Chapter 1

Discovering Why Macroeconomics Is a Big Deal

In This Chapter

- Understanding what macroeconomics is all about
- Glancing at key macroeconomic variables
- Seeing why macroeconomists love modelling
- Introducing macroeconomic policy and financial crises

Macroeconomics is the study of the economy as a whole – in contrast to microeconomics, which is the study of individuals and firms. Or as the comedian PJ O'Rourke quipped: 'Microeconomics concerns things that economists are specifically wrong about, while macroeconomics concerns things economists are wrong about generally!'

Not only does O'Rourke's quote make even economists laugh, but also it touches on something important: since the global financial crisis of 2007–8, people have become increasingly sceptical of economists and economics. We think that's a shame (well, we would, wouldn't we!). But although economists certainly don't know everything about how the economy works – it's a hugely complex system that's difficult to analyse – they do know a lot.

This knowledge is important, because macroeconomics affects almost every part of your life. From whether you're employed or unemployed to how much you earn, how much tax you pay, what services the government provides and how easy or difficult you find borrowing money, macroeconomics really matters.

In addition, politicians frequently make promises about the economy and their different policies. You need to understand macroeconomics in order to make sense of these claims and, importantly, to tell the difference between a good policy and a bad policy that merely sounds good!

In short, without some macroeconomics knowledge, you're missing out on a big part of how the world works.

In this chapter we introduce you to macroeconomics and set the scene for the rest of the book. We include what it covers, its tools, how policy makers use it and how things can sometimes go horribly wrong.

The Big Picture: Checking Out the Economy as a Whole

Macroeconomists try to understand the economy as a whole, which means thinking about the aggregate behaviour of large numbers of individuals and firms. It entails working out what determines the level of output in an economy, the rate of inflation, the number of people unemployed and so on. Crucially, it also means considering how policy makers can influence the economy by using the different tools at their disposal.

As you can see, macroeconomics is a wide-ranging discipline. Therefore, it requires people with exceptional skills (ahem). Here we discuss just two: how macroeconomists are like detectives and doctors (just don't ask us to take a close look at that unsightly mole – please).

Investigating why macroeconomists are like detectives

Being a good macroeconomist is in many ways like being a detective at a crime scene. Good detectives carefully collect evidence and form theories about what may have happened. They then test these theories to see to what extent the available evidence supports them.

Similarly, macroeconomists gather evidence about economies in the form of data. They then form a hypothesis about how the data came to be and test it to see whether the data supports it or not.

Unfortunately, unlike the hypotheses of scientists, macroeconomists can't run experiments to test them. If they want to work out the impact on the economy of cutting government spending by half, they can't just do it and see what happens! They can, however, look at the data (across countries and across time) and try to infer the likely relationship between government spending and other macroeconomic *variables* (like inflation, unemployment and real GDP).

Practising macroeconomics isn't for the fainthearted, though, and is fraught with problems. For example, imagine that you notice two facts: that countries with higher levels of education tend to be richer and that as the people of a country become more educated, the country becomes richer. On the basis of these facts you reach the conclusion that more education *causes* people to become richer.

But wait a minute! How do you know that it isn't the other way around: When a country is richer, it spends more on education? In which case, people becoming richer is *causing* them to have more education. Or a third variable may be causing high levels of education and wealth (such as a well-functioning political and legal system), in which case a country being well-off and well-educated is *correlated* but not causally linked.

Macroeconomists and their questions

Macroeconomists are quite an ambitious bunch. They want to understand why the world is the way it is, and they ask some of the biggest questions around:

- Why are some countries rich and others poor (and relatedly, why are some people rich and others poor)?
- What causes the prices of things to rise or fall?
- What determines unemployment and can anything be done to reduce it? (Chapter 6 discusses unemployment in loads of detail.)

Thanks to macroeconomics a lot is now known about the answers to these and many other questions. But being an economist is much more than just 'knowing stuff' – good economists are able to look at a problem they've never seen before and use their analytical tools to see something that others may have overlooked.

