Economics

Economics

The Economist Guide

Philip Coggan

The Economist

Published in 2025 under exclusive licence from The Economist by
Profile Books Ltd
29 Cloth Fair
London EC1A 7JQ
www.profilebooks.com

10 9 8 7 6 5 4 3 2 1

A CIP catalogue record for this book is available from the British Library

Our product safety representative in the EU is Authorised Rep Compliance Ltd., Ground Floor, 71 Lower Baggot Street, Dublin, D02 P593, Ireland.
www.arccompliance.com

ISBN 978 1 80522 218 7
eISBN 978 1 80522 219 4

Typeset in Economist Serif by MacGuru Ltd
Printed and bound in Britain by CPI Group (UK) Ltd, Croydon CR0 4YY

MIX
Paper | Supporting responsible forestry
FSC® C013604
FSC www.fsc.org

To Sandie, my partner and loving supporter

About the author

Philip Coggan is a journalist who spent 15 years at *The Economist* and 20 years at the *Financial Times*. He is the author of a number of books including *More: The 10,000-Year Rise of the World Economy* and *Surviving the Daily Grind: How to Get By and Get On At Work Today*.

Contents

PART 1

How economics sets the world's agenda

Introduction

Economists are enormously influential and commonly derided. They are mocked for their beliefs in the primacy of markets and their inaccurate forecasts. How many economists does it take to change a lightbulb? None, because if the bulb needed changing, the market would already have done it. Or as Laurence Peter, a witty Canadian academic, put it: "An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen today."

However, if you follow the news, it is almost impossible to escape the subject. Nearly every TV and radio bulletin features one statistic or another. At election time, the economy is often cited as the single most important issue in determining voting behaviour. As John Maynard Keynes, one of the profession's luminaries, wrote: "Practical men, who believe themselves quite exempt from any intellectual influences, are usually the slaves of some defunct economist."[1]

In the longer run, economic growth has transformed the world. Starting in the early 19th century, much of the human population has abandoned farming to work in factories and offices, and now enjoys a much longer life thanks to innovations such as indoor plumbing, better healthcare and improved nutrition.

But how much of the intricacies of economics does the average person understand? The aim of this book is to give the reader a broad overview of the subject, with all its complexities and controversies. The hope is that a better knowledge of economics will allow readers to feel more involved with national debates and better able to grasp the issues that affect their own economic future. This is a guide for the general reader, not a textbook. There are no bewildering diagrams or graphs; the concepts are described in clear, simple language.

Any guide to economics must grapple with an issue that is surprisingly tricky: how to define the subject. The word itself was coined by the Greek writer Xenophon, who was a pupil of the great philosopher Socrates. The term comes from a combination of *oikos* meaning 'household' and *nomos* meaning the rules governing human behaviour, and Xenophon's work was largely concerned with the best way for a landowner to manage his estate. His argument was built on the idea that an efficiently run estate would be more productive.

The historical origin of the word gives us a link to the modern world because improving output through greater efficiency is a handy definition of productivity, a subject that economists still vigorously debate. But modern economics is much broader than Xenophon's main area of interest, so much broader that there is no academic agreement on a single definition of the subject. In a 2009 paper, Roger Backhouse and Steven Medema quote from a series of textbooks and note that "economics is the study of the economy, the study of the coordination process, the study of the effects of scarcity, the science of choice, and the study of human behaviour".[2]

In this respect, economics is rather like geography – an academic discipline that can be applied to a wide range of issues. Economics includes elements of sociology, psychology, politics, geography, statistics and mathematics. The main focus is undoubtedly on market-based transactions involving money: trade in goods and services; paid employment; taxes and public spending; and so on. Such markets exist because most goods are not freely available to all, hence the definition of the subject proposed by Lionel Robbins in 1932: "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses."[3]

But the discipline does not just have a narrow focus on monetary transactions. In their bestseller *Freakonomics*, the economist Steven Levitt and the journalist Stephen Dubner discuss such issues as the low incomes of drug dealers and the socioeconomic patterns of children's names.[4] And many economists argue that the profession has failed to tackle issues such as the environment or the role played by carers and women in the household. This book will attempt to summarise what is a vast and expanding subject.

The book cannot aim to present the "one true view" of economic thought because, as with any social science, economists often disagree violently on the right policy response in any given situation. After the financial crisis of 2007–09, some economists wanted governments to cut spending to reduce their deficits, while others wanted governments to increase spending to stimulate their economies. Inevitably, then, this book will reflect these arguments and readers will have to decide which case is more convincing.

Part 1 of the book is largely divided by theme. The first chapter looks at how economics has changed over the centuries and how the profession, and governments, have focused on different issues including exchange rate stability, tackling unemployment, limiting inflation and then boosting productivity. Chapter 2 looks at fiscal policy, what and how governments choose to tax and how they spend our money. Chapter 3 looks at monetary policy: the use by central banks of interest rates and changes in money supply to affect the economy.

In Chapter 4, the book examines international trade (including tariffs and trade blocs) and currency exchange rates. Chapter 5 looks at innovation and productivity, the key factors behind long-term economic growth. Chapter 6 examines the labour market and the factors affecting wages and unemployment. Chapter 7 looks at microeconomics, the study of decisions made by individual consumers and firms. And Chapter 8 looks at some of the alternative schools of economic thought and the critiques of the profession's mainstream.

