Commitment and Welfare

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QSPS Workshop

May 2014

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- Practical Solution: Behavioral economists typically assume the goal for policy is to maximize the utility of the time-zero self (O'Donoghue and Rabin).

- Seems Intuitive Enough: Why not help individuals follow through on the plans that they themselves wanted to follow before falling victim to self-control problems?

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- Rubinstein (2006): "One criticism made of behavioral economics is the arbitrariness of the welfare criterion...why should the utility of the first self be the basis for welfare considerations?"

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- In the language of Bernheim and Rangel (2009, QJE): The commitment allocation **strictly multiself Pareto dominates** the actual allocation.

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- Why is Pareto Relevant?: Because each of these ideal allocations, for every self, tends to lie near or well above the commitment allocation. All selves agree that commitment is a move in the right direction.

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- Our Clarification: We can generalize Laibson's insights to allow for the full range of assumptions about backward discounting. When we do so, we find that the commitment allocation **strictly and robustly multiself Pareto dominates** the actual allocation.

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- $F(0) = B(0) = 1$, $F(\tau) > 0$, $B(\tau) > 0$, $F'(\tau) < 0$, $B'(\tau) < 0$.

5 Life-Cycle Consumption-Saving Problems

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$$F \neq exp \Longrightarrow c_v^*(t) \neq c_0^*(t).$$

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• But such a conclusion confounds the concepts of *dynamically inconsistent behavior* and *regret*.
• The former relates to the desire to switch plans, given the present state of affairs. But the latter is about wishing one could follow an entirely different plan from the start.

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- Claim 1: For any $v > 0$, individual will regret not having saved more than commitment assets, whether he does or does not discount the past.

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- Actual Allocation: Path actually followed $(c_a(t), k_a(t))_{t \in [0,\bar{T}]}$ is the envelope of initial values from a continuum of planned paths.

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Individual Welfare Simulations

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For an individual standing at age v, we compute the fraction of the *utility gap* between ideal (P3) and actual (P4) consumption allocations that is closed by following the commitment path (P1):

$$\Delta(v) \equiv \frac{U(v)_{c(t)=c_0^*(t)} - U(v)_{c(t)=c_a(t)}}{U(v)_{c(t)=c_v^{**}(t)} - U(v)_{c(t)=c_a(t)}}.$$