Chapter 2 contains plenty more on the questions that macroeconomists like to ask.

Macroeconomists and their models

Economists love building *models* – simplified versions of reality – in order to think through complex problems (see the later section 'Modelling the Economy' for more on models).

The advantage of doing so is that it forces you to think about what ingredients in a problem are the ones that really matter and which factors you can safely ignore.

For example, a macroeconomist trying to explain why average wages in the UK are much higher than average wages in Bangladesh can build a model that completely ignores the fact that both countries contain a lot of variability across people – some people have low wages, others have high wages, some people have low ability, others have high ability – and instead she can just assume that everyone's labour within each country is identical.

This approach is probably a useful simplification, because the economist isn't trying to explain why *different* people in the UK have *different* wages, but why the *average* wage in the UK is higher than the *average* wage in Bangladesh. If she were trying to explain why some people in the UK are paid more than others, this simplification probably wouldn't be appropriate.

We talk more about modelling in Chapter 2. Plus, you can turn to Chapters 7, 8 and 9 to read about some of the popular macroeconomic models (the ones that always get invited to parties).

Diagnosing why macroeconomists are like doctors

If you get sick, you're likely to visit a medical doctor. The physician checks out your symptoms and makes a diagnosis about the likely cause of your illness. Based on this diagnosis, she recommends a course of treatment to cure you in no time – you hope.

Just like people, economies can also get sick with things such as recessions, high inflation and high unemployment. Much like a doctor, macroeconomists have to observe the economy and try to work out the underlying cause of these problems. After working out the likely cause, they can think about policies that those in charge can implement to return the economy to health.

For example, an economy is in recession if its *Gross Domestic Product* (GDP) falls: that is, the amount of stuff it produces falls, as we discuss in Chapter 4. Often recessions are caused by insufficient demand in the economy for goods and services. Knowing this, macroeconomists can prescribe some medicine: perhaps temporarily stimulating demand in the economy.

Policy makers can do so in two basic ways (we talk more about them in this chapter's later 'Plotting Economic Policy' section):

- **Use monetary policy:** Basically pumping new money into the economy in the hope that this reduces interest rates throughout the economy and thereby encourages households to consume and firms to invest. Chapter 10 has loads more on monetary policy.

- **Use fiscal policy:** Increasing government spending – which increases the demand for goods and services directly – or decreasing taxes – which policy makers hope encourages households to consume and firms to invest. Flip to Chapter 11 for the lowdown on fiscal policy.

Economies can also suffer from high levels of inflation. Macroeconomists have worked out that the cause of high inflation is an excessive growth in the money supply, which leads to people having high inflation expectations (they expect inflation to be high); this expectation and the behaviour it creates cause actual high inflation (check out Chapter 12).

Accordingly, if policy makers are to reduce inflation, they need to reduce inflation expectations. In order to do that, they need to convince people that they aren't going to print as much money in the future as they did in the past!

Looking at the Key Macroeconomic Variables

In order to work out what's going on in an economy, macroeconomists need to see cold hard facts. They need to know how much stuff is being produced in the economy, at what rate prices are going up and how easy or difficult it is for people to get jobs.

Fortunately, in many countries (and all developed ones) statistics on output (GDP), inflation and unemployment (as well as lots of other variables of interest) are today measured relatively accurately and on a regular basis.

Considering all this GDP malarkey

When macroeconomists look at an economy, one of the first things they want to know is how much economic activity is taking place. They ask questions such as:

- How much are people trading with each other?
- How good is the economy at producing goods and services that people want?
- What are people's average living standards?

Luckily, a basic indicator tells them a lot about all these things – *Gross Domestic Product* (GDP), the subject of Chapter 4. A country's GDP tells you the value of all goods and services produced in one year.

