

## **BASIC PROBLEMS IN MACROECONOMICS**

Arnold C. Harberger

Professor of Economics, University of California, Los Angeles

and

Gustavus F. and Ann M. Swift

Distinguished Service Professor Emeritus

University of Chicago

June 2003

This course focuses on three basic topics -- inflation, real exchange rate economics, and the process of economic growth. But its ultimate purpose is better thought of as methodological -- it attempts to transmit to participants a way of thinking about economic problems and of approaching economic data that can serve them not only in dealing with the three substantive topics covered in the course, but also in treating problems in other areas of economics.

The key words to describe this methodological approach are fundamentals and observation. The idea is to develop a framework that incorporates the fundamental forces at work (in a given area) in the simplest (most economical) possible way. These forces are always present, and must be recognized. Actual real-world events are complicated by historical and institutional factors, and of course by the fact that many "scenarios" are being played out simultaneously. Our belief is that a deep understanding of the fundamental relationships will help economists to better see and understand the forces that work to generate the reality that we observe.

## Inflation

It is by now commonplace to recognize that inflation is fundamentally a monetary phenomenon, in which the expansion of the money supply has typically played a dominant role. But this fact has been well known to economists for a long time, and to most central bankers as well. One must then inquire into the underlying causes of monetary expansions. Here we deal with:

1. The relationship between fiscal deficits, monetary expansions, and inflation.
2. Mechanisms of non-inflationary deficit finance -- “parking the deficit”.
3. Empirical relationships between fiscal deficits and inflation.
4. Cases of “private sector credit inflation”.

We also have the effects of inflation and of non-inflationary deficit finance on the volume of credit available to the private sector. Here we deal with:

5. The balance sheet of the consolidated banking system.
6. Non-inflationary squeezing of private sector credit.
7. Inflationary squeezing of private sector credit.
8. Sterilization of capital inflows.

We then turn to the dynamics of inflation:

9. Lags in the response of prices to monetary expansion.
10. The inevitability of “overshooting” of the rate of inflation.
11. Overshooting with flexible and fixed exchange rates.
12. Demand functions for real cash balances.
13. The gap between actual and desired real cash balances.
14. Empirical evidence on the dynamics of inflation.

15. The elasticity of supply of funds facing a developing country.
16. Country risk premia.
17. The importance of shifts in the supply of funds facing a country.

### **Real Exchange Rate Economics**

The key to this section is the fundamental role of the real exchange rate as the natural variable that brings about equilibrium in a country's international trade and payments. Once this fundamental role is understood, many issues of concept and measurement are automatically resolved.

1. The many different forces that affect the real exchange rate.
2. Evidence from particular country experiences.
3. Issues of concept and measurement of the real exchange rate.
4. Oil prices and "Dutch Disease".
5. Overshooting of the real exchange rate in periods with major shocks.

One major policy question concerns the degree to which policymakers can control or influence a country's real (as distinct from nominal) exchange rate. Efforts in this direction have often been misguided because of a lack of understanding of the underlying fundamentals.

6. The futility of trying to impact the real exchange rate through the use of purely nominal policy instruments (e.g., the nominal exchange rate).
7. The use of real instruments to influence the real exchange rate.
8. Country experiences with "real exchange rate" policies.
9. Costs and benefits of alternative real instruments.
10. Debt, currency and banking crises and the real exchange rate.

### The Process of Economic Growth

The topic of economic growth has been a major theme in recent economic literature. Our knowledge has advanced significantly as a result, yet growth analysis is still pervaded by a certain aura of mystery. It is our contention that some element of mystery is inevitable, but that our profession's understanding of the process can be greatly enhanced by the quantitative analysis of the different forces affecting economic growth.

1. The standard breakdown of growth rates into components due to incremental labor, incremental capital and "technical advance" (= real cost reduction).
2. Examples showing the dominant importance of real cost reduction in major cases of "success" and "failure".
3. Breaking down the "labor contribution" to growth.
4. The role of human capital -- its maintenance component and its "quality" component.

Special attention is paid to the contribution of incremental capital to economic growth, because it is subject to two fundamentally different conceptualizations:

5. The production function approach versus the capital theory approach.
6. The role of the rate of return to capital.
7. The role of the rate of investment.

Real Cost Reduction cannot be fully described, in that it takes so many different forms, but it can be carefully measured in different ways.

8. The "two -deflator" method vs. the traditional method.
9. "Yeast" versus "mushrooms" as descriptions of how real cost reduction works.
10. "Sunrise-sunset" diagrams as depictions of a growth process.
11. Cases of negative residuals (i.e., real cost increases; technical retrogression).

12. The “dual” measure of real cost reduction. The important role of changes in the real rate of return to capital.

Our understanding of the growth process is enhanced by evidence concerning causal connections. Work in this direction points to real cost reduction having important indirect effects, particularly via its influence on future rates of investment and in future rates of return to capital.

13. Lead-lag relationships among various components of economic growth rates.

Much of the recent empirical work on economic growth has relied on cross-country and panel regressions of different types. Our treatment of the growth process concludes with an analysis of a sample of studies using this method.

14. Production functions in cross-country regressions.
15. Policy variables in cross-country regressions.
16. Education variables in cross-country regressions.

### **Methodological Coda**

In this section we try to pull together strands from the different topics treated earlier, to show how useful is an approach based on real-world observations but guided by a firm analytical structure built up from the most basic fundamentals.

1. Applications to “diagnostics”.
2. Applications to the making of economic projections.