In Part 2, you'll find a handy A–Z guide to some key economic ideas, terms and jargon.

How we measure the economy

But before we get into the next chapters, it is worth taking a quick view of the main economic statistics that are mentioned in the news headlines, and will feature heavily in the book. In economics, much of the debate depends on a set of parameters, all of which are quite difficult to measure. Somewhat unfortunately, in the public mind economics tends to be associated with the business of forecasting these variables. This is inherently impossible with 100% accuracy, given the data variability and the complexity of modern life. Here are some of the most important statistics in what is known as macroeconomics, the study of the overall economy.

Gross domestic product (GDP)

This is probably the most crucial measure of the health of the economy. In theory, a rising GDP means an improvement in the general standard of living; a falling GDP implies a recession and is associated with lost jobs and hard times.

GDP measures the monetary value of the "final" goods and services produced within the borders of a country within a given period of time (usually a quarter or a year). The "final" part is added to avoid double-counting; many goods have several stages of production. For example, a farmer grows wheat which is sold to a miller who sells it to a baker who makes it into bread which is sold in a supermarket. It is the value added at each stage that is recorded, which should add up to the end price of the final product (in this instance, the bread).

The first estimates of a country's total output were produced by Simon Kuznets, a Russian-born economist who emigrated to America in 1922. As the Great Depression unfolded in the 1930s, Kuznets initially developed a measure for gross national product (GNP). The difference between GNP and GDP is that GNP also measures goods and services produced by a country outside its borders; a US factory's output in Germany would count towards US GNP but not towards US GDP.

GDP can be calculated in three ways: by adding up all the output of an economy, or all the expenditure, or all the incomes. In each case, care needs to be taken to avoid double-counting. Another issue in calculating GDP is to allow for rising prices. If the cost of all goods and services jumps by 10% in a year and nothing else changes, then people are no better off. So instead of looking at what is known as nominal GDP (which reflects rising prices), economists focus on real GDP (which excludes them). Distinctions between real and nominal measures occur quite often in economics: for example, a nominal wage rise of 5% when inflation is 7% means a real wage cut of 2%. Another important adjustment is to compare GDP with the size of the population. Measures of GDP per capita (per head) examine whether the average person is becoming better off.

Despite its widespread use as a measure of national well-being, GDP has many critics. Even Kuznets warned Congress that "the welfare of a nation can scarcely be inferred from a measure of national income".[5] If a vandal breaks a window, the cost of repairing that window pushes up GDP but society is no better off. GDP makes no allowance for environmental costs, such as pollution. It takes no account of wear and tear on machinery or other capital (although it is possible to allow for this and calculate a net national product).

By their nature, illegal transactions such as drug dealing tend not to find their way into the official data. Nor do GDP or GNP calculations take into account unpaid work such as domestic chores or care for children and the elderly (mainly undertaken by women) or volunteer work for charities. In 1968, Senator Robert Kennedy proclaimed that GNP:

> does not allow for the health of our children, the quality of their education or the joy of their play. It does not include the beauty of our poetry or the strength of our marriages, the intelligence of our public debate or the integrity of our public officials. It measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country, it measures everything in short, except that which makes life worthwhile.[6]

Nevertheless, despite its faults, GDP, which is used more frequently than GNP, remains an important economic statistic. It is quite difficult to measure; the first estimate is usually based on business surveys which, like any survey, can turn out to be unrepresentative. Later estimates can be based on tax receipts and are likely to be much more accurate. Revisions to GDP tend to be small on average but can be significant at turning points such as when an economy is entering or leaving recession.[7]

Such errors can be significant because a widespread definition of a recession is two consecutive quarterly declines in real GDP. In 2011 to 2012, for example, it was reported that the UK had slipped into recession but the downturn was later revised away. In America, the National Bureau of Economic Research (NBER) defines a recession as involving "a significant decline in economic activity that is spread across the economy and lasts more than a few months".[8] But this can take time to establish and it has been known for the NBER to declare a recession after it has ended.[9]

Unemployment

On the surface, unemployment might seem like the easiest measure to define: the number of people without a job. But there are plenty of jobless people who cannot work: schoolchildren, full-time students, those caring for relatives, sick people and the elderly. And there are many who could perhaps work but choose not to: parents who want to prioritise looking after their children, or people who have not reached official retirement age but have accumulated enough savings to leave the job market.

Instead, governments tend to measure those people who are claiming unemployment benefits. This measure has the advantage of being easy to calculate. But the problem is that governments have every incentive to change the rules to make it harder to claim benefits: this makes their record look better. Such rule changes can reduce the welfare bill although unemployed people may end up claiming other benefits (like sickness payments) instead.

Central banks which set interest rates need a robust measure of the rate of unemployment when judging how much slack there is in the economy. If lots of people are out of work, there will be less upward pressure on wages, and thus on inflation. An alternative measure is the labour force participation rate, which calculates the proportion of people of working age who have jobs.

Inflation

Rising prices are never popular, particularly when wages do not keep pace. Some prices will rise and fall because of idiosyncratic effects: a poor harvest will drive up the price of food, whereas a glut will drive it down. But economists use the term "inflation" to refer to a more general rise in prices.

The traditional way to measure inflation is to create a basket of goods, and weight it according to each product's importance in consumer spending. This is a process that needs constant monitoring, as consumer spending changes over time; streaming services have replaced video rental, for example.

