

Unit 10

Banks, Money and the Credit Market

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Introduction

Introduction Textbook

Economics is a choice between alternatives all the time. Those are the trade-offs.

- Paul Samuelson

- Food spoils, barrels leak, yet all trades take **time**.
- Time is both the friend and the foe: depreciation & appreciation
- **Inter-temporal assets** allow agents to **carry value over time**.
- What are inter-temporal assets?

Examples	Money	Capital	Bond / Debt	Social Security	Housing
Value ↑ / ↓	↓	↓	↓	↑	↑ (?)
Cause (?)	inflates	tech	default	age	develop

Table: Examples of Intertemporal Assets

Income, Borrowing and Saving

Money, Income and Wealth

- **Money**: medium of exchange, allow **transfer** of purchasing power
 - Whether a currency is **trust-worthy** is important
- (Flow) **Income**: amount of money receive for a period of time
 - wage bill, market earning, investment, gov transfer
- (Stock) **Wealth**: inter-temporal assets carry values
 - buildings, land, machinery, capital goods – debts + credit

Other Key Concepts

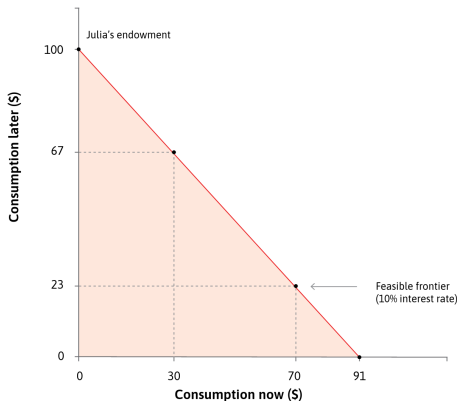
- Depreciation / Appreciation: value of stock \downarrow / \uparrow over time
- Net income = gross income – depreciation
- Savings: income not consumed
- Investment: Expenditure on newly produced capital goods

Inter-temporal Substitution

- As time is here, **current you** and **future you** are sharing for resources
- The opportunity cost of **more current goods** is **less future goods**
- **Borrowing** and **lending** allows resource-sharing across time
- The “price” for inter-temporal substitution depends on the assets;
- In the case of borrowing / lending, we call the “price” as **interest rate**
- The position matters: the impact of change in interest rate depends on whether you are **borrower** or **lender**

Borrowing

- Julia has 100 endowment in the **future**: Nothing for today. 😞
- Julia wants to **borrow** some consumption **today** and promise to repay **tomorrow** with her endowment
- How **much** goods could Julia get for today if she commit all her endowment tomorrow?



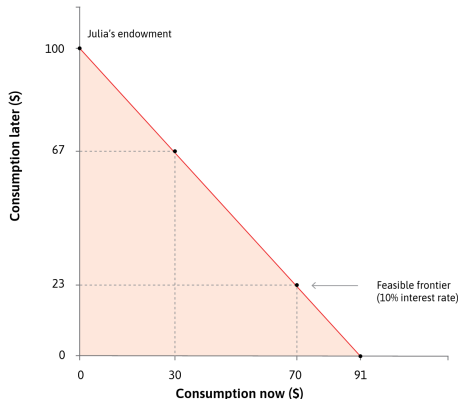
Borrowing

- **Interest rate (r):** price to bring purchasing power forward in time

- $\text{current} \xRightarrow[1+r]{} \text{future}$

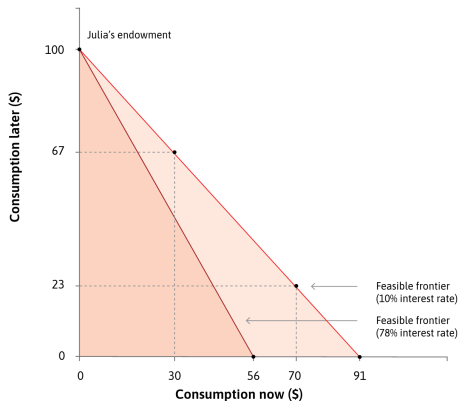
- | today | tomorrow |
|-----------------|----------|
| 1 | $1 + r$ |
| $\frac{1}{1+r}$ | 1 |

- Slope: $\frac{1}{1+r}$, since future C on y -axis and current on x -axis



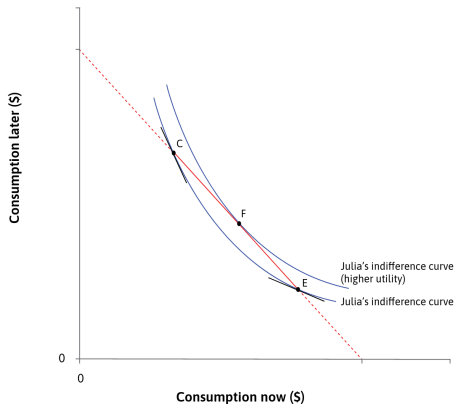
Borrowing

- $(1 + r)$: **supply-side** tradeoff \Rightarrow MRT
- Motivation for borrowing & lending:
 - ① consumption smoothing (Julia's case)
 - ② Impatience



Consumption Smoothing

- The indifference curve exhibits **diminishing marginal returns to consumption** in one period.
- Avoid consuming a lot in one period and little in the other.
- **Discount rate (ρ)**: measure of one's impatience/precautions



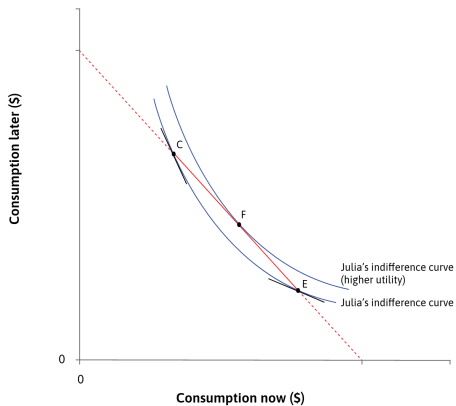
Pure Impatience

How much more do you value a good now than later?

- Consumption smoothing may appear as being impatient.
- However, we differentiate it from pure impatience = being impatient as a person.
 - **Myopia** (short-sightedness): People experience the present satisfaction more strongly than the same satisfaction later
 - **Prudence**: People know that they may not be around in the future, and so they want to consume now

Optimal Decision-Making

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Appendix

References I