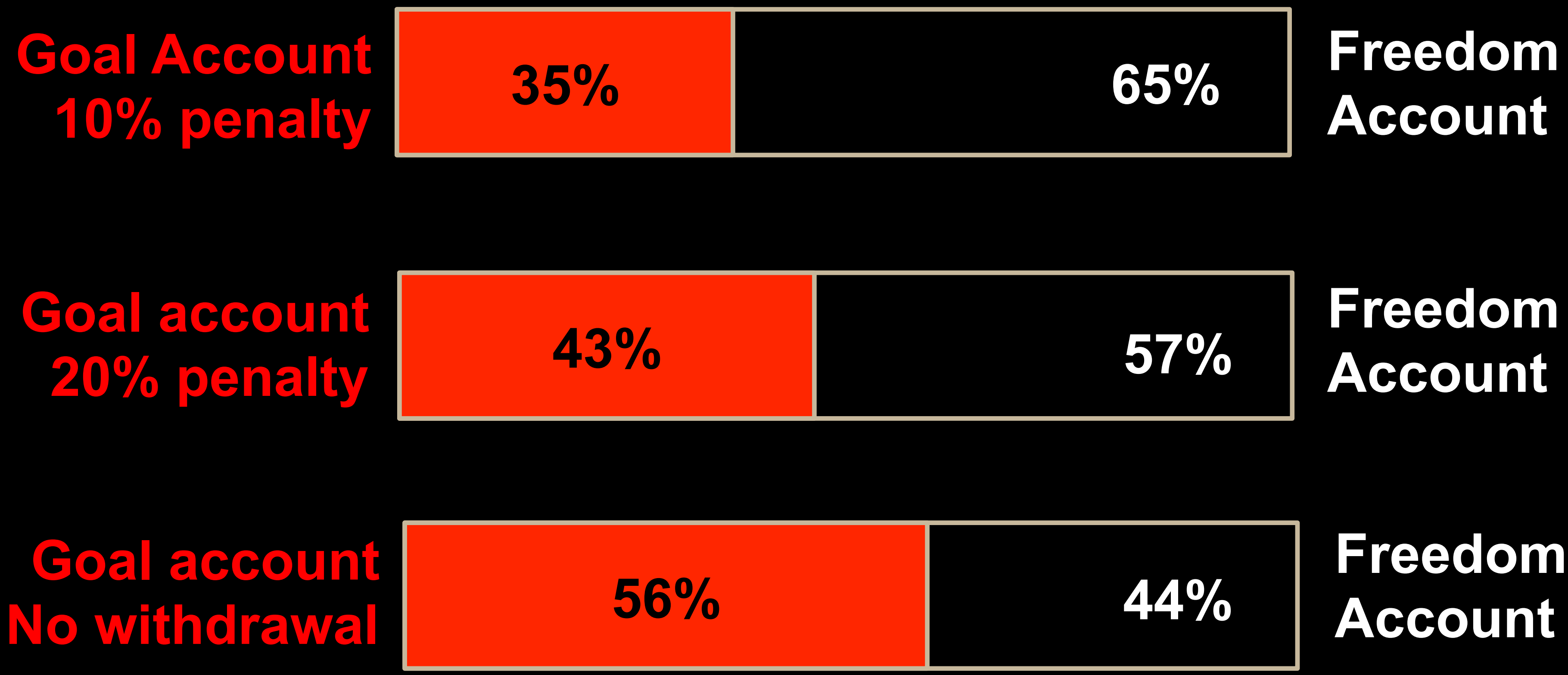
June 20, 2012

- What are the features that make a savings account attractive?
- Liquidity?
- Illiquidity?!
  - Ashraf, Karlan, and Yin (2004)
- If people like illiquidity, what kind of illiquidity is most effective?
- 10% penalty? 401(k)?

