

Fall 2019 - ECON 634 - Advance Macroeconomics - Problem Set 3

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1. We can write the budget constraint in recursive form as $c = y(s) + a - qa'$

- **State variable:** a, s
- **Control variable:** a'

Therefore, the Bellman equation:

$$V(a, s) = \max_{a' \in \Gamma(a, s)} \left\{ \frac{(y(s) + a - qa')^{1-\sigma}}{1-\sigma} + \beta \sum_{s' \in S} \Pi(s'|s) V(a', s') \right\}$$

subject to

$$\Gamma(a, s) \in [0, f(k)] \tag{1}$$

2.

3.

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