# Introduction

"■n Greece, statistics is a combat sport." Andreas Georgiou was speaking after the announcement that he would be facing criminal charges and a parliamentary inquiry. A distinguished man who had previously spent many years working at the International Monetary Fund (IMF) in Washington, DC, Georgiou could be played by George Clooney in the movie about the European economic catastrophe. In late 2010 he became the head of Elstat, Greece's new official statistical agency, parachuted into the job by the European Union (EU) and the IMF. Within weeks his emails were being hacked, and within months he was accused by recently sacked board members of the old official statistics agency of acting against Greece's national interest. In a case that has bitterly divided opinion in Greece, prosecutors subsequently charged him with the felonies of dereliction of duty, making false statements, and falsifying official data. His crime? Trying to produce accurate statistics on the Greek economy after decades during which official statisticians had massaged figures at the behest of politicians. The stakes were high, as res-

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cue funds to bail out the Greek government and prevent the economy from collapsing depended on the achievement of tough targets for reducing how much the government was spending and borrowing. The targets were expressed as a ratio of the budget deficit to GDP—Gross Domestic Product, the standard measure of the size of a country's economy. GDP is a familiar piece of jargon that doesn't actually mean much to most people. This book is the story of how this statistic came to be so important.

According to an official European Commission inquiry published just ahead of Georgiou's appointment, the Greek figures had been doctored for years. The head of the National Statistical Service of Greece (NSSG, the predecessor to Elstat) had earlier that year, in some desperation, contacted European officials in Brussels, "claiming official interference over the provision of figures." The inquiry concluded that there had been repeated misreporting of figures, that the Greek government could not keep track of its own spending anyway, and that there were grave doubts about the "accountability of the Greek institutional framework"—a bureaucratic phrase for the government's inability to control or even count its expenditure in a number of areas including defense spending.<sup>2</sup>

An official inquiry was in fact unnecessary. A statistician could have told the Brussels Commissioners that the Greeks were cooking the books just by looking at the reported numbers. One potential warning signal was the announcement in 2006 that Greece's GDP was 25 percent higher than previously thought: NSSG added in an estimate of the value to the economy of off-the-books activities, hidden from the tax authorities. Greece was certainly not the only country to include in official GDP figures an estimate of the size of the so-called informal economy (as we will see later), but this large boost came at a useful time for borrowing more, as the size of GDP

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is key to lenders' views about the borrower's capacity to repay the loan.

Apart from this change, and apart from the regular refusal by EU statisticians to approve the Greek numbers, made-up figures also have a statistical marker indicating that they have been fabricated. The pattern of GDP or other economic variables has a particular statistical fingerprint that is hard to falsify. These series of statistics are not random. Specifically, the first digit is not a 1 (or any other digit up to 9) one time in every nine, as would be the case with random statistics. Instead, the figures are far more likely to start with a 1: the first digit will be a 1 six times more often than it will be a 9, over two times more often than it will be a 3, and so on. The fingerprint pattern is known as Benford's Law. Dr. Charlie Eppes, the mathematical genius played by David Krumholtz in the crime drama Numb3rs, uses it to solve a series of burglaries in one 2006 episode, "The Running Man." Greek GDP statistics did not have the Benford's Law fingerprint.3

The European Commission report was clear—it is some of the bluntest bureaucratic language I have ever read—that Greece's Ministry of Finance was instructing the official statisticians what the deficit and GDP figures needed to be in order to keep the loans flowing. The board of NSSG before 2010 must have either known about the fabrication or not known—in which case it was hardly an effective board for a national statistical agency. As it happens, my good friend Paola Subacchi, now director of economics at the distinguished international affairs think tank Chatham House, had visited NSSG in 2002. She flew to Athens, and took a taxi to an address that turned out to be in a residential suburb. She says: "It was in a square of ordinary shops, and I had to hunt for a doorway in a 1950s apartment block that took me up some stairs to a dusty room with a handful of people. I can't remem-

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ber seeing any computers. It was extraordinary, not a professional operation at all." No wonder the IMF and European Commission wanted to send in Mr. Georgiou to create a new statistical agency as a condition of lending the rescue funds to the Greek government. There might yet be nasty surprises to uncover. "I am being prosecuted for not cooking the books," he said after he was accused of betraying the national interest, a crime that in theory carries a potential life sentence.

The point of this story of nefarious statistical manipulation is to highlight the importance of GDP in everyday politics and finance. In theory, Mr. Georgiou could be imprisoned for producing a different number from his predecessors. The living standards of millions of Greek people—would they have jobs? would they need to join the lines at the soup kitchens?—depended on the figure.

GDP is the way we measure and compare how well or badly countries are doing. But this is not a question of measuring a natural phenomenon like land mass or average temperature to varying degrees of accuracy. GDP is a made-up entity. The concept dates back only to the 1940s. As the next chapter will discuss, before then different concepts were used to measure how well the economy was doing, and even they originated only just over two hundred years ago. In the unlikely event he does ever go to prison (the inquiries are still dragging on), Mr. Georgiou will have lost his liberty over an abstraction that adds up everything from nails to toothbrushes, tractors, shoes, haircuts, management consultancy, street cleaning, yoga teaching, plates, bandages, books, and all the millions of other services and products in the economy—and then adjusts them in complicated ways and for seasonal fluctuations, taking account of inflation, and standardizes them so that all countries' statistics are roughly comparable, as long as they are adjusted again for some hypothetical exchange rates. You

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get the point: an abstract statistic derived in extremely complicated ways, yet one that has tremendous importance.

So how has something so artificial, complicated, and abstract come to be so important for economic policies affecting the livelihood of the Greek people? Can it be right that GDP rules key political decisions affecting their fate and ours? After all, this single measure of "the economy" tends to dominate political contests, and governments' fortunes seem to rise and fall with the difference between plus 0.2 percent and minus 0.1 percent in one quarter's GDP numbers. The latter may mean recession, the former reelection. News bulletins often feature economists and politicians making strong opposing claims about how the economy is doing, by which they mean what the GDP growth rate is likely to be, and what the government should be doing as a result.

Yet the primacy of GDP as the measure of economic success has been increasingly challenged, not so much by politicians or economists as by people who see it as the primary symbol of what's gone wrong with the capitalist market economy. For example, environmentalists believe it leads to an overemphasis on growth at the expense of the planet, "happiness" advocates think it needs to be replaced with indicators of genuine well-being, and activists such as those in the Occupy movement argue that a focus on GDP has disguised inequality and social disharmony.

There are certainly several reasonable critiques of GDP and the role it has come to play in guiding economic policy. These also include questions about how complicated the statistical construction of GDP has become, and what such a complex abstraction can actually mean. But GDP is also, as this book will show too, an important measure of the freedom and human capability created by the capitalist market economy. GDP indicates, although imperfectly, innovation and human

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possibility. And it is an important measure of our creativity and care for one another in an economy based more and more on services and intangibles. In 2000, the U.S. Bureau of Economic Analysis declared GDP to be "One of the Great Inventions of the 20th Century." It is an understandable exaggeration.

This book explains GDP and describes its history, sets out its limitations, and defends it still as a key indicator for economic policy. It is certainly a better indicator than some of the fashionable alternatives (like "happiness") that have been proposed. I also ask whether GDP alone is still a good enough measure of economic performance—and conclude not. It is a measure designed for the twentieth-century economy of physical mass production, not for the modern economy of rapid innovation and intangible, increasingly digital, services. How well the economy is doing is always going to be an important part of everyday politics, and we're going to need a better measure of "the economy" than today's GDP.