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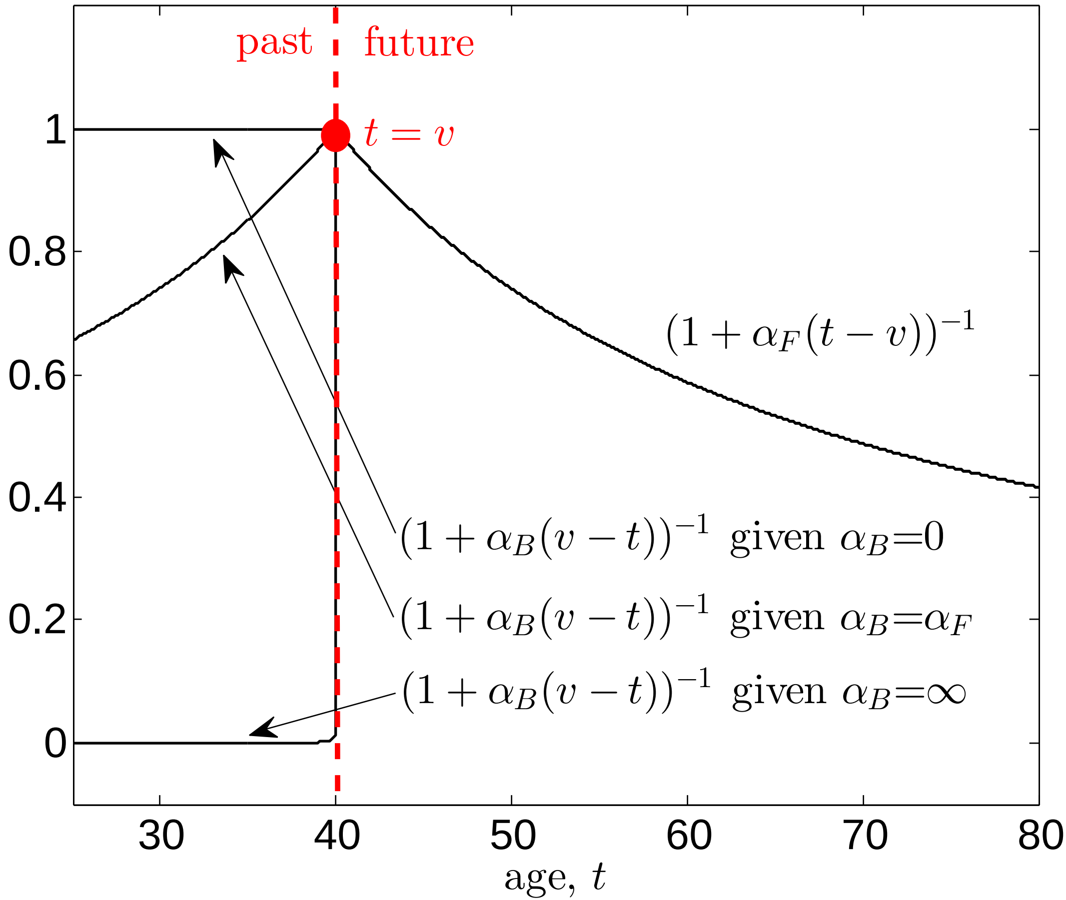
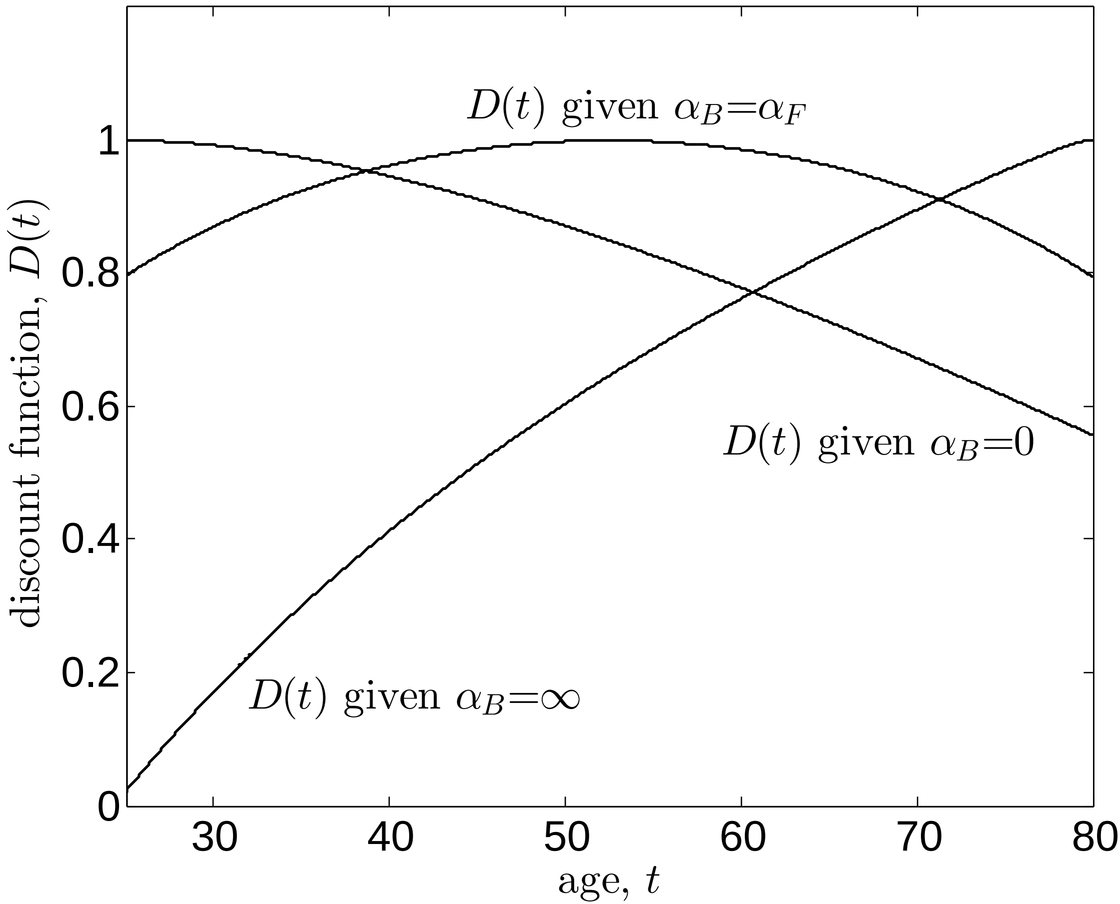
- Note that 100% is the maximum welfare gain from commitment.