Even when this is done, there are several problems with using inflation as a way to measure changes in the standard of living. For instance, if beef rises sharply in price, people may switch to buying another type of meat, like chicken. Or they may buy the supermarket brand of corn flakes instead of a high-profile brand. On top of this substitution effect, there are changes in quality: a modern car contains many more features (route guidance, power steering, aids to parking) than its equivalent in a previous generation. These "hedonic adjustments" may not be properly taken into account in calculating inflation.

Another issue is the cost of housing. Some people rent their homes; some have taken out a mortgage to buy their property; some own it outright. For the first two groups, this may be their biggest single expense. Accounting for it is tricky; the US authorities calculate an "owner equivalent rent" – how much it would have cost a citizen to rent their property, whether they own it or not. Most countries do not include house prices as a direct component of inflation, in part because owning a house is also an investment. No one would consider putting share prices in the inflation basket.

Central banks often use a measure of "core" inflation, which excludes items such as food or energy. This is because the bankers are trying to judge the balance between supply and demand in the domestic economy when they set interest rates; food and energy prices are influenced by external factors such as harvests, transport disruptions and geopolitical tensions and are often more volatile as a result.

A final issue with inflation is that different groups of people may experience different price pressures. Poorer people devote a higher proportion of their incomes to spending on food and heating than richer ones, while younger people spend more of their income on housing than old people do. The headline inflation rate is just an average.

Balance of payments

The trade figures are not the headline grabbers that they used to be. But in the past, they could lead to crises. News of a big deficit could lead to a nation's currency coming under pressure. That was bad news in the days of fixed exchange rates, when one currency was tied to the value of others. The simplest explanation for the concept is that the trade figures measure how much a nation sells abroad compared with how much it buys from other nations. But the details are more complex.

The most obvious trade items are transactions in goods and services. These flows are very complex. Some items such as cars are assembled from components brought in from all over the world; one of the most important elements may be the software that the manufacturer bought on licence from a technology company. So the net gain to a country's trade balance from exporting a car may be quite small.

The headline trade measure that is normally discussed is the current account. This looks not just at trade in goods and services but also at primary and secondary income. Primary income comprises wages earned by domestic citizens overseas plus income (such as dividends) from foreign investments. Secondary income involves unilateral transfers including workers' remittances (money sent to families by overseas workers), and government payments such as foreign aid. In both cases these are net figures; payments out are netted against payments in.

If a country has a current account deficit, its citizens are paying more for goods from abroad than the value of what they are getting in return. This must be financed by, for example, borrowing from overseas. Such payments are measured in the capital account. In theory, a current account deficit must be exactly offset by a capital account surplus and vice versa. That is why it is called a “balance” of payments. In practice, however, the official data can be subject to measurement errors.

Productivity

“Productivity is not everything, but in the long run, it’s almost everything.”[10] That quote from Paul Krugman, a Nobel prize-winning economist, sums up the importance of productivity in generating GDP growth. In essence, productivity is the art of creating more output without any greater inputs.

A study by McKinsey in 2015 found that more than half the global growth of the previous 50 years had come from improved productivity; the rest came from increases in the size of the labour force.[11] That’s why productivity is vital for improving GDP per head; in other words, for raising the standard of living.

Productivity improvements tend to come in two forms. The first is technical innovation: the internal combustion engine, electrification or the internet. The second comes from better ways of organising existing production. About a thousand years ago, farmers started to switch from a two-field to a three-field rotation system. This meant that only a third of land was fallow every year, instead of a half, and agricultural yields duly jumped.

Productivity changes are hard to quantify directly and tend to be calculated as a residual; the part of growth that cannot be explained by increased inputs. Hence economists can struggle to explain, in real time, why productivity growth has changed. In particular, there seems to have been a slowdown in productivity growth in the developed world since the financial crisis of 2007–09 (see Chapter 5).

Many other economic measures will be discussed in the rest of the book, and the A–Z also includes short definitions of most terms. But it is time to look at how the focus of economics has changed over the centuries.

1

How economics has changed over the centuries

Perceptions of economics have changed massively over the course of human civilisation. Rulers in the ancient world or the Middle Ages did not think of the economy as an entity in the way that we do today. They were largely concerned with two issues: maximising their tax revenues (and thus their ability to wage war) and minimising popular discontent by avoiding famines. Mediaeval philosophers largely thought of economic issues in moral terms, arguing that sellers should only charge a "just price" for goods and that imposing interest on loans (which they called usury) was unfair. Muslims still take this view. These thinkers drew their inspiration from Aristotle, who argued that money was "sterile" and thus could not generate profits by itself.

It was not until the 17th and 18th centuries that philosophers tended to think of the economy as a complete system. In the 1660s, Sir William Petty made a valiant attempt to estimate the size of the British economy (admittedly, his main motivation was to calculate how much tax the government could extract). In the 18th century, the French thinker François Quesnay produced a "*tableau économique*" (economic table) to show how income flowed around the economy.

This was a vital insight which simultaneously demonstrated both the complexity of economics, and its potential for ideological division. Quesnay was part of a school known as the "physiocrats" who believed that the main source of a country's wealth was its agriculture. His economic table started with a farmer, who spent some of the money he generated from the land on rent and manufactured goods. The income resulting from his spending went to landlords and industrialists who then spent that money in a way that ended up back in the hands of the farmer.

