# INTERTEMPORAL CHOICES 2 

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(9) in choices over sequences of outcomes, improving sequences are often preferred to declining sequences though positive time preference dictates the opposite; and
(5) in choices over sequences, people seem to prefer spreading consumption over time in a way that diminishing marginal utility alone cannot explain.
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- gains are discounted more than losses
- What amount makes you indifferent between $\$ 15$ immediately and $X$ in a year,
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- \$250 immediately and X in a year
- What amount makes you indifferent between $\$ 15$ immediately and $X$ in a year,
- \$250 immediately and $X$ in a year
- \$3000 immediately and $X$ in a year
- Indifferent between $\$ 15$ immediately and 60 in a year,
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- Implies discount rates of 139 percent, 34 percent, and 29 percent, respectively.
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- small outcomes are discounted more than large ones
- You do not expect to receive your new tablet for another year
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- how much are you willing to pay to receive it now?
- You do not expect to receive your new tablet for another year
- how much are you willing to pay to receive it now?
- You expect to receive your tablet later today
- You do not expect to receive your new tablet for another year
- how much are you willing to pay to receive it now?
- You expect to receive your tablet later today
- how much will you require to postpone your delivery by one year?
- You do not expect to receive your new tablet for another year
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- how much are you willing to pay to receive it now? (\$54)
- You do not expect to receive your new tablet for another year
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- how much will you require to postpone your delivery by one year? (\$126)


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- Save the best/better thing for last.


## Dinners and weekends

week1 week2 week3 week4 week5
$A$ french home home home home
$B$ home home french home home

$$
\begin{array}{llllll} 
& \text { week1 } & \text { week2 } & \text { week3 } & \text { week4 } & \text { week5 } \\
C & \text { french } & \text { home } & \text { home } & \text { home } & \text { lobster } \\
D & \text { home } & \text { home } & \text { french } & \text { home } & \text { lobster }
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- $B \succ A(89 \%)$


## week1 week2 week3 week4 week5 <br> $C$ french home home home lobster <br> $D$ home home french home lobster

- $B \succ A(89 \%)$
- $C \succ D(49 \%)$
- This result could be explained by the simple desire to spread consumption over time.


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- Discount rate declines rapidly
- Procrastination


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- After eating the cake, I once again intend to follow a diet in the future.


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- Thinking about retirement savings, savings in the far future, people use a much smaller discount rate for delayed rewards.
- This makes it more attractive to invest in alternatives providing a higher expected return in the longrun.
- We are very 'impatient' in the short term and relatively 'patient' in the long run.
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- This can cause preference reversals.
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- Design a savings program for the government:
- In a 1997 poll in the United States over 75\% of those questioned reported that they should be saving more for their retirement.
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- People will save more out of future salary increases than current salary.
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- Over only 28 months the average savings rate rose from $3.5 \%$ to $11.8 \%$ of income.
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- What if this is not the only reason for high debts?
- Heterogeneity of individual time preferences can explain differences in credit behavior.
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- participants choose between receiving $\$ 80$ in the future (Six months) and smaller amounts nearer to the present (today).
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- Decision makers are real tax payers MA, USA. Typically low income.


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- The decision not to pay back loans on time is determined by an individual's long-run discount factor $\delta$.
- Creditworthiness are associated with long-run discount factors


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- if offered a choice between two rewards that differ only in delay, individuals tend to choose the reward available sooner rather than the one available later.
- if offered a choice between two alternatives that differ only in probability, they tend to choose the more certain reward.
- The central issue is how individuals make trade-offs among their preferences on these dimensions.
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- To decide whether to purchase a less expensive item that can be enjoyed now or to save for a more expensive one
- To choose a risky investment that potentially could pay off at a high rate or one that pays a low but guaranteed rate of return
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- Decision making with delayed and probabilistic outcomes involve the same underlying processes ??? (if followed this line of thought)


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- Similar reversals are also possible in case of choices over time.


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- temporal discounting arises because with longer delays there could be a greater risk that the expected or promised reward will not actually be received.
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- Subjects also took two different tests of cognitive ability
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- If subjects have monotonic preferences, they prefer the lottery up to a certain point then switch
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- $Y$ will increase by a factor 2.5 percentage point - which helps to measure the time preferences
- Main finding is that risk aversion and impatience are systematically related to cognitive ability.
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- Individuals with higher cognitive ability are significantly more willing to take risks in the lottery experiments, and are significantly more patient over the year-long time horizon studied in the intertemporal choice experiment.

