Asset Pricing
Chapter I. On the Role of Financial Markets and Institutions

June 22, 2006
Worth stepping back and asking yourselves:
Does finance make sense on social grounds?
What functions does financial markets/instruments really fulfill?
Introduction
1.1- Finance: The Time Dimension
1.2- Desynchronization: The Risk Dimension
1.3- The Screening and Monitoring Functions of the Financial System
1.4- The Financial System and Economic Growth
1.5- Financial Intermediation and the Business Cycle
1.6- Financial Markets and Social Welfare
1.7 Conclusions

Main Tool

General equilibrium theory:
section 1.6 + appendix
1.1 Finance: The Time Dimension

Borrow and save:

to achieve consumption stream smoother than income stream
1.2- Desynchronization: The Risk Dimension

Diversify, insure, hedge:

*to achieve smooth consumption across states of nature*
1.3- The Screening and Monitoring Functions of the Financial System

Finance: a lot more: incentive issues raised by asymmetric information
Ch. 15 Corporate Finance: see chapter 2
1.4- The Financial System and Economic Growth

Fig. 1.2 Savings and Growth in 90 Developing Countries

- High-growth countries
- Middle-growth countries
- Low-growth countries
- East Asia

*Hong Kong, Singapore, Taiwan, S. Korea, Indonesia, Malaysia, Thailand

Legend:
- Real GDP growth (% increase)
- Total savings (% GDP)
\[
\dot{K} = EFF \cdot I - \Omega K \tag{1}
\]

or, multiplying and dividing \( I \) with each of the newly defined variables

\[
\dot{K} = EFF \cdot (I/BOR) \cdot (BOR/FS) \cdot (FS/S) \cdot (S/Y) \cdot Y - \Omega K \tag{2}
\]
1.5- Financial Intermediation and the Business Cycle

Financial Accelerator: the effect of monetary policy changes on economic activity goes beyond the direct effect of changes in \( r \) on the profitability of investment projects. 
- \( \Delta r \): changes the value of collateralizable assets, thus the access to credit to small (credit-constrained) firms in particular
1.6- Financial Markets and Social Welfare

- A timeless economy
- Consumers - firms - n goods - markets
- Thanks to the action of the price system, order will emerge out of this uncoordinated chaos, provided certain conditions are satisfied
- **H1. Complete Markets.** There exists a market, on which a price is established, for each of the $n$ goods valued by consumers.

- **H2. Perfect Competition.** The number of consumers and firms is large enough so that no agent is in a position to influence market prices.

- **H3.** Consumer’s preferences are convex. Preferences for smoothness.

- **H4.** Firm’s production sets are convex as well.
Definition: a General Competitive Equilibrium

A price vector $p^*$ and an allocation of resources, resulting from the independent decisions of consumers and producers to buy or sell each of the $n$ goods in each of the $n$ markets, such that, at the equilibrium price vector $p^*$, supply equals demand in all markets simultaneously and the action of each agent is the most favorable to him or her among all those he/she could afford (technically or in terms of their budget computed at equilibrium prices).
Definition: a Pareto Optimum

An allocation of resources, however arrived at, with the property that it is impossible to redistribute resources, i.e. to go ahead with further exchanges, without reducing the welfare of at least one agent. In a Pareto efficient allocation of resources, it is thus not possible to make someone better off without making someone else worse off. Such a situation may not be just or fair, but it is certainly efficient in the sense of avoiding waste.
• **The existence of a competitive equilibrium**: Under H1-H4, a competitive equilibrium is guaranteed to exist.

• **1st. Welfare Theorem**: Under H1-H2, a competitive equilibrium, if it exists, is a Pareto-Optimum.

• **2nd. Welfare Theorem**: Under H1-H4, any Pareto efficient allocation can be decentralized as a competitive equilibrium.
Revisiting H1 Goods are defined by date and state of nature at which they are available: «contingent commodities». 
Complete markets

- One distinct **Arrow-Debreu security** for each and every future date/state configuration
- Ch. 8: There is no single way to make markets complete
In reality, different needs are met by alternative specialized instruments.

**Time dimension:** personal loans, bank loans, money market, bonds, pensions, etc.: «non contingent instruments».

**Individual contingencies:**
- insurance contracts
- probably incomplete because of information asymmetries

Most other available assets are contingent on collection of states of nature defined on collective basis:
- e.g. stocks, derivatives
1.7 Conclusions

- Complete markets
- Towards more complete markets: a vision of the evolution of the financial system
- Are markets complete?
1.7 Key Concepts

- Preference for smoothness - Utility representation: **concave utility**
- Desynchronizing across time and states of nature.
- Screening and monitoring functions.
- Savings rate is important, but not all, for growth.
- Financial accelerator.
1.7 Key Concepts

- A competitive equilibrium
- A Pareto optimum
- Welfare Theorems
- Contingent Commodities
- Arrow-Debreu securities
- Complete Markets