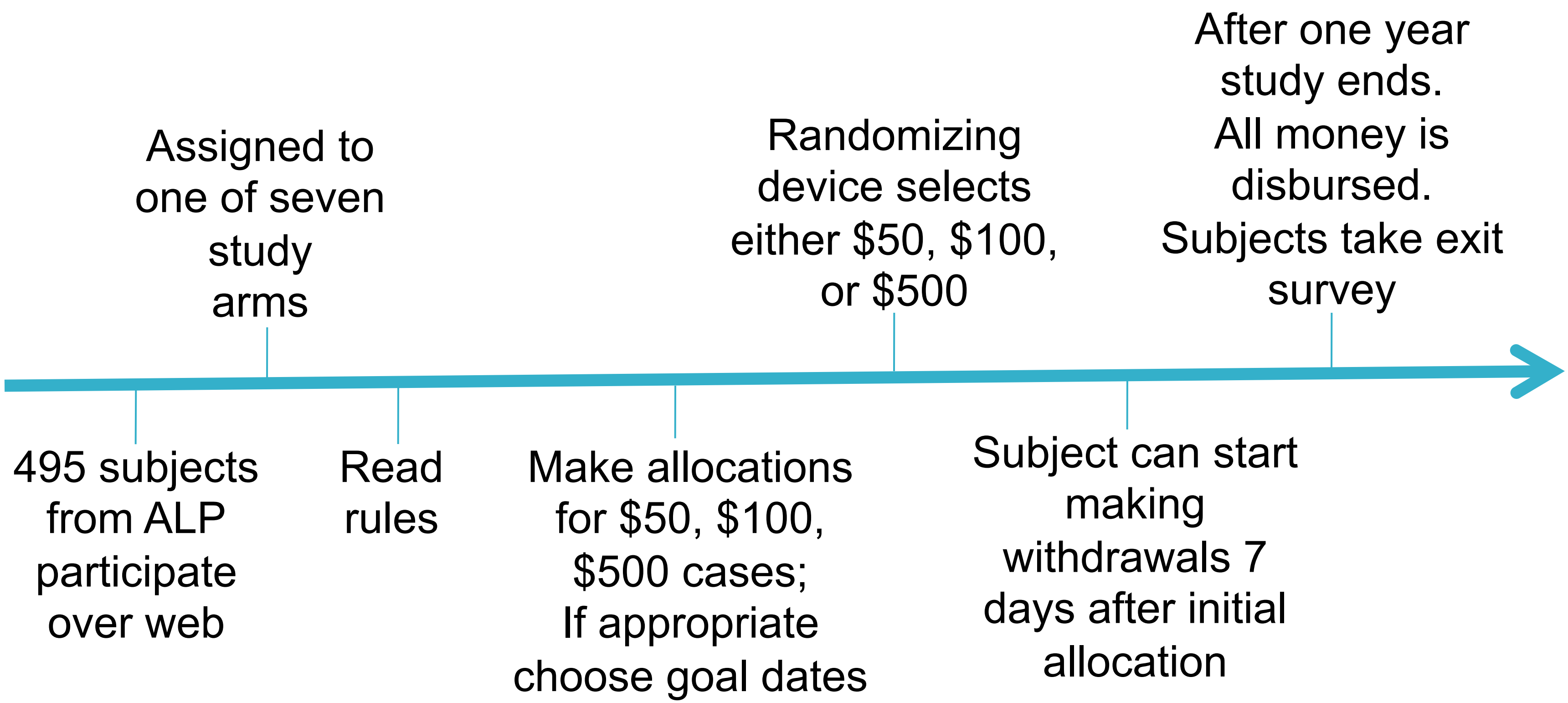
Allocate across two accounts

Freedom Account	Goal Account
❖ Liquid – can withdraw money any time within the period of experiment (1 year)	❖ Subject picks a goal date ❖ **Illiquid** before goal date ❖10% early withdrawal penalty ❖ Liquid after goal date, just like freedom account
❖ 22% interest per year	❖ 22% interest per year

