

ECONOMICS

An A–Z guide

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Introduction

Why economics matters more than ever

There has never been a more exciting time for economics. Although economists themselves may be more unpopular than usual, especially those whose ideas helped bring about the financial crash of 2008 and the Great Recession that followed it, more than ever they are being turned to for insights and answers to the big questions affecting every aspect of life, including the sustainability of our planet. In this time of widespread questioning about where society is heading, and of vast and rapid change, if you want to know what is really going on, and what needs to be done, it is essential to have a working understanding of economics. Hence this book, written in the spirit of *The Economist* with the goal of bringing the intelligent non-economist up to speed.

Let's start with the most basic question: What is economics? "Economics is what economists do," said Jacob Viner, a leading 20th-century economist, not very helpfully. Former US president Ronald Reagan described economists as unworldly "people, who see something work in practice and wonder if it would work in theory". More usefully, the authors of *Freakonomics* note that economics, at its root, is "the study of incentives: how people get what they want, or need, especially when other people want or need the same thing". Their recognition that people are often competing for the same things points to what is probably the best definition of economics: "the study of how society uses its scarce resources" or, more snappily, "the science of choices".

Without scarcity – of land, labour, raw materials, capital, entrepreneurial spirit, time – there would be no need to make

choices about how to use those things to greatest effect, and thus no need for economics. At its best, economics helps people, individually and collectively, to make the right choices and it shows them the most efficient way to use scarce resources in the process of achieving their goals.

Three aspects of economics are especially exciting today, because each of them urgently demands fresh thinking from the brightest minds in the profession.

The first is macroeconomics – how best to manage an entire economy. The severity of the crash and the depth of the Great Recession came as a big surprise to most mainstream economists, though a few had given warning of impending dangers. In most countries the pace of economic recovery has been unexpectedly slow, too, surprising a conventional economic wisdom that had predicted a typical, relatively quick economic rebound.

The second, following from a revolution in microeconomics based on combining traditional economics with a more realistic model of human behaviour, focuses on generating new ways to improve how people live their daily lives. This includes developing innovative business models (such as the mobile-phone apps developed by Uber and Airbnb) and improving how government works by using so-called nudges to encourage people to behave in their (and society's) best interests in circumstances where they would otherwise make suboptimal choices.

Third, the severity of the Great Recession and the growing threat of climate change, among other things, have inspired an increasingly urgent debate about the relationship between economics and social, organisational and personal purpose. If trying to maximise GDP growth simply results in people taking on more debt than they can afford, leaving them vulnerable in an economic downturn, and doing things that threaten the sustainability of our environment, shouldn't we be using better goals to guide our economy, such as the Social Progress Index or Bhutan-style gross national happiness?

Rethinking macroeconomics

Macroeconomic debate is livelier today than at any time since the combination of free market laissez-faire economics and Milton Friedman's monetarism replaced the big-government, free-spending, Keynesian orthodoxy in the late 1970s/early 1980s. The crash of 2008 and subsequent Great Recession destroyed the credibility of claims that the economy had entered a new phase of Great Moderation, with permanently low rates of inflation and unemployment. The battle is on to develop a new paradigm for macroeconomic policy. The need is urgent, especially as populist solutions touted by politicians with little grounding in the economic realities of scarcity are catching on among frustrated electorates wanting answers to today's economic problems that do not require them to make hard choices.

The crash of 2008 and the subsequent Great Recession highlighted serious flaws in the previous macroeconomic conventional wisdom. Central banks and Treasury departments, the powerhouses of macroeconomic policymaking, stuffed to the gills with economists, largely failed to spot the crash coming and underestimated the damage it would do beyond the financial sector to the rest of the economy. (Economists in the private sector hardly did better, with the exception of the occasional economic Doctor Doom who predicted macroeconomic apocalypse.) They bought into the notion of the Great Moderation. They were also reassured that the financial system was capable of managing an ever greater amount of debt thanks to its adoption of risk-management systems based on cutting-edge financial economic theories.

What followed was an unprecedented meltdown in the financial system after the collapse of Lehman Brothers, an investment bank, and the deepest recession in the world economy since the Great Depression in the 1930s. Mainstream economists do deserve at least one cheer for helping governments to learn the most important lesson from the Great Depression: that they

needed urgently to shore up the financial system and provide some fiscal stimulus to avoid Great Depression 2.0.

Even so, there was (and remains) considerable disagreement among economists about what caused the crisis and what the appropriate policy response to it should be. (That said, when do economists ever all agree? George Bernard Shaw, an Irish playwright, famously joked that, “If all the economists were laid end to end, they would never reach a conclusion.”) Some economists argued that the best post-crash macroeconomic policy, at least in countries with high ratios of public-sector debt to GDP, was the austerity slashing of government spending and borrowing. With interest rates already close to zero in nominal terms, some central banks tried to strengthen the financial system and thus the economy by buying debt from the banks, a policy known as quantitative easing. Though this seemed to have a positive impact, at least in the short run, first in the US and later in the euro zone, its likely long-term consequences remain a topic of fierce debate among economists. Shockingly to many, brought up in a world where inflation was viewed as the biggest economic threat, the Great Recession has led to a renewed focus on the considerable dangers of falling prices, deflation and how to prevent it.

