

We put some effort into including exercises of various levels of difficulty, and some we hope are interesting (full solutions are available of course). *AS-AD* equilibria, for example, with rational or adaptive expectations, temporary or stable, are calculated starting from the economy's fundamentals (production function, behavioural functions and parameters). A few more little curiosities are scattered throughout the text, like an example that shows how VAT works in practice, or a short proof of why a function with constant input shares must actually be Cobb-Douglas. Empirical evidence is presented where it is linked to the models we study, and more data about the world's economies (today, in the last 20 years, in the last 200) is available on the book's web site. Incidentally, the book has about 150 pages of text and 30 pages of exercises in total.

Of course a more structured exposition requires a little more effort on the part of the student. Going back to the $\Delta K = I - \delta K$ case for illustration, the GDP example that checks it must contain machines of different ages that lose values due to depreciation, their prices, beginning and end-of-period inventories, etcetera - which is not something usually found in comparable textbooks. The question is, why do we usually spare the student this kind of analytical effort? We confess we do not exactly understand why economics students should sweat only to pass the maths exam. We believe that the curious student will find it rewarding and interesting to use in macroeconomics the same equilibrium approach learned in the micro course, applied and extended (from partial to general) to deal with entirely new families of issues. Of course adequate assistance from of the teacher is also required, and these lectures are actually aimed at teachers who like us chat more comfortably about a picture or data or a case study when there is a model that has been studied and understood behind it.

To the student. As your teacher will tell you, macroeconomics basically studies the standards of living of people, more precisely their material welfare as measured by national income (the GDP). It studies the evolution of GDP over the long run, and its fluctuations in the short run - expansions and crises. It studies what governments and central banks can do to foster the economy's long run growth and to alleviate the most serious problem that aggrieves families during periods of crises - that is unemployment. It thus tries to understand how the economic system works in the aggregate, working to that end with aggregate variables - national income and unemployment rate but also the price level, interest rates, aggregate consumption, savings and investments - and neglecting as a first approximation individual differences, for example by postulating an aggregate production function as if there was a single firm that alone produces all goods in the economy.

Macroeconomics is a difficult subject, whose more recent developments this text cannot cover. A little like Physics, there are classical and modern macroeconomics. And a little like development in modern Physics with quantum mechanics,