Financial Economics I - G31.2021

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NYU - Economics
Fall Semester 2009

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1 Introduction and Administrative Issues

We meet on Tuesday from 2 p.m. to 4 p.m. in room 624. We might have to schedule an extra day for extra classes, but we shall do this later on as the course develops if we need to.

The aim of this course is to teach Asset Pricing and Corporate Finance in the context of general equilibrium models. While this is not the standard approach of the discipline, it has the advantage of facilitating a coherent understanding of finance in its asset pricing and of corporate finance manifestations. Furthermore, this approach is consistent and related to the practice of macroeconomics.

Besides providing an introduction to Financial Economics, this course has therefore also the ambition of suggesting a useful approach to theoretical and empirical research in the field, as a topics course.

Consequently, grading will be based mostly on homework and on a short class presentation. I will distribute homework problems, some straightforward, some challenging, and a few breaking new ground. I will also schedule some student presentations to the class, whose topic is to be agreed upon with me and with the class and should consist of a survey of interesting material not covered in the lectures.

2 List of Topics and References

We will first study first two-period economies, an environment in which concepts can be defined and results proved with minimal notation. We will then study infinite horizon economies, the typical workhorse in finance and macroeconomics. Furthermore, we will study exchange economies without commitment and with asymmetric information: these economies are rapidly becoming the frontier in
macroeconomics. Finally, we shall also study production economies without commitment and with asymmetric information. While not much studied yet, these are the natural environments to integrate asset pricing and corporate finance.

There is no book for the course, just because one does not exist. I will distribute class notes and more detailed reading lists for some of the topics.

However, I will often use and refer to:


Other useful references are:


for asset pricing; and


for corporate finance.


2.1 General Equilibrium Foundations: 2-Period Exchange Economies

This part of the course will constitute a short self-contained course on classical general equilibrium theory with complete and incomplete financial markets. We will stress, however, models, issues, and results which are of foundational interest for macro and finance applications. We will not deal with existence, for instance.

A list of topics include:

Definition of competitive equilibria

From Arrow-Debreu economies to financial economies: Arrow’s Theorem

Budget separation Theorems
Representative agent Theorems

No-Arbitrage Theorem - complete and incomplete markets

Welfare Theorems - complete and incomplete markets

From general equilibrium to finance: Mean variance, Hansen-Jagannathan bounds, CAPM, factor pricing, transaction costs, etc.

I will distribute detailed lecture notes on this part of the course:


The notes contain ample references to the sources. Also, I will draw extensively from Cochrane’s book,


In particular, the material on classical finance (Mean variance, Hansen-Jagannathan bounds, CAPM, factor pricing) is taken from Cochrane (2001, ch. 5 and 6).

2.2 General Equilibrium Foundations: 2-Period Production Economies

This part of the course will constitute a short self-contained course on production in general equilibrium. While production is not usually part of asset pricing theory, it is necessary to integrate asset pricing and corporate finance as we intend to do. We will stress issues and results which do not appear in exchange economies.

Objective function of the firm - complete and incomplete markets

Production and financing decisions of firms: Modigliani-Miller Theorem

I will distribute detailed lecture notes on this part of the course:


The notes contain ample references to the sources:


2.3 General Equilibrium Foundations: Infinite-Horizon Economies

In this part of the course we will extend (or indicate how to extend, when straightforward) the models, issues, and results we have studied for 2-period economies. We will also address new topics which arise in infinite-horizon; in particular,

Recursive competitive equilibria

Bubbles (in economies with perfect information)

Is market incompleteness relevant for equilibrium prices and allocations and for agents’ welfare? Or, Do dynamic portfolio strategies (e.g., self-insurance via a capital buffer) allow agents to approximately replicate complete market equilibrium allocations?

Bewley models

Conditioning information and asset prices

I will distribute detailed lecture notes on this part of the course:


Good survey presentations of the some of the material are:


G.L. Violante, ‘Class notes,’ mimeo, NYU.

Being closer to the research frontier, however, lecture notes are no substitute for the original references. In particular, suggested readings include:


Adding production, interesting issues arise as in the two-period case:


M-G. Angeletos (2005), Uninsured Idiosyncratic Investment Risk and Aggregate Saving, MIT, mimeo.


2.4 Exchange economies with asymmetric information: insurance

When agents are endowed with private information or lack of commitment insurance markets operate with frictions. In this part of the course we study various properties of competitive equilibria of such economies. Since in these context even how to define competitive equilibria is not straightforward, we shall first study two-period economies. A list of the topics includes:

Arrow-Debreu equilibrium and efficiency in exchange two-period economies:
- moral hazard, adverse selection, exclusive contracts;
- moral hazard, adverse selection, non-exclusive contracts;

Economies with bankruptcy and collateral;

I will try and write detailed lecture notes on this part of the course. They will be mainly based on the following original references which are therefore suggested readings:


In infinite horizon models, decentralizing competitive equilibria in financial economies requires characterizing the necessary and sufficient endogenous constraints to the trading of assets/contracts. We will characterize such frictions (when results are available - this is an active research topic).

A list of topics include:

Arrow-Debreu and financial equilibrium in infinite-horizon economies: lack of commitment, moral hazard (?), exclusive contracts;

Arrow-Debreu and financial equilibrium in infinite-horizon economies: lack of commitment, moral hazard, adverse selection, non-exclusive contracts.

I will try and write detailed lecture notes on this part of the course. They will be mainly based on the following original references which are therefore suggested readings:


2.5 Production economies with asymmetric information: corporate finance

When firms are endowed with private information or lack of commitment corporate finance markets operate with frictions and the Modigliani-Miller theorem does not hold in general. In this part of the course we study various properties of competitive equilibria of such economies, efficiency in particular. Competitive equilibria with decentralized markets (financial economies) in these economies also require endogenous frictions to firms’ financial plans and capital structure and to the incentive compensation of managers. We will characterize such frictions and will study the effects of frictions on asset prices (when results are available - this is even more of an active research topic).

A list of topics include:

- Arrow-Debreu equilibrium and efficiency in production economies
- Topics in integrating general equilibrium and principal agent models in corporate finance
- Topics in integrating general equilibrium and security design models in finance

I will try and write detailed lecture notes on this part of the course. They will be mainly based on the following original references which are therefore suggested readings:


for 2-period models;


2.6 Bubbles, Crashes, and other horrible things

Infinite horizon models with asymmetric information (and other sorts of frictions - including behavioral ones) are also the natural environment to study bubbles. This is a major topic in itself. We shall study it in some detail, starting from:


and including:


N. Kocherlakota (2009): ‘Bursting bubbles: Consequences and cures,’ mimeo, IMF.


A good survey, though not completely up-to-date is: