Commitment vs. Flexibility

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Outline

Motivation

- Large choice sets are nice if you don't know what you might want.
- Small choice sets are nice if you suffer from self-control problems.
- Is there a happy medium between pure commitment and pure flexibility?
- Solution: minimal savings plans.

Model Overview

- Preference for flexibility: Taste shocks (unobserved)
- Preference for commitment: Time-inconsistency and quasi-hyperbolic discounting
- "Principal agent" setup with two selves

Outline

Model

- Two periods
  1. Good c, utility U
  2. Good k, utility W
- Taste shock: $\theta \sim F(\theta)$
- Budget Constraint: $c + k \leq y$
- Two selves
  0. $\mathbb{E}[\theta U(c) + W(k)]$
  1. $\theta U(c) + \beta W(k)$
- Disagreement regarding discounting, agreement regarding tastes.
- Selve-0 solves SPNE: tradeoff

Problem

Define

$$B(y) \equiv \{(c,k) \in \mathbb{R}^2_+ : c + k \leq y\}$$

Problem is to constrain ourselves well:

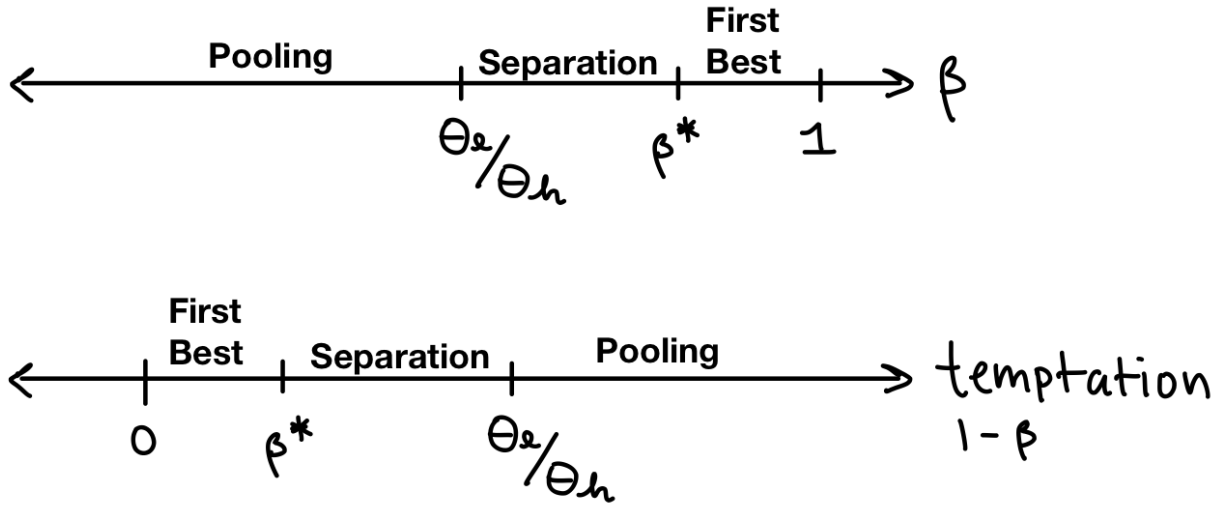
$$\max_{C \in B(y)} \mathbb{E}[\theta U(c(\theta)) + W(k(\theta))]$$
$$\text{s.t. } c(\theta), k(\theta) \in \underset{(c,k)\in C}{\text{argmax}}\, \theta U(c(\theta)) + \beta W(k(\theta))$$

Equivalently

$$\max_{c,k} \mathbb{E}[\theta U(c(\theta)) + W(k(\theta))]$$
$$\text{s.t. } \theta U(c(\theta)) + \beta W(k(\theta)) \geq \theta U(c(\theta')) + \beta W(k(\theta')),\ \forall \theta, \theta'$$
$$\text{s.t. } c(\theta) + k(\theta) \leq y, \forall \theta$$

Outline

Two Types: θ_ℓ, θ_h



- First-best: Not generally achievable.
- Separation: Give high-temptation types (h) higher first-period consumption.
- Pooling: Too greedy. Resolves commitment at expense of flexibility.

Minimum Savings

- Definition: A positive mass of (upper) agents get the same bundle of consumption and savings.
- Always necessary.
- For F continuous, then there is a condition on F and f that makes a minimum savings plan necessary and sufficient for an optimum.
- If F differentiable, then the condition is a restriction on the elasticity of the distribution can't be too small relative to β
- More concretely, holds for several reasonable distributions.
- Bunching point increases with β

Extensions

- Self-control at a cost φ. Bunching point increases (minimum savings decreases) with β and decreases with φ.
- Cap on government spending.
- Minimum schooling level (paternalism).
- Externalities (private vs. social costs/benefits)
- CARA $\Rightarrow$ taste shocks are income shocks.