Understanding that income, or money, flows round the system was an important breakthrough, but the trickier issue was to decide where the process began. In buying a copy of this book, you spent money that will go to a retailer, the publisher, the printer and the author. But that is only the first set of connections. The book must be stored in a warehouse and brought to the retailer in a truck or van; the publisher must pay for a cover design and for freelance proofreading; the printer must pay for ink and paper. And then there are further connections; someone had to build the truck in which the book was delivered and drill the oil that fuelled it; the paper came from a tree that had to be grown then chopped down; and so on. (If you bought the book on an e-reader, the chain is different and requires electronic components and minerals like silicon and copper.) Did the process start with the book purchase, the publisher commissioning the book or the logger felling the tree?

Quesnay started his table with the farmer, but where did the farmer get the money to buy seed and livestock? And where did you get the money to buy the book? In the latter case, this presumably came from your salary, which means the chain could have been extended back to your employer which, in turn, needed a source for its income and so on.

Income thus flows around the economy in a circle. Many economic debates over the last three centuries have centred on where that circle begins. Does it start with the consumer's decision to spend money (demand)? Or does it start with the manufacturer (or farmer's) decision to produce (supply)? Or does the impetus come from outside the system, in the form of technological breakthroughs that originate with lone inventors or in academia?

Policy decisions depend on the answers to these questions. To stimulate the economy, should governments cut taxes, or increase social benefits, to boost demand? Or should governments cut the regulations and taxes imposed on business to let industry thrive? Or should the government encourage innovation whether indirectly (through tax breaks) or directly (by setting up research centres, or giving grants to universities)?

At the heart of these questions is the broader issue of how decisions are taken (the motivations, incentives and potential penalties that affect human behaviour). Economists use these insights to advise governments on how policies should be designed to help them meet their goals; economic growth, low inflation and so on.

Adam Smith and trade

Inevitably, the study of economics cannot be divorced from the rest of society. The focus of economics has changed over the centuries as practitioners have responded to the most important issues of the day. Early thinkers wrote about a world in which the state was very small but trade with other countries was a significant, and controversial, issue. Naturally, they spent a lot of time thinking about the benefits of trade.

Adam Smith, who is often cited as the father of modern economics, had two insights that are still significant today. The first was the importance of specialisation: that goods will be produced more efficiently (and thus more cheaply) if their manufacture is broken down into discrete tasks and performed by different people. He was not the first to come up with this idea (indeed the concept was mentioned by Xenophon) but, with his example of a pin factory, outlined in the book *The Wealth of Nations*, he explained it more clearly than anyone before him.[1]

His second insight concerned free trade. In Smith's era (the 18th century), some governments took the simplistic view that exports were good (because they brought revenue into the country) and that imports were bad (because revenue flowed out). This doctrine – mercantilism – had plenty of opponents but Smith set out the most convincing critique of the idea. He argued that some nations were much more efficient at producing goods than others. For example, Scotland could grow grapes in hothouses and produce its own wine. But the cost of doing so would be prohibitive. Better for Scotland to export goods it could produce easily (such as wool or whisky) and use the proceeds to buy wine from France. Smith argued that trade should be as free as possible.

Specialisation and free trade were linked. It is not just that Scotland should specialise in wool and France in wine; free trade would allow for bigger, more developed markets in wool and wine in each country which would allow more workers to specialise and thus produce more goods in total.

The free trade argument was later refined by David Ricardo, a 19th-century British economist. It is worthwhile for two countries to trade even when one nation is better at producing all goods than the other. If Scotland is 50% as efficient as France in producing washing machines, and 80% as efficient in making cars, then Scotland should focus on making cars where it has a comparative advantage. The net result would be to make both countries better off.

The benefits of trade are still controversial, even 250 years after *The Wealth of Nations* was published. Protecting a country's industries from foreign competition has instant political appeal; it sounds patriotic and seems to protect jobs. The benefits to consumers in terms of lower prices from free trade are harder to spot, and take time to emerge. And although an overall economy may benefit from removing trade restrictions, not all individuals will benefit; in particular, the impact of foreign competition may cause workers in the affected industries to lose jobs.

Economics often grapples with issues where the benefits to society overall are offset by losses to a smaller group. Another example is subsidies to producers of particular goods; the producers of those items benefit enormously and lobby hard to keep the payments. The costs to consumers, in the form of higher prices, are spread more thinly than the gains to producers, in the form of higher revenues, and do not create enough resentment among the former to end the subsidy.

Trade volumes were growing steadily in the late 18th and early 19th centuries. But there were still many restrictions and the founding of *The Economist* newspaper in 1843 was linked to a campaign to remove tariffs on the import of wheat. Early economists took the view that the government should adopt an approach of *laissez-faire* (non-interference in the workings of the market, as well as trade). Say's law (named after French economist Jean-Baptiste Say), for example, stated that supply would create its own demand; when manufacturers buy raw materials and pay wages, this generates an income for the raw material suppliers and workers that, in aggregate, creates the demand needed to buy goods. In other words, the market would regulate itself without government interference. Economists' advice was thus in large part political and helps to explain why, in the late 18th century, the term "political economy" began to be used.

Today, Adam Smith's name is associated with the free market school of economics, which holds that governmental activity should be as restricted as possible. And it is true that he wrote that an individual investing his capital "neither intends to promote the public interest, nor knows how much he is promoting it". He added that "by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention".

