Introduction to Macroeconomics

Vivaldo Mendes

a ISCTE–IUL — Department of Economics

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I – Useful information
Useful information

- **Lecturer:** Vivaldo Mendes (vivaldo.mendes@iscte.pt)
- **Office:** Room 519 (Building II)
- **Phone numbers:** internal (795191), external (217903959)
- **Classes:** Tuesdays and Thursdays, 14.30h–16.00h, Room C202 or on a Computer Lab (to be announced)
- **Course homepage:** with news and materials online already working
  - address: [http://cm.de.iscte.pt/](http://cm.de.iscte.pt/)
**Grading**

- **Grading**: this process includes two alternatives:
  - **Option A**
    - Midterm test (30%): There will be one midterm test on a date to arrange
    - Final test (40%): The final test will be on January 2011
    - A group essay (30%): on a subject discussed in the course
  - **Option B**
    - Midterm test (40%): There will be one midterm test on a date to arrange
    - Small Matlab assignment (20%)
    - Final test (40%): The final test will be on January 2011

- **Active participation**: in classes is welcome, it’s very useful for learning and grading

- **The group essay**: not be developed under "self–management"

(Vivaldo Mendes)
Teaching approach

- **A step ladder approach** to teaching:
  - If you miss one step, it’s more difficult to put your feet on the next ...

- Oriented towards *"how to do"*:
  - students are expected to master **practical tools** ...
  - not just **descriptive general knowledge**

- **Some topics**:
  - will be covered in just one week
  - Some topics: require two or more weeks
Teaching approach (cont.)

- **Computers**: they will be used as much as possible (**Matlab**)
- **Good knowledge of mathematics**: it helps, however it is not enough
- The course is intended to be "**self–contained**"
- Mathematics that matters are **basic knowledge of**:
  - Derivatives
  - Difference equations
  - Optimization (Lagrangian)
  - Matrices
The textbook

- **No textbook**: there is no adopted textbook
- **Publicly available lecture notes**: will be provided (topic by topic)
- **Main reasons**:
  - Students save time
  - Lecture notes are "tailored" to each topic
  - Major available textbooks require a much lengthier course (not just 30 hours course)

- Some major postgraduate macro textbooks available:

## A quick guided tour

1. The current state of macro: a brief characterization (1 class)
2. Major stylized facts about business cycles (1 class)
3. Introduction to Matlab (3 classes)
4. Solution to models with rational expectations (3 classes)
5. A two period economy (no classes)
6. The Real Business Cycle model (3 classes)
7. Credibility and time consistency in economic policy (2 classes)
8. The optimal choice of policy instruments (the Poole model) (2 classes)
9. The New Keynesian Model: optimal monetary policy (4 classes)
10. Central banks, commitment, credibility and the financial crisis (1 class)
II - The current state of macro
The terrible importance of macroeconomics

“The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist.”

John Maynard Keynes
The current state of macro

- **Big turmoil**: over the last 30 years, macroeconomics was in big controversies

- **A new consensus**: has emerged in macroeconomics over the last 15 years or so ...


"The field of macroeconomics has witnessed in recent years the development of a new generation of small-scale monetary business cycle models, generally referred to as New Keynesian (NK) models or New Neoclassical Synthesis models ... [integrating] Keynesian elements (imperfect competition, and nominal rigidities) into a dynamic general equilibrium framework that until recently was largely associated with the Real Business Cycle (RBC) paradigm. They can be used (and are being used) to analyze the connection between money, inflation, and the business cycle, and to assess the desirability of alternative monetary policies". (page 1)
The current state of macro

The First (Old) Neoclassical Synthesis

- **Young subject**: macroeconomics was "born" in the mid 1940’s
  - 1946: the first time the term "macroeconomics" were used in one title (vide Fig 1)
- **Keynesian ideas** dominated macroeconomics until early 1970’s
- **The first Neoclassical Synthesis**: Keynesian/Classical dichotomy
  - The economy *is* Keynesian in the short term: there is a permanent trade-off between inflation and unemployment that can be exploited by policy makers
  - The economy *is* Classical in the long term: no such permanent trade-off exists
- **In the late 1960’s**: serious problems with the Synthesis became evident: empirically and conceptually
Macroeconomics

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Macroeconomics and the Theory of Rational Behavior

