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deterministic utility today plus discounted expected future utility given today's choice

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Bellman Equation for dynamic discrete choice:

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Recursive formulation helps keep notation compact

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$$\mathbb{E} \max = \log \left( \sum_k \exp(u_{ikT}) \right) + \underbrace{c}_{\text{Euler's constant}}$$

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Treat the  $v$ 's like we would the  $u$ 's in a multinomial logit model

When might dynamics not matter? Let's walk through location normalization of utility



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Easiest way to satisfy this is switching costs

Intuition: switching costs make agents consider future consequences