But Smith was not an ideological purist when it came to government intervention. He supported the Navigation Acts, which required that all British exports were carried in British ships; he also favoured acts to limit usury, the charging of excessive rates of interest (above 5%). And he was suspicious of the motives of businessmen, declaring that "People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices." Indeed, one reason he opposed tariffs was that they favoured the interests of the producer over the consumer.

Malthus and the dismal science

While Adam Smith had many brilliant insights, readers get no sense from his writings that the British economy was about to be transformed by the Industrial Revolution. Economists inevitably tend to deal with the issues that are prominent and widely debated at the time.

But one issue that seems eternal is poverty. Because of their free market inclinations, economists of the late 18th and early 19th centuries tended to argue that government intervention to address poverty was futile. That attitude was exemplified by Thomas Malthus, a cleric, who seemed not to have absorbed the Biblical verse "Blessed are you that are poor." Malthus wrote that the world's population was growing geometrically (1, 2, 4, 8, 16 etc.) whereas food production was growing arithmetically (1, 2, 3, 4, 5) and thus the population would always be bound to outstrip the food supply. Famine and disease would then bring the population back down again. Welfare programmes of the time, known as the Poor Laws, only succeeded in increasing the population without increasing the food available to support it, Malthus argued. "If the poor laws had never existed," he wrote, "though there might have been a few more instances of very severe distress, yet that the aggregate mass of happiness among the common people would have been much greater than it is at present."[2]

A similar idea was that the income of workers would inevitably be limited to a subsistence wage. This seems to have been an oversimplification of the views of David Ricardo, who wrote: "The natural price of labour is that price which is necessary to enable the labourers, one with another, to subsist and to perpetuate their race, without either increase or diminution."[3] The clear implication was that, should wages rise above the subsistence level, then the supply of labour would increase until incomes were driven back down again.

Karl Marx, the founder of communism, argued that, under capitalism: "The lowest and the only necessary wage rate is that providing for the subsistence of the worker for the duration of his work and as much more as is necessary for him to support a family and for the race of labourers not to die out."[4] However, Ricardo's conclusions were not quite as bleak as Marx suggested. He argued that the price of labour was not fixed but "essentially depends on the habits and customs of the people". This "subsistence wage" could rise over time. "Many of the conveniences now enjoyed in an English cottage, would have been thought luxuries in an earlier period of our history," he wrote.

Still, early economists tended to get a bad reputation because of their tendency to reduce all relationships to self-interest and their doubts that governments could do much to remedy the plight of the workers. Thomas Carlyle, one of the 19th century's most eminent historians, referred to economics as "the dismal science", a term that is still occasionally used.

In the middle of the 19th century, it was quite possible, as Marx did, to take a gloomy view of the impact of industrialisation. Workers lived in unsanitary conditions in English industrial towns and disease was widespread. Unsurprisingly life expectancy in large towns averaged 29–30 years, dragged down by high infant mortality. The OECD, a club of developed nations, estimates that real wages in the 1820s in most parts of the world were barely above subsistence level. In the second half of the 19th century, however, both the standard of living of workers, and their life expectancy, started to improve significantly.[5]

Labour's value

Adam Smith wrote that "Labour ... is alone the ultimate and real standard by which the real value of all commodities can at all times and places be estimated and compared."[6] This is known as the "labour theory of value" and was adopted by many others, including Karl Marx. The approach is in contrast to that of the physiocrats who believed that value stemmed from agriculture and, by extension, the land.

The labour theory of value has a commonsense appeal. Food does not arrive on our table by magic; someone must plant and harvest the crop and deliver it to our door. Even goods that are manufactured by machine need a human to design them, or to operate the machine (or design and build the robots that operate the machine). But there are clear problems with defining the value of goods by the amount of labour put into them. I might spend years building a replica of the Eiffel Tower using matchsticks but its market value would be very low.

In the late 19th century, economists moved away from the labour theory of value to focus on other explanations. They decided that the value of a good was dependent on its utility to the purchaser. But this utility changes with circumstances. A hungry person will value the first potato they are offered much more highly than the tenth. William Stanley Jevons, Leon Walras and others developed the theory of marginal utility, defined as the added satisfaction received from an additional good or service. In theory, consumers will keep buying a good until its marginal utility is equal to its marginal cost, and in an efficient market, the marginal cost will determine its price. (Economies of scale will mean that the average cost falls as additional units are produced.) By extension, this approach can be developed to compare the value of different goods in terms of their marginal utility.

A concept like marginal utility often needs a graph to explain it and it is no coincidence that economics started to develop a much more mathematical bent in the late 19th century. Indeed, the word "economics" gradually replaced "political economy" at this stage, and it became a distinct academic subject. The mathematical focus was justified by enthusiasts as it required a rigorous definition of economic propositions, rather than a vague set of generalities. A mathematical model could be tested on data.

Critics argued that such models were too narrow to deal with complex economic phenomena and human behaviour; they required simplified assumptions, such as perfect information and a lack of transaction costs. These meant that the models often failed to apply in the real world. There is an old joke about a physicist, a chemist and an economist stranded on a desert island, when a can of beans washes ashore. The physicist suggests heating the can over a fire until it explodes, while the chemist suggests using the corrosive power of seawater to degrade the tin. The economist has a better idea. "Assume a can opener," he says.