Initial investment in goal account



Detailed experimental design



Experimental variables

- Goal account interest rate (between subjects): 21%, 22%, 23%

- Deterrent to withdraw from goal account before goal date (between subjects):
  - 10% penalty of money withdrawn
  - 20% penalty of money withdrawn
  - No withdrawal allowed

- Amount to be allocated (within subject): $50, $100, $500

7 study arms: manipulating characteristics of the goal account

Characteristics of the freedom account:
Continuous liquidity and 22% interest

Characteristics of the goal account:

	21% interest	22% interest	23% interest
10% penalty	Arm 1	Arm 2	Arm 3
20% penalty		Arm 4	Arm 5
No withdrawal		Arm 6	Arm 7

Early withdrawal restrictions

“Goal share”

$$= \frac{\text{Amount allocated to Goal Account}}{\text{Total Amount}}$$

where Total Amount = \$50, \$100 or \$500

Fractional allocation to goal account "Goal Share" ($50 condition)

Interest rate in goal account

	21%	22%	23%
10% penalty	0.27	0.35	0.57
20% penalty		0.43	0.57
No withdrawal		0.56	0.58

Follow-up experiment

Subject allocates $100 between…

Freedom Account	Goal Account(s)
	• Subject picks a goal and a goal date
• Liquid – can withdraw money any time within the period of experiment	• **Illiquid** before goal date; liquid after goal date, just like Freedom Account
• 22% interest per year	• 22% interest per year

… at the end, 50% of subjects get all $100 in Freedom Account

4 study arms:

	Goal Account characteristic
Arm 1	**10% Penalty** before goal date
Arm 2	**No Withdrawal** before goal date
Arm 3	• **10% Penalty** • **No Withdrawal**
Arm 4	**Safety Valve** – no withdrawal before goal date, *except* in case of a financial emergency as determined by the subject

Goal Account (Arm 4: Safety valve)

The **Goal Account** is designed to help you save. You can withdraw money from this account any time **on or after** a goal date that you pick. Setting a goal for yourself and picking the right goal date can help you avoid the temptation to spend your money too soon.

You cannot withdraw from this account **before** the goal date, except in the case of a financial emergency. If you have a financial emergency, you can make an early withdrawal. We are relying on you to be honest in judging whether you have a financial emergency.

Money in the Goal Account will grow at an interest rate of 22% per year, both before and after the goal date, until you withdraw it. When you withdraw money from the Goal Account, you don’t have to withdraw all of it. Whatever you leave in the account will continue to earn 22% interest until the end of the experiment on September 1, 2011.

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Goal amount by study arm (out of $100)

#	Variation	N	Mean
1	10% Penalty	100	$45.8
2	No Withdrawal	150	$53.7
3	Two Goal Accounts	150	$50.1
	A (10% Penalty)		$16.2
	B (No Withdrawal)		$33.9
4	Safety Valve	150	$45.3

Smoking guns for sophistication

- Put money into illiquid goal account, even though it offers a lower interest rate (Exp 1)
- Put money into illiquid goal account, even though it offers the same interest rate (Exps 1,2)
- Set goal dates far in the future (Exps 1,2)
- Prefer more illiquid accounts to less illiquid accounts, ruling out demand effects (Exps 1,2)
  - ‘No withdrawal’ more popular between subjects (Exps 1,2)
  - ‘No withdrawal’ more popular within subjects (Exps 2)

Open questions

- House money vs. own money
- Interest rates
- Demand effect
- Stakes
- Short-run vs. Long-run
- Trust

Conclusions

- Evidence that individuals recognize future self-control problems and adopt commitment devices
- Potential implications for the design of a retirement saving system?
  - 401(k) plans allow withdrawals (10% tax penalty) – is this the right balance between commitment and liquidity?
  - How would household respond if 401(k) plans added another option – an illiquid account?
  - Would they take it up and would this reduce leakage and raise welfare?

Final question

Should we have 300 flavors of ice cream and one type of retirement savings account:

“10% penalty”?