In the UK, for example, in 2015 the combined value of everything produced is estimated to equal around $3 trillion (yes, we know, people use the pound in the UK, but lots of economic statistics are quoted in US dollars for easy comparison).

This figure means that goods and services worth about $3 trillion will be traded in the economy. It also means that if you were to add up everyone's income, it should equal around $3 trillion, because your income gives you the right to consume some share of the nation's GDP. Therefore, everyone's share (their income) better add up to equal the total amount of goods and services available. That is, the sum of everyone's slice of cake better be equal to the cake as a whole!

The US's GDP in 2015 is estimated to be around $18 trillion, which straightaway shows you something interesting about the economies of the UK and the US: in one year, the US produces goods and services worth six times more than those produced in one year in the UK. You can say that the US economy is six times the size of the UK economy.

Often you want to know how much on average each person in a country gets, instead of its total GDP. No problem. By dividing GDP by the number of people in a country you get *GDP per capita* (average income per person). This figure allows you to compare living standards between the two countries. In 2013, the UK had GDP per capita of around $42,000 while in the US it was around $53,000. Therefore, the average American earned around $11,000 more than the average Brit.

Questioning whether inflation really makes people poorer

If you ask people how they feel about inflation, they probably tell you that they dislike it. Ask them why, and they probably say that it makes them poorer. But although that may be true in the short run, economists think that in the long run inflation shouldn't impact the things that really matter, such as *real wages* (how much stuff you can buy with your wage).

In the short run

Consider this example, which shows that inflation in the short term can indeed make you worse off.

Imagine that you're negotiating your wage with your employer for next year. Both you and your employer expect inflation to be 2 per cent. You go into the negotiation high and ask for a 5 per cent pay increase. You argue that as a highly skilled and experienced professional, you deserve a pay rise. Plus, if inflation is going to be 2 per cent, you're only really asking for an increase in your *real wage* of 3 per cent.

Your employer is having none of it. Business is tough and the firm is being squeezed from all sides: she can't possibly offer you any pay rise at all. You think about this answer for a moment and realise that if your pay doesn't go up at all, your real wage will fall by 2 per cent because of inflation. That's not on! You threaten to leave for your employer's deadliest competitor. After some discussion, you both compromise and agree on a 2 per cent pay rise so that in real terms your expected pay is unchanged.

The contract is written up and signed. Next year comes along and low-and-behold inflation isn't 2 per cent as expected; it's 4 per cent. How are you feeling? Probably not great, and for good reason: your real wage fell, because your 2 per cent pay rise is insufficient to cover inflation. In fact, you're getting paid 2 per cent less in real terms than you were last year (2 per cent minus 4 per cent = –2 per cent). You're one unhappy bunny.

In the long run

In the short run, if inflation isn't equal to expected inflation people can be worse off. But in the long run, after prices have had time to adjust and contracts have had time to be rewritten, inflation shouldn't have any impact on your real wage. This is because macroeconomists think (and the data supports) that in the long run people care about real things. You care about your real wage, your boss cares about how much she's paying you in real terms and so on. Therefore, any impact of inflation on your real wage or your real wealth should disappear.

We're not saying that whether an economy has low or high inflation doesn't matter. Not at all. High inflation has all sorts of other costs, which can be substantial and which you can read about in Chapter 5.

Finding a job – and a spouse

Economists call searching for a job a *matching problem*: two groups (in this case, employers and workers) want to join up with each other.

Marriage is a good example of a matching problem. The 'marriage market' contains a bunch of men and women. Each man is looking to match with a woman, and each woman is looking to match with a man. Where things get interesting is that the men differ from each other in their characteristics. Some are short and some are tall, some are academic and some are sporty, some are handsome and others less so, and so on. Likewise for women (are women handsome? Anyway you know what we mean!). Each man has preferences about which women he'd prefer to be matched with and so do the women about the men.