The rise of the state

In the 18th and early 19th centuries, the state was small and economies were largely agricultural. To the extent that there was an economic cycle, it was driven by agricultural yields and thus the weather. Unemployment was assumed to be caused by idleness, injury or old age. As already noted, economists tended to argue that governments should not attempt to manage this cycle.

But it became clear that an industrialised economy followed a quite different pattern where businesses expand in response to rising demand and then shrink (or fail) when demand falls. The shift to a factory-based economy also prompted workers to organise themselves into trade unions to lobby for higher wages, shorter hours and better conditions. In response to the rising power of the workers, the franchise was gradually extended to give more of them the vote. All these changes meant that governments faced many pressures to retreat from a policy of *laissez-faire* and to find ways to provide labourers with protection from the vicissitudes of the industrialised economic cycle.

The German chancellor Otto von Bismarck started the process in 1884, providing insurance against sickness for workers, and followed it with pensions in 1889 (reforms that he hoped would reduce support for socialist parties). In Britain, a reforming Liberal government won a landslide victory in 1906 and introduced both unemployment insurance and old age pensions.

The first world war of 1914–18 required a huge amount of government intervention in the economy, including the diversion of spending to armaments production, the conscription of workers into the armed services and the rationing of consumer goods in the face of import blockades by enemy nations. In addition, taxes rose substantially to fund this expenditure. Despite attempts in the 1920s to bring taxes and spending back down, government involvement in most economies remained higher than it had been in the 19th century.

The war brought massive inflation and a significant change in the world economic order, with the US emerging as by far the most important economy. In Europe, Russia retreated into communism, and the Austria–Hungary empire was broken up into smaller nations. In the Versailles treaty that followed the war, Germany suffered territorial losses and punitive reparations that resulted in lingering national resentment. One of the most influential condemnations of the post-war settlement was written by a British economist, John Maynard Keynes, who said that the Versailles treaty "includes no provisions for the economic rehabilitation of Europe."[7]

The Great Depression and after

The Great Depression of the 1930s caused another reassessment among economists. Theory, and previous experience, suggested that economic downturns would resolve themselves. Prices and wages would fall until consumers were willing to buy goods and businesses were eager to employ more workers. But the Great Depression was far deeper and longer-lasting than any previous downturn. In 1933, a quarter of the American workforce was unemployed; in the UK, the rate was 23%; in Germany, it was 34%.

Many governments in democratic countries struggled to respond to the crisis. Some conservatives argued that existing welfare benefits were making the crisis worse, since unemployment insurance made workers less willing to take on low-paid jobs. In addition, the Depression weakened government finances, sending budgets into deficit. Cutting benefits was seen as a way to balance the books.

Balancing the budget was tied up with another priority of the time: maintaining the exchange rate. In the 19th century, the

British government had fixed the value of its currency relative to gold. Sterling's pre-eminence as a global trading currency led other countries to follow suit in a system known as the gold standard. Since supplies of gold rose only slowly, this meant that money supply also grew slowly, and inflation (at least over the long run) was subdued. This suited the creditor classes who owned the bonds issued by governments and companies. That is because the value of bonds is fixed: a bond with a face value of $1,000 will be worth $1,000 when it matures. If, in the interim, inflation has been high, that $1,000 will buy a lot less in terms of goods and services. Therefore, creditors want inflation to be low.

The gold standard exerted a firm discipline over governments that adhered to it. The system allowed foreign creditors to exchange their holdings of currency for gold. They would do so if they thought a government was being irresponsible by running a budget deficit or if the country's balance of trade was in deficit. (A trade deficit meant that foreign creditors would steadily accumulate more and more of that nation's currency.)

If foreign creditors showed signs of losing confidence, and gold started flowing out of the country, the nation's central bank would push up interest rates to attract investors. Such rate rises would usually slow the economy, causing businesses to lay off workers. So the gold standard was a system that worked well for creditors but at the expense of employees.

During the Great Depression, countries that tried to stay on the gold standard were committed to austerity and high interest rates. When they left the regime (as Britain did in 1931, and America did in 1933) they had much more flexibility. Those countries which abandoned the gold standard earliest tended to recover fastest.

In the US, Franklin Roosevelt's New Deal was an explicit challenge to the *laissez-faire* approach of many of his predecessors. Not all of President Roosevelt's policies worked, but in the face of challenges from fascism and communism, democratic governments took a grave risk if they did nothing to mitigate the Depression. Unfortunately, the most common response in the developed world was to increase tariffs in an attempt to protect domestic industries; by reducing global trade, this only exacerbated the downturn.

Keynes did not produce his groundbreaking *General Theory of Employment, Interest and Money* until 1936, well into the Depression years, and even then there is little evidence that governments took his advice to heart. Keynes argued that economies could get stuck in depressionary circumstances because of a "liquidity trap" in which cautious consumers and businesses were unwilling to spend money. The way to revive "animal spirits" was for governments to spend money, regardless of the budget deficit; this expenditure would stimulate demand, create jobs and eventually generate tax revenues to pay for the extra spending.

The use of government spending to stimulate the economy is one element of fiscal policy, which will be discussed in Chapter 2. But many later economists saw the Depression as the result of failed monetary policy (the subject of Chapter 3). Between the autumn of 1930 and the winter of 1933, US money supply fell by 30%. That is because many banks collapsed during the Depression.

Banks have a fundamental problem. They take in money in the form of deposits which can be withdrawn at any moment. They make a profit by lending that money to private customers and businesses, usually in ways that cannot be instantly realised. (Anyone who has seen the film "It's a Wonderful Life" may recall that Jimmy Stewart explains this very well.)

In a crisis, businesses go bust and are unable to repay the banks. This will weaken the bank's finances and cause customers to worry about the safety of their deposits. If they then withdraw their money, the bank will have to try and recall its loans, creating more problems for businesses, and the cycle gets worse. Unfortunately, in the 1930s, it was perfectly rational for bank customers to take out their money quickly, especially if others were doing so. That is because those who were slow to act could lose their deposits if the bank went bust.

One answer, which emerged in the 1930s, was to create a government-backed insurance scheme that guaranteed deposits, ensuring that there was no need for customers to panic. Another was for the central bank to lend money freely to banks at times of crisis to make up for shortfalls elsewhere. In the 19th century, Walter Bagehot (an editor of *The Economist*) had suggested that central banks should rescue banks which had a liquidity problem (but were essentially sound) by lending freely at penal interest rates. But in a general crisis, penal rates would make things worse for the economy. Instead, borrowing costs had to be reduced.

This meant that there was a conflict between the actions needed to save the banking system (increased money supply and low interest rates) and those needed to maintain the gold standard (restricted money supply and high rates). This made the gold standard unsustainable. The Great Depression was so devastating that, in recent years (notably in 1987, 1998 and 2008), central banks have been very quick to rescue the financial system to ensure that nothing like it happens again.

The second world war and after

In the late 1930s the global economy showed signs of recovery but the root cause was deeply disturbing. European nations rearmed significantly in the run up to the second world war. In Nazi Germany, unemployment fell dramatically from 6 million in January 1933 to under 1 million in 1937. These figures looked impressive but the government's emphasis on rearmament was such that consumers suffered. In 1938 German real wages were lower than before the Nazis took power and they were consuming less eggs, meat and milk than they did before the Depression. Still, there was a feeling in the 1930s that the democracies had been less effective in tackling the Depression than the totalitarian states of Germany and the Soviet Union.

As in the previous world war, the 1939–45 conflict involved massive interventions by governments in every aspect of the economy from directing production and employment through controlling prices to rationing consumption. And, as it became clear that Germany and Japan would be defeated, post-war planning made it clear that governments would try to avoid a repetition of the Depression. It was up to the authorities to try to manage their economies; it was also up to them to protect citizens from the vagaries of the economic cycle by enhancing the welfare state.

At the international level, the post-war system was created in the state of New Hampshire at the 1944 Bretton Woods conference at which Keynes matched wits with the US representative, Harry Dexter White of the US Treasury. Keynes's brilliance and logical arguments often had to give way to an acceptance of America's financial, economic and military dominance. Rather than recreate the gold standard in full, countries tied their currencies to the US dollar (which was itself backed by gold). Two new institutions, the International Monetary Fund and the World Bank, were created to encourage economic development and to help countries manage temporary balance-of-payments difficulties. Crucially, international capital flows were restricted, which made it harder for the markets to speculate against individual currencies.

When it came to trade, in 1947 23 countries signed the General Agreement on Tariffs and Trade which aimed to avoid a repetition of the protectionist levies that had marked the 1930s.

While the Allies had imposed punitive conditions on defeated Germany after 1918, America introduced the Marshall Plan in 1948 which gave assistance to war-ravaged European economies. This was a recognition that US industries would prosper if European consumers had more money to spend.

In the immediate post-war years, western economies grew very rapidly. Both workers and businesses switched from their military roles to supplying consumer and capital goods. Trade flows were restored. There was pent-up demand among consumers for household conveniences: central heating, washing machines, refrigerators, vacuum cleaners and TVs. In West Germany, the post-war period was known as the *wirtschaftswunder*, or economic miracle; in France, as *les trente glorieuses* or thirty glorious years. Initially, both inflation and interest rates were low, and economic management thus focused on fiscal policy. This was seen as a triumph for the Keynesian approach to economics.

By the 1960s, some cracks appeared in the post-war model. Inflation started to creep up and economists began to debate the trade-offs between unemployment and rising prices. The success of West Germany and Japan meant that the currencies of both countries needed to be revalued relative to the dollar. Doubts gradually arose about the willingness of the US to stand behind the Bretton Woods system, which occasionally required American politicians to sacrifice domestic economic goals to maintain the exchange rate peg. In 1971, President Richard Nixon duly abandoned the peg and the Bretton Woods system collapsed, leaving most currencies floating against each other on a daily basis.

Monetarism and deregulation

The early 1970s proved quite a turbulent period for the global economy and caused economists to shift their thinking again.

Many countries were using expansionary fiscal policies in an attempt to boost their growth rates, with the result that inflation rates trended higher. In 1973, the Yom Kippur war between Israel and a coalition of Arab nations prompted OPEC, the oil producers' cartel, to force up fuel prices pushing inflation even higher. These higher oil prices acted as a tax on western consumers, slowing growth. This combination of higher inflation and weaker economies was referred to as stagflation, a hitherto unseen phenomenon.