Figure 1. Discount Functions from the Vantage Point of Age 40



The forward discount parameter, α_F, is set to 0.035.

Figure 2. Social Discount Functions



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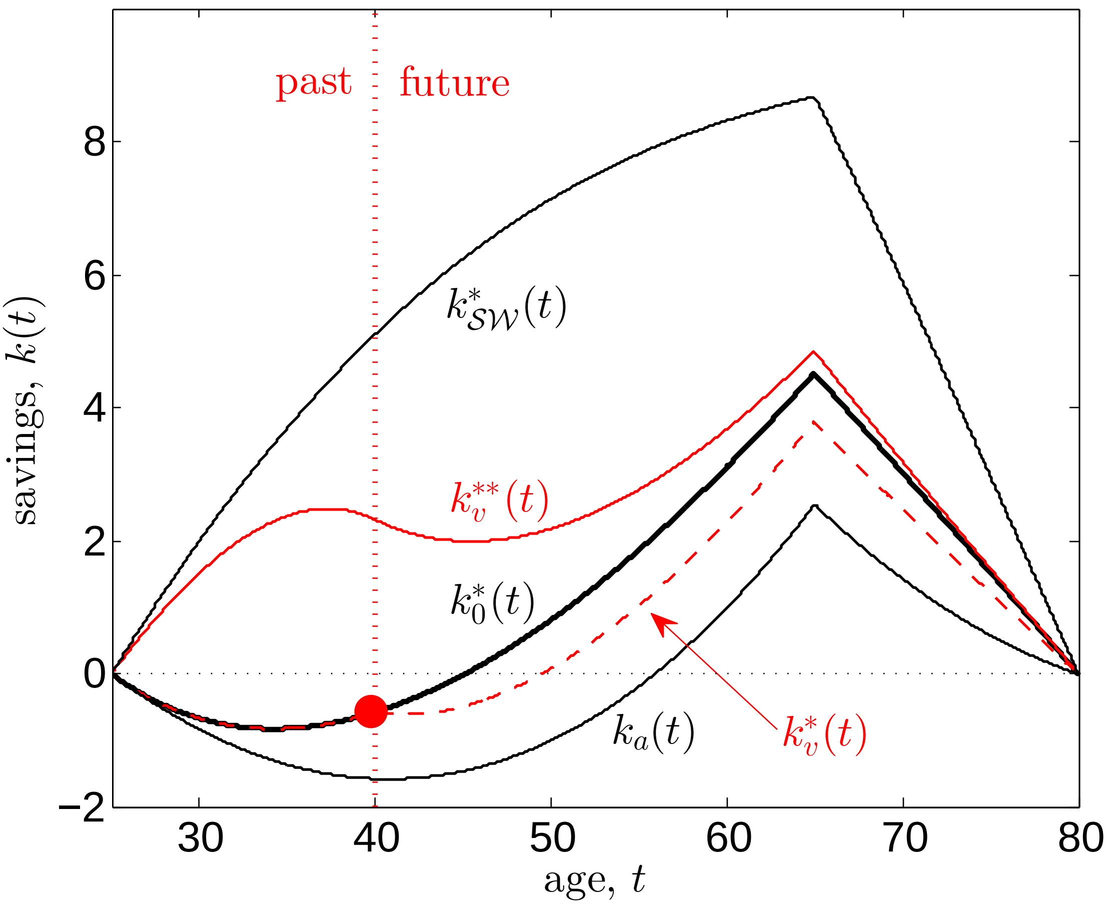
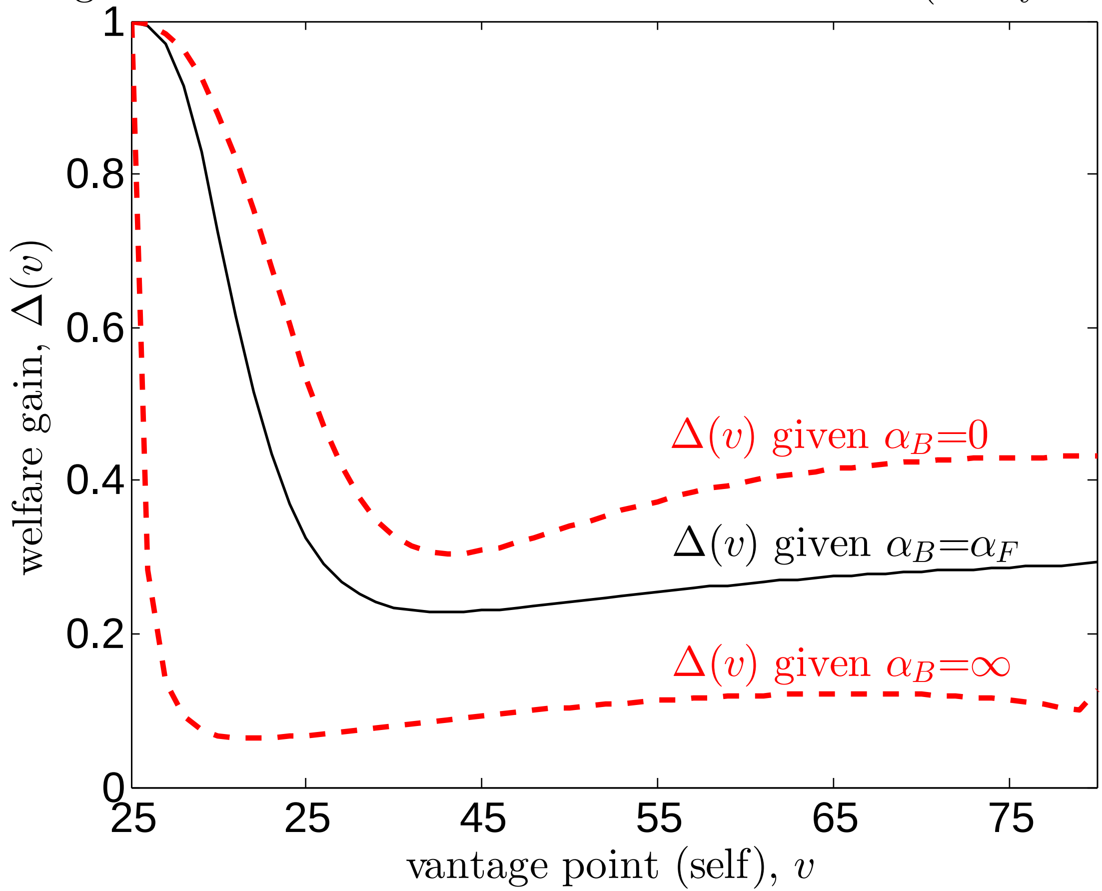
Each function is normalized to ensure a peak at unity.