By Lawrence R. Klein

1. The Problem

Many of the newly constructed mathematical models of economic systems, especially the business-cycle theories, are very loosely related to the behavior of individual households or firms which must form the basis of all theories of economic behavior. In these mathematical models, the demand equations for factors of production in the economy as a whole are derived from the assumption that entrepreneurs collectively attempt to maximize some aggregate profit; whereas the usually accepted assumption is that the individual firm attempts to maximize its own profit. For example, Evans, Keynes, Hicks, and Pigou all have in their systems marginal-productivity (i.e., profit-maximizing) equations for the total economy or for some very large subsections such as the consumer-goods or producer-goods industries. These marginal-productivity equations are written, without justification, for the economy as a whole, in exactly the same form as the marginal-productivity equations for a single firm producing a single commodity. These aggregative theories have often been criticized on the grounds that they mislead us by taking attention away from basic individual behavior. The problem of bridging the gap between the traditional theories based on individual behavior and the theories based on community or class behavior is, to a large extent, a problem of proper measurement. This paper attempts to make a very modest contribution towards the formulation and solution of the problem.

We have a body of theory which develops the economic behavior of

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1 Cowles Commission Papers, New Series, No. 14. Part of the work on this paper was done under a fellowship of the Social Science Research Council. The author is indebted to other members of the Cowles Commission staff for constructive criticism.


Conceptual problems with the Old Synthesis

- **No microeconomic foundations**: most functions in the model were totally ad-hoc
- **Backward looking expectations**: private agents produce systematic mistakes in their forecasting exercises
- **Irrationality**: policy makers were fully-rational agents and knew how the economy works; private agents were "irrational" with little knowledge of how the economy works
- **Total nonsense**: admitting that the Central Bank could manage monetary policy to permanently exploit the trade-off between inflation and unemployment
- **Vulnerable to the Lucas critique**: if policy makers intervene in the economy, private agents react by changing their choices, so the structure of the economy changes and the public intervention has perverse effects
Empirical problems with the Old Synthesis

1. **Real wages**: are countercyclical in the model, but procyclical in the economy

2. **Stagflation**:
   - the early 1970’s put in evidence a very unpleasant reality to which the model could provide no remedy
   - higher and higher unemployment and inflation rates (stagflation)

3. **Public debt**: increased permanently in almost all OECD countries, with little evidence of a decline in unemployment

4. **Monetary aggregates**: Central Banks lost the control of these aggregates

5. **Basic stylized facts from the business cycles**: the model could hardly reproduce these facts (variances, covariances, etc..)
30 years of revolutions and counter-revolutions

- **The Old Synthesis:** stand for the 1950’s and the golden 1960’s
- **Sargent and Lucas:** launched the **New-Classical model** (early 1970’s)
  - Macro with microeconomic foundations
- **Real Business Cycles (RBC):** problems with New-Classical model led to the RBC model in the early 1980’s
- **New Keynesian Model:** problems with the RBC led to the development of the **NKM** (or the New Synthesis) in the mid 1990’s:
- **Now we have a financial crisis:** problems for the New Synthesis
- **So far:** no clear theoretical answer to the crisis
Main ingredients of the New Synthesis

- **Built upon** the Old Keynesian framework
  - ... with the usual nominal/real rigidities in price setting
  - ... without the problems that pushed the model to serious problems in the early 70s

- **The same functions**: IS, LM, Aggregate Supply

- **Some new arguments**: "forward looking or rational expectations" instead of "adaptive expectations", "Calvo pricing", maximization of utility, and so on ...

- **General equilibrium framework**: built upon sound microeconomic principles

- **Quantitative simulations**: relies a lot on simulations like the RBC literature

- **Contrary to RBC**: has a *key role to monetary policy* and a less relevant role for fiscal policy
Major predictions of the New Synthesis

- **Four basic predictions**: (very important)
  - the instrument of monetary policy ought to be the short term interest rate,
  - policy should be focused on the control of inflation
  - inflation can be reduced by aggressively increasing short term interest rates
  - the central bank should conduct monetary policy adopting a strategy of commitment in a forward-looking environment, instead of discretion

- The Old model’s predictions up-side-down!!

- See Figure 2.

- **Problems of the new synthesis**: the current financial crisis
Active interest rate policy by central banks

The FED now reacts much more aggressively to inflation than in the "old times"
A picture of the success of the receipt (I)
Doubts about the success of the receipt (I)
Doubts about the success of the receipt (II)

Real Potential Gross Domestic Product (GDPPOT)
Source: U.S. Congress: Congressional Budget Office

Shaded areas indicate US recessions.
2012 research.stlouisfed.org