The phenomenon led economists to debate the causes of inflation. The influential Chicago school, led by US economist Milton Friedman, argued that the primary driver was excessive expansion of the money supply. "Inflation is always and everywhere a monetary phenomenon," he claimed.[8] Therefore, governments should focus on controlling money supply growth and then inflation would disappear. He also argued there was a "natural" rate of unemployment, resulting from friction as people change jobs or retrain for new careers; trying to push unemployment below that level would only lead to higher inflation.

A related argument was that economic models ought to be based on the assumption that individuals were completely rational and that they would take advantage of all opportunities open to them. For example, if workers thought that government policy would lead to higher inflation, they would demand higher wages in compensation.

But inflation was not Friedman's only focus. Even as the state was expanding in the post-war period, some economists, such as Friedrich von Hayek, were arguing that this growth was a mistake both on economic efficiency and on libertarian grounds. Friedman agreed with Hayek that a bigger state required high taxes and excessive regulation. This would discourage the entrepreneurship that created jobs and led to economic growth.

Furthermore, these economists argued, the market was a much more efficient allocator of resources than the government. No bureaucrat could possibly have enough knowledge to anticipate future changes in demand and supply conditions. The market signalled such trends through price changes, to which the private sector responded.

The deterioration in economic performance during the 1970s meant that there was a ready audience for these theories among conservative politicians in Britain and America. The election of Margaret Thatcher in the UK, and Ronald Reagan in the US, marked a sharp break in the post-war Keynesian consensus. Taxes were lowered, the finance sector was liberalised and state industries were privatised. Government's share of economic output declined a little but neither government made any serious attempt to dismantle their welfare states.

During this period, the focus of economic policy switched to monetary, rather than fiscal, remedies. Central banks were made independent and given the target of keeping inflation low. Their usual means of meeting this target was to raise or lower the level of short-term interest rates. This approach appeared to be successful. In the 1990s and early 2000s, inflation was low and economic growth steady, with economists calling the period "the Great Moderation".

The Great Financial Crisis and after

In early 2007, the first signs became apparent that institutions that had lent money in the American housing market faced serious problems. Rapidly, this led to a severe financial crisis and the collapse, or near-collapse, of a large number of multinational banks. The crisis required a new set of policies and posed some new questions for economists to consider.

After years of subdued inflation, interest rates were already very low when the Great Financial Crisis struck. As a result, central banks quickly came up against a problem: what to do when rates fell to zero? One possibility was to reduce interest rates below zero. That would have been impossible in an earlier era, when investors could have simply held cash and avoided any negative charge. But banks and other institutions had portfolios worth billions of dollars and thus, for them, holding cash in such amounts was not an option.

Another answer was to focus on longer-term interest rates, particularly those in the bond markets. Quantitative easing (QE) involved the creation of money so that central banks could buy bonds. This pushed up bond prices (and reduced bond yields) and put money in the hands of the private sector which sold its bonds to the central banks.

More broadly, the crisis raised the question of whether economists had been right to rely on the wisdom of markets, and whether they had paid enough attention to the role of the financial sector within the economy. The enormous wealth accumulated by those working in the banking sector had led to many being regarded as financial gurus. However, it turned out they weren't so smart after all.

In November 2008, Queen Elizabeth II asked a group of academics at the London School of Economics: "Why did no one see it coming?"[9] There was increased interest in a school of thought called behavioural economics which looked at some of the psychological biases that led people to make irrational decisions. In addition, the lack of legal consequences for those involved in the banking crash created a political backlash. On the right, this prompted the rise of populist politicians. On the left, this created a renewed focus on the subject of widening inequality, highlighted by the book *Capital in the Twenty-first Century* by Thomas Piketty, the French economist.[10]

In the aftermath of the crisis, the recovery was rather more sluggish than many commentators had expected. This led to renewed debate about the drivers of economic growth – in particular, innovation. Another topic for economic debate in the 21st century has been the impact of climate change and whether conventional economic measures, such as gross domestic product, take sufficient account of environmental costs.

Over the centuries, economics has had to adjust to the impact of industrialisation, world wars, the creation of the welfare state, the growing power of financial markets and the globalisation of trade. Small wonder that there have been so many changes in the nature of the debate and the direction of economic thought. But it is time to break down the big themes and look at the most important issues with which economists grapple, starting with the subject of the next chapter: fiscal policy.

2
Fiscal policy

It is an old cliché that the only certain things in life are death and taxes. Taxes seem to have been around as long as recorded civilisation. In the third millennium BCE, the ancient Egyptian pharaohs imposed both a *corvee* and a tithe. The *corvee* was a form of forced labour (that was how the pyramids were built) and the tithe was a proportion of the goods that citizens produced. Tithes were a payment equivalent to one-tenth of annual income, normally taken in the form of produce such as cereal or textiles. The word tithe meant one-tenth in old English.

While ancient rulers spent a good deal of resources on monuments and their own lavish lifestyles, they also needed to maintain their rule. Either soldiers were conscripted (a tax on people's labour) or mercenaries needed to be hired, and taxes were needed to pay them. In the Middle Ages, the European feudal system imposed a range of taxes (often in the form of produce and forced labour) on the long-suffering peasants.

Tax demands rose in the early modern era (from roughly 1500 onwards), as governments increased their spending on defence. In his book *The Earth Transformed*, historian Peter Frankopan calculates that the combined tax take of major European powers increased 20-fold between 1500 and 1780.[1] At the time four-fifths of all government spending was devoted to the armed forces. The development of the cannon and the