The crash and Great Recession also worsened some pre-existing global macroeconomic faultlines. The European Union’s efforts to establish a new currency, the euro, for most of its member countries was always going to be tough, even before its financial system was devastated by a post-crash sovereign debt crisis and much of the euro-zone economy stopped growing. In the US, the dollar had only become established as a national single currency after a bloody civil war; in Europe, the euro was launched before the EU had agreed how to deal with some of the thornier economic and political consequences of monetary union, including how to support economies that found themselves uncompetitive at the euro’s prevailing exchange rate. Germany’s economy benefited from a lower exchange rate than it would have had by sticking with

the Deutschmark and not joining the euro; Greece's economy was made even less competitive than it would have been if it had stuck with the drachma. Trying to solve these problems amid a financial and economic crisis has at times seemed to bring the euro to the brink of collapse, with the Germans and Greeks in particular at each other's throats. Designing macroeconomic policies capable of taking the EU forward remains a live and urgent challenge.

The Great Recession was felt hardest in the world's richest and ostensibly most advanced economies. Their struggles, at least initially, accelerated the relative rise of some emerging-market economies, especially China, which has long been forecast to become the world's next economic superpower.

In China, and other emerging economies, watching the crisis unfold in rich countries that they had aspired to imitate led to a renewed debate about how best to develop their own economies. They are asking again what role should they allow capitalism, free markets, the state and so forth, with alternative approaches to the Western developed-country model taken far more seriously after the crash than at any time since the collapse of the Soviet Union. Yet the slowdown in rich economies has also had negative consequences for the emerging markets. Those that were dependent on selling commodities, such as Brazil, have had to cope with a sharp fall in demand. Those such as China, which depended on exporting goods to richer countries, have had to try to refocus their economy on serving domestic consumer demand, which is proving much harder than simply winning market share abroad. Again, there remain big, unanswered economic questions about how the emerging economies will manage the next phases of their emergence, assuming they do not instead start to submerge.

For at least 1,000 years, the rise and fall of economic superpowers has been a source of significant economic and geopolitical stress, often including international conflict and war. Economists disagree about how significant the geopolitical

risks are this time as China rises and the US experiences relative decline.

But even before the Great Recession, the growing clout of economies such as China was raising questions about the suitability of the so-called Bretton Woods institutions, such as the International Monetary Fund (IMF) and World Bank, which were created after the second world war to govern the global economy. After the crash, the case for the global economy to be overseen by these institutions, which are still in thrall to countries such as the US and France, looked even weaker, even though the important role played in ending the crisis by the IMF in particular provided clear evidence of why these institutions were needed in the first place. There remains an unmet need for an overhaul of the global economic governance system to give a proper voice to new economic powers such as China and India that will only increase as the share of the global economy accounted for by developing countries grows. Among the most urgent priorities are likely to be the creation of a new system for managing exchange rates, as the dollar's status as global reserve currency comes under threat from the Chinese yuan and, perhaps, the euro.

The threat of disruption from climate change only adds to the need for better ways to manage the global economy. If the world is to keep the increase in carbon in the atmosphere to sustainable levels, it will require the combined efforts of developed and developing countries. How to foster such a collaborative effort across international borders remains an open question.

The rapid pace of technological change also causes economists to challenge the macroeconomic conventional wisdom. Will the rise of artificial intelligence-based machine learning and the development of sophisticated robots, self-driving vehicles and so on destroy many of today's jobs? Will they do so at an unprecedented speed, too fast to create enough new jobs to replace the old – and, if so, what will most people do all day, and how will they obtain enough money to live on? Advanced

economies have been through successive waves of technological job destruction, moving from labour-intensive agriculture to mass manufacturing to services, and each time new jobs that are better and more numerous than the old ones have been created. But some of today's most respected economists fear that this time it will be different.

On one aspect of macroeconomics there does seem to be broad agreement. Macroeconomic models need to be upgraded to accurately reflect how different parts of the economy work, especially in adverse economic conditions. This includes understanding the internal processes of banks, other companies and regulators, and the decision-making processes of individuals.

The crash and Great Recession revealed, for example, that central bankers had too limited an understanding of how banks choose whether and to what extent to pass on lower interest rates to firms and consumers. As a result, they failed to anticipate that many banks would not pass on lower interest rates, preferring instead to use the cheaper money to strengthen their balance sheets.

Nor did policymakers understand that in a time of severe economic downturn, consumers were more likely to save any money they pocketed as a result of tax cuts rather than, as was the goal of policymakers, spend it and thereby stimulate the economy.