Now, the marriage market would be a relatively easy problem to solve if everyone had perfect information about each other, so everyone's characteristics and preferences were common knowledge. People would just match up according to their preferences: 'I like you, you like me, let's match!' People in particularly high demand would be able to take their pick from their admirers. But real life is much more interesting: people have *imperfect* information about the other side of the market – two people could be an amazing match and yet never get to meet.

The labour market shares many characteristics with the marriage market. It has two sides, firms and workers, and each firm is different in some ways to the others and each worker has different skills and other attributes. Each side has preferences about the other side but they're imperfectly informed – this means that the resultant matching isn't always ideal: people get matched to jobs they don't want, firms hire workers who aren't a good fit and people have difficulty getting a job in which they could've succeeded if given the chance. These labour market *frictions* (which loosely means 'imperfections') are part of the reason for unemployment.

Modelling the Economy

Economists love modelling – no, not prancing down the catwalk, though they're an attractive bunch, obviously. The sort of modelling economists engage in uses simplified versions of the world to think through complex problems. We introduce you to this concept here.

In the chapters in Part III, we build a simple model of the economy, which can be used to analyse how the economy works and how different macroeconomic variables affect one another.

Unearthing why economists model

The big question is: why do macroeconomists bother modelling (apart from the chance to wear all those delightful clothes, of course)? Why not just tackle the complete problem in all its warts-and-all complexity first time round? Here are a few answers to this question:

- **Macroeconomic problems are complex:** So complex that trying to tackle them head-on is almost bound to fail. Just too many diverse agents (consumers, firms, the government) are doing their own thing, each with their own objectives, that you're bound to get lost.

Economists prefer to work with a very simple model to begin with and assume, for example, that all households are the same, or that the government is a completely benevolent social planner, or that people want to buy only one good called the *consumption good*. Economists then try to understand how this simple world works. When they've achieved that aim, they can relax the assumptions one at a time to see whether things change: for example, 'I wonder what would happen if households were different to one another, or if politicians were mainly interested in winning the next election?'

- **Modelling forces you to make your assumptions explicit:** Results in economics papers often read along the following lines: 'If we assume X and Y, then Z must be true.' For example:
  - 'If prices are "sticky" in the short run and policy makers increase the money supply, then the real interest rate will fall and output increase in the short run.'
  - 'If prices are fully flexible and policy makers increase the money supply, then the real interest rate and output will remain unchanged, and only inflation will increase.'
  - 'If the government doesn't default on its debt and reduce taxes today, then it will either have to increase taxes or reduce spending (or both) in the future.'

  This is good practice because it means economists can't easily pull the wool over people's eyes. In other words, it keeps economists honest!

- **Intuition can lead you astray:** You can spend a lot of time thinking about an economic problem and come to a conclusion that modelling subsequently proves is wrong.

  For example, your intuition may tell you that firms rather than workers should pay payroll taxes (the mandatory taxes due when someone works) so that ordinary people get to keep more of their income. But by modelling this problem, economists worked out that it doesn't matter who officially pays the tax (the worker or the firm), the outcome is the same regardless. That is, if the firm officially pays the tax, then it passes some of the tax onto the worker by lowering wages, and if the worker officially pays the tax, then she passes on some of the tax to the firm by only being willing to work for a higher wage.

- **Comparative statics:** Don't let the jargon scare you; the term simply means comparing the outcome before and after some change. Modelling allows you to see what would happen if certain things within the model change. For example, after you've written down your model, you may want to see what would happen to the economy if government spending increased. The model allows you to see the impact without having to change government spending in the real world!

Meeting the agents that participate in the models

Economic models feature three types of *agents* (or decision-makers) who interact with each other.

Here, we introduce briefly the different decision-makers represented in an economic model and what they do:

- **Consumers/households:** Individuals like you who have to make choices, such as how much should I buy? What should I buy? How much should I work? and so on.

  Economists sometimes use consumers and households interchangeably, because often decisions about what choices to make are made at the level of the household. The working assumption for how consumers behave is that they're *rational* and that they try to *maximise their utility* subject to any constraints they face.