Figure 3. Savings Allocations over the Life Cycle (5 Problems)



All allocations correspond to Example 1: α_B=α_F.

Figure 4. The Pareto Gains from Commitment (Many Selves)



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3. If the individual cares just as much about all past consumption realizations as he care about present consumption ($\alpha_B = 0$), the welfare gains range between 30% to 100%.
4. If the individual does not care about the past at all ($\alpha_B = \infty$), the welfare gains range between 6% to 100%.

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1. Commitment is a Pareto improvement, for all parameterizations of the backward discount parameter α_B.
2. If the individual discounts delays, whether forward or backward, in the same manner ($\alpha_B = \alpha_F$), the welfare gains from commitment range between 23% to 100%.
3. If the individual cares just as much about all past consumption realizations as he care about present consumption ($\alpha_B = 0$), the welfare gains range between 30% to 100%.
4. If the individual does not care about the past at all ($\alpha_B = \infty$), the welfare gains range between 6% to 100%.
5. Commitment confers the largest gains under no backward discounting, and it confers the smallest gains under infinite backward discounting.

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2. Scope: Our finding that commitment is a Pareto move is **context specific**. If hyperbolic discounting is the wrong model, then our findings matter very little.
3. But given the popularity of hyperbolic discounting (871 search results on JSTOR; Laibson (1997) ranked in top 50 most-cited QJE papers of all time), it makes sense to think deeply about the foundations of welfare analysis in this context.