Such topics, focused on a specific part of the economy, not the whole of it, are the stuff of microeconomics. Part of the answer to today's big macroeconomic questions will be found in the insights of microeconomics. These too are changing fast.

The new microeconomics

While macroeconomics is in a mess, urgently needing new thinking, microeconomics is exciting because it is enjoying a renaissance, driven by two intellectual revolutions. The first is the result of the latest wave of technological innovation, particularly in information technology. This is generating ever

more data for economists to analyse. It has also started to give rise to innovative business models that apply long-understood economic truths in new ways, with dramatic consequences for work and consumption. The second is the growing popularity of behavioural economics, which draws on psychology to better understand human economic decision-making, producing some very different results from those of traditional economic models.

The rapid adoption of smartphones around the world is having a dramatic effect on the economy. Companies such as Uber and Airbnb have developed apps that allow the two fundamental economic forces of supply and demand to interact more efficiently than ever before across a wide range of industries (car service and room rental being two of the fastest-growing). This is shifting a variety of economic activities to an instant on-demand model, sometimes called the sharing economy, which allows higher utilisation of physical assets (such as cars and houses), sharply reduces the cost of some services and is potentially changing forever the nature of much work by providing a massive increase in freelancing (at least until robots and artificial intelligence do away with work altogether).

These are still early days for “app economics”. Yet it seems safe to say it will have a huge impact on how economies work in the years to come. One possibility that excites economists interested in developing countries is whether the spread of smartphones in some of the poorest parts of the world will allow them to escape poverty far more quickly than in the past. (Though to be fair, better economic policies have helped drive a sharp fall in the percentage of the world’s population living in extreme poverty, from 36% in 1990 to under 10% in 2015.) Government and other services, from banking to welfare payments and education to access to health care, may be delivered via apps more efficiently than they are by traditional methods in advanced economies. If so, perhaps developing countries will be able to leapfrog ahead of developed ones, at least in some respects.

The economic consequences of the digital revolution are still to become clear in other ways too. What impact will innovations such as 3D printing have on business models and consumption patterns (lots more printing products at home, maybe)? Will new forms of digital money, such as bitcoin, and associated blockchain technologies transform finance and intermediation in the economy? Certainly, the vast amounts of data produced by the digital economy – so-called big data – will provide economists with unprecedented opportunities to devise and test new theories about every aspect of economic behaviour. Already, a host of innovations are emerging from this number-crunching, including using information about a person's Facebook friends to judge whether he or she would be likely to repay a loan.

The evidence from all this data is reinforcing the second trend in microeconomics: the incorporation of more realistic human behaviour into economic models. Economists have typically described the thought processes of *Homo sapiens* as more like that of *Star Trek's* half-Vulcan, half-human Spock – strictly logical, centred on a clearly defined goal and apparently free from the unsteady influences of emotion or irrationality – than the uncertain, error-prone muddling through with which most of us are familiar. Of course, a large part of human behaviour does accord with the rationality so beloved of economists, but much of it does not.

Economists are now waking up to this fact. A wind of change is blowing some human spirit back into the ivory towers where economic theory is made. There is a growing school of economists who draw on a vast range of behavioural traits identified by experimental psychologists to mount a frontal assault on the idea that people, individually or as a group, mostly act rationally. For instance, bubbles and crashes seem to be the result of people being swayed by the mood of the crowd, rather than by careful, rational decision-making. This behavioural economics has been reinforced by an even newer field of economics that

draws on neuroscience, called neuroeconomics, which has used experiments involving brain scans to further call into question the usefulness of the traditional assumption in economics of a rational *Homo economicus*.

As this new behavioural approach moves to the mainstream, it is inspiring some novel economics-based changes in how governments interact with citizens. Economists used to draw a distinct line between what is the province of government and what should be left to individual choice in the market. Over the decades, economists have fought over where exactly that line should be drawn, with the bigger-government crowd sometimes in the ascendancy and at other times small-government pro-marketeters making the running. Behavioural economics is giving rise to a third approach that has been christened liberal paternalism, as it combines liberal free markets with a paternalistic state.

In several countries, including the US and the UK, governments have experimented with so-called nudges designed to encourage citizens to change their behaviour in desired ways. Nudges, which may be as simple as writing official letters differently to change how readers react to the content, have been used to pursue goals ranging from getting people to pay unpaid taxes to reducing their consumption of electricity and eating more healthily. Economists are also starting to develop smart contracts that will automatically deliver desirable outcomes, such as pre-committing to saving more for retirement as your income rises, which behavioural economics suggests would otherwise not happen if people were left to their own devices. It remains to be seen how well and consistently these new approaches will work, though the early results are promising enough to suggest that there will be much more nudging in the years to come.

Economics with a purpose

Thomas Carlyle, a Victorian writer, famously described economics as the “dismal science”, not least because it seemed to reduce