  Economists are often criticised for assuming that people are rational, but much of this criticism stems from a misunderstanding about what economic rationality means. Individuals are considered rational in an economic sense if they're able to rank options according to their preferences. So, for example, if presented with three options – watch TV, eat chocolate and go to the gym – a rational person can rank the options and decide: first, eat chocolate; second, watch TV; third, go to the gym. That's all rationality means. Similarly, *maximise their utility* simply means that people choose the thing that they prefer most.

- **Firms:** Organisations that turn *inputs* (such as raw materials and labour) into *outputs* (goods and services people want to buy). Economists assume that firms *maximise their profits*, which sort of makes sense because in a market economy the owners of any business are likely to want as much profit as possible. That's not to say that some businesses don't have other objectives, such as revenue maximisation or certain social objectives. But for most businesses, these objectives are secondary to profit maximisation.

- **Government/policy makers:** People who can change economic policy. For example, they can decide what tax rates or interest rates to set, or how much the government should spend. In some economic models, policy makers are assumed to be *benevolent social planners*, which means that they're just trying to do what's best for society. In other models, they're *rent-seeking* or *strategic*, meaning that they may want to win the next election or increase the size of the departments. The correct assumption depends on the problem at hand.

Plotting Economic Policy

Policy makers are potentially some seriously powerful people. They can take actions that can influence the economy not only today but also for years to come. Here's a brief overview of economic policy.

Monetary policy: Controlling the economy's money supply

Monetary policy refers to policy directed towards changing the amount of money in circulation and thereby influencing the interest rates in an economy.

In the UK, the Bank of England manages monetary policy, whereas in the US the job falls to the Federal Reserve. Although the government sets the objectives of monetary policy, central banks have a large amount of autonomy regarding how exactly they use the tools at their disposal to meet those objectives. For example, in the UK the government has set an inflation target of 2 per cent, but control over monetary policy is delegated to the central bank, which can set interest rates as it pleases in order to achieve the 2 per cent target.

Here are the two types of monetary policy:

- **Expansionary monetary policy:** Involves increasing the supply of money in order to reduce the interest rate and stimulate the economy. In the short run, it usually results in higher output but also higher inflation.
- **Contractionary monetary policy:** Involves reducing the supply of money in order to increase the interest rate and slow down the economy. In the short run, it usually results in lower output but also lower inflation.

Conventional monetary policy involves changes in the official interest rate in the hope that this action filters throughout the economy. In recent times, however, many central banks (including those of the UK, US and EU) have engaged in *quantitative easing*: increasing the money supply in the hope of stimulating the economy by increasing *liquidity* (making it easier to borrow money by making sure there is enough cash around) and also inflation.

Check out Chapter 10 for loads more on monetary policy.

Fiscal policy: Spending or taxing more

Fiscal policy refers to any changes in government spending or taxation. Unlike monetary policy, fiscal policy isn't usually delegated to some independent authority, such as the central bank. Instead, politicians decide it and civil servants implement it 'in-house'.

Like monetary policy, fiscal policy can have a large impact on the economy (at least in the short run), and it also comes in two sweet or bitter flavours:

- **Expansionary fiscal policy:** Involves increasing government spending, reducing taxation or both. It's designed to stimulate the economy and in the short run is likely to lead to higher output but also higher inflation.
- **Contractionary fiscal policy:** Involves decreasing government spending, increasing taxation or both. It's designed to slow down the economy and in the short run is likely to lead to lower output but also lower inflation.

We discuss fiscal policy at length in Chapter 11.

Playing policy games

Both fiscal and monetary policy have the potential to be misused by politicians acting in their own self-interest.

For example, stimulating the economy shortly before an election in order to reduce unemployment and increase output is perfectly possible (perish the thought). In the long run, however, output and unemployment return to their original levels – only inflation is permanently higher. The government may even need to engineer a recession to get inflation back down again after the election, leading to *boom and bust* (a period of rising prosperity and falling unemployment followed by a sharp fall in living standards and a rise in unemployment).

