

**ECONOMICS FOR  
THE COMMON GOOD**

**JEAN TIROLE**

**TRANSLATED BY STEVEN RENDALL**

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Finally, I thank all those who have encouraged me to write this book. While I have long taken part in policymaking, conversing with private and public decision-makers, as yet I had never engaged with the wider public. After receiving the Nobel Prize I was regularly asked by people I met in the street or as I gave talks to explain to a broader audience the nature of economic research and what it contributes to our well-being. They inquired about whether economists are useful, whether economics is a science, whether the key challenges we face can be solved. They made me aware of my responsibility to get out of my laboratory, describe my daily activity, and explain the logic and insights of economics—not to act as a commentator on each and every topic, but simply to share with the public my passion for the discipline and to explain how scientific knowledge can guide economic policies and help us understand the world we (will) live in.

# INTRODUCTION

## Whatever Happened to the Common Good?

SINCE THE RESOUNDING FAILURE of the planned economies – the fall of the Berlin Wall and China’s economic transformation – the market economy has become the dominant, not to say exclusive, model for our societies. Even in the “free world,” the market and its new economic actors have become more influential, at the expense of political power. Privatizations, globalization, a greater emphasis on competition, and the systematic use of auctions to award public contracts have all restricted the power of elected officials. What remains of public decision making has increasingly come to rely on independent regulatory bodies, central banks, and the legal system, none of which is subject to direct political control.

Even so, the market economy has achieved only a partial victory, because it has won neither hearts nor minds. For many, the pursuit of the common good, the guiding principle behind significant public intervention, has been sacrificed on the altar of this new economic order. Around the world, the supremacy of the market is regarded with widespread distrust, sometimes accepted only with an outrage laced with fatalism. A fragmented opposition laments the triumph of economics over human values, a world with neither pity nor compassion and prey to private interests. These critics warn us of the disintegration of the social contract and the loss of human dignity, the decline of politics and public service, and the environmental unsustainability of the present economic model. A popular slogan that strikes a chord internationally reminds us that “the world is not for sale.” These issues resonate with particular force in our current circumstances, which are marked by the financial crisis, increased unemployment and inequality, the ineptitude of our leaders in coping with climate change, the

## 2 INTRODUCTION

undermining of the European project, geopolitical instability and the migrant crisis resulting from it, and the rise of populism around the world.

Have we lost sight of the common good? If so, how might economics help us get back on track in pursuing it?

Defining the common good – our collective aspiration for society – requires, to some extent, a value judgment. The judgment each of us makes might reflect our individual preferences, the information available to us, and our position in society. Even if we were to agree on the basic desirability of certain objectives, we might still differ over the relative importance of equity, purchasing power, the environment, or work versus private life – not to mention more personal dimensions such as moral values, religion, or spirituality, where people’s opinions differ profoundly.

It is possible, however, to eliminate some of the arbitrariness inherent in defining the common good. The following thought experiment is a good way to approach the question. Suppose you have not yet been born, and therefore do not know what place you will have in society, what your genes or who your family will be, or even what social, ethnic, religious, or national environment you will be born into. Now ask yourself, “In what society would I like to live, knowing that I might be either a man or a woman, endowed with good or bad health, from a rich or a poor family, well- or ill-educated, atheistic or religious, a person who could grow up in a big city or the middle of the countryside, or one who could seek fulfillment in work or adopt an alternative lifestyle?” This kind of questioning requires us to abstract ourselves from our attributes and our position in society, to place ourselves “behind the veil of ignorance.” It emerged from an intellectual tradition that began in seventeenth-century England with Thomas Hobbes and John Locke, was pursued in continental Europe in the eighteenth century by Immanuel Kant and Jean-Jacques Rousseau (who proposed the idea of a social contract), and was more recently revived in the United States by philosopher John Rawls, in his *Theory of Justice* (1971), and by economist John Harsanyi, who explored how we might compare the well-being of different individuals (1955).<sup>1</sup>

To narrow your choices (and to rule out fanciful answers) I will reformulate the question: “In what social system would you like to live?” The key question here is not what type of ideal society you would like to live in – for example, one in which citizens, workers, business leaders, political officials, and nations spontaneously put the common interest ahead of their personal interests. Even though human beings are not constantly seeking their own material interest, they often give precedence to their self-interest over the common good, and the failure to consider personal incentives and entirely foreseeable behaviors has led in the past to totalitarian and impoverishing forms of social organization (a failure exemplified by the Soviet myth of the “new man”<sup>2</sup>).

This book therefore takes as its point of departure the following principle: whether they are politicians, CEOs, or employees, whether they are out of work, independent contractors, high officials, farmers, or researchers – whatever their place in society – people react to the incentives facing them. These material or social incentives, combined with their personal preferences, define their behavior; and this behavior may or may not be in the general interest. The quest for the common good therefore involves constructing institutions to reconcile, as far as possible, the interests of the individual with the general interest. From this perspective, the market economy is not an end in itself. At most, it is an instrument – and an imperfect one at that – when we consider how to align the common interest and the private interests of individuals, social groups, and nations.

Although it is difficult to put ourselves behind the veil of ignorance, insofar as we are conditioned by the place we already occupy in society, this thought experiment will help lead us toward potential grounds for agreement. Perhaps I create pollution or consume too much water, not because I take pleasure in doing so, but because it serves my economic interest. I can produce more vegetables, or I can cut costs by installing less insulation, or I can save money by buying a car with a dirtier engine. Other people suffer from my actions, and they disapprove of them. But, if we think about the organization of society, we can agree on whether my behavior is desirable from the point of view of someone who does not know whether he or she will

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be its beneficiary or its victim – in other words, whether the cost of being the victim outweighs the gain of being the beneficiary. The individual interest and the common interest diverge as soon as my free will clashes with your interests, but they converge in part behind the veil of ignorance.

Another benefit of reasoning from behind the veil of ignorance is that rights acquire a rationale that transcends sloganeering. The right to health care provides insurance against the misfortune of having bad genes. Equality of opportunity in education aims to insure us against disparities arising from the situation in which we are born and grow up. Human rights and freedoms protect us against arbitrary government. From this perspective, rights are no longer abstract concepts that society can grant or deny us at will. In practice, rights can be granted at differing levels, or they can conflict (for example, one person's freedom stops where that of others begins); this perspective also makes rights more operational.

The quest for the common good takes as its starting point our well-being behind the veil of ignorance. It does not prejudge solutions and has no criteria other than the collective interest. It allows the private use of goods for the well-being of individuals, but not their abuse at the expense of others.<sup>3</sup> Take for the example the idea of the commons, the goods that, behind the veil of ignorance, must for reasons of equity belong to everyone: water, air, biodiversity, cultural heritage, the planet, or the beauty of a landscape. These goods belong to everyone, but are ultimately consumed by individuals. They can be enjoyed by all of us to the extent that my consumption does not infringe on yours (this is also true of knowledge, public street lighting, or national defense).<sup>4</sup> In contrast, if the good is available in limited quantities, or if the community chooses to restrict it, as some have in the case of carbon emissions, for example, then its use has to be privatized in some way. Setting prices for public goods like water, carbon, or bandwidth privatizes their use by granting some economic agents exclusive access as long as they pay for it. Yet it is precisely the quest for the common good that motivates this privatization: the aim is to keep water from being wasted, to make individuals responsible for the harm they cause by carbon emissions,

or to allocate a scarce resource – bandwidth – to those operators who will make good use of it.

These examples anticipate the answer to the second question posed above – how economics might contribute to the quest for the common good. Economics, like other human and social sciences, does not seek to usurp society’s role in defining the common good. But it can contribute in two ways. First, it can focus discussion of the objectives embodied in the concept of the common good by distinguishing ends from means. Far too often, as we will see, these means or instruments – whether an institution (such as the market), a “right” to something, or an economic policy – acquire a life of their own and lose sight of their true purpose. They can even end up working against the notion of the common good that justified them in the first place. Second, and more important, once a definition of the common good has been agreed upon, economics can help develop tools that contribute to achieving it.

Economics is not in the service of private property and individual interest, nor does it serve those who would like to use the state to impose their own values or to ensure that their own interests prevail. It does not justify economies based entirely on the market nor economies wholly under state control. Economics works toward the common good; its goal is to make the world a better place. To that end, its task is to identify the institutions and policies that will promote the common good. In its pursuit of the well-being of the community, it incorporates both individual and collective dimensions. It analyzes situations in which individual interest is compatible with the quest for collective well-being, as well as those in which, by contrast, individual interest hinders that quest.

## ITINERARY

Our journey through the economics of the common good will be demanding but, I hope, rewarding. This book is not a course of lectures or a series of precooked answers. Instead, it is a tool for questioning, like research. It conveys my personal view of what economic science is, the way it is constructed, and what it involves. This is a vision of research based on the interaction between theory and practice, and

on a society recognizing both the virtues of the market and also the need to regulate it. You may find yourself disagreeing with some, or indeed most, of my conclusions, but I hope that even in that case you will find food for thought here. I am counting on your desire to gain a better understanding of the world around us, and on your curiosity to peer through the looking glass.

My other ambition for *Economics for the Common Good* is to share my passion for a discipline: economics. Until I took my first course in the subject at the age of twenty-one or twenty-two, my only contact with economics had been through the media. I was trying to understand society. I liked the rigor of mathematics and physics, and I was deeply interested in the human and social sciences, in philosophy, history, and psychology. I was immediately captivated by economics because it combines a quantitative approach with the study of individual and collective behavior. I later appreciated that economics opened a window onto the everyday world that I understood poorly, and that it offered two opportunities: to tackle problems that were intellectually demanding and fascinating, and to contribute to decision making in both public and private spheres. Economics not only documents and analyzes individual and collective behavior; it also aspires to recommend better public policy.

This book is organized around five major themes. The first is *the relationship between society and economics* as a discipline and a paradigm. The second is devoted to *the economist's work*, ranging from his or her daily life as a researcher to the potential relevance of that research to society. *The institutions of state and market* forms the third theme, which situates these institutions in their economic context. The fourth theme reflects on four of *the great macroeconomic challenges* at the heart of our current preoccupations: climate change, labor market challenges, the euro, and finance. The fifth theme deals with a set of microeconomic questions that are less prominent in public debate, but which are nonetheless crucial to our everyday life and the future of our society. Grouped under the heading of *the industrial challenge*, these questions include competition policy and industrial policy, new economic models, social challenges presented by the digital revolution, innovation, and the regulation of public utilities.



## THE RELATIONSHIP BETWEEN SOCIETY AND ECONOMICS

The first two parts of this book concern the role of the discipline of economics in our society: the position of the economist, the everyday work of a researcher in economics, economics' relation to other social sciences, and the question of the moral foundations of the market.

I hesitated to include these chapters, as I feared that they might contribute to the contemporary trend to turn economists into media personalities. I feared this might distract the reader's attention from the real focus of this