For this reason, economists have been arguing for some time that policy makers need to be constrained in some way by *rules*, so they can't just use their *discretion* to game the system to their advantage. In the past few decades, macroeconomists have been winning the debate. In many countries, monetary policy is now *operationally independent* of government: that is, central banks are allowed to operate with little government interference. This change has led to a period of low and stable inflation in those countries.

Similar proposals have been made for fiscal policy, for example, requiring that the government balances its books on average. This change, however, hasn't happened. Most governments are quite happy to run persistent deficits, which future generations will have to pay back.

We discuss strategic policy makers and the rules versus discretion debate in detail in Chapters 12 and 13.

Financial Crises! Going Wrong on a Global Scale

Financial crises are scary things. People's assets such as their houses and their pensions lose large amounts of their value. Banks and other businesses go bankrupt. Banks suffer bank runs as people worry about the ability of banks to stay afloat, which in turn makes them more likely to go under. Borrowing money becomes almost impossible.

In short, these crises are super stressful times for the economy and the people within the economy, plus things can go really, badly wrong if policy makers aren't quick to respond (Chapter 3 has more on identifying financial crises).

Lots of interesting and complicated issues are involved in this important subject. Luckily we dedicate the chapters in Part V to understanding financial crises. So, at least that's one thing you don't have to worry about!

Looking at two scary facts about banks

We don't want to freak you out (this isn't a Stephen King novel), but we're obliged to share a couple of scary facts with you about the economy.

Any bank can fail if people believe that it may fail

This thought is pretty scary: all that's needed is for people to believe that a bank is in trouble for it actually to be in trouble!

Banks keep only a small proportion of deposits in reserve: if you deposit £100, perhaps only £5 is kept in reserve in order to facilitate withdrawals – the bank lends out the other £95. The idea is that on any given day, not many depositors are likely to withdraw money, so no need exists to keep much in reserve. This system is known as *fractional reserve banking* (see Chapter 14).

The problem with fractional reserve banking is that if people get worried about their bank's ability to facilitate withdrawals, they may all rush to try to withdraw all their savings – a classic bank run. Of course, no bank (no matter how healthy) has sufficient reserves to be able to pay up if all depositors come knocking simultaneously. In the absence of some kind of emergency funding, the bank is likely to go under.

If one large bank fails, many others can also fail

Banks and financial institutions are all connected in a complex web of transactions. Therefore, if one bank fails, the event has widespread repercussions for all other banks and can easily lead to their failure.

Like the domino effect (it takes only one domino to fall to trigger the fall of many, many dominoes), the failure of one bank can cause a cascading failure of many other banks and financial institutions. This effect is true even if those other financial institutions weren't experiencing any difficulties and were well-run beforehand.

Recognising the dangers of moral hazard

The widespread failure of large numbers of banks and other financial institutions is such a catastrophic outcome that governments will do almost anything to stop it happening. Indeed, you saw this response during the global financial crisis of 2007–8: governments around the world pumped huge amounts of taxpayer funds into the banking sector to keep it afloat.

But bankers aren't a silly bunch. They're quite aware that their industry is vital to the well-functioning of the wider economy. They also know that because of this importance, if they do find themselves in difficulty, a very good chance exists that the government will bail them out.

This knowledge leads to what economists call *moral hazard*. Basically, banks and other financial institutions have incentives to take on excessive risk, safe in the knowledge that if things turn out badly the government will ride to the rescue. But if the risks turn out well, the banks' employees and shareholders earn bumper profits. Flip to Chapter 15 for more on moral hazard.

One of the big challenges following the 2007–08 global financial crisis is: how can governments ensure that taxpayers are never left in the position where they're on the hook for the losses incurred by the financial sector? We discuss what can be done (if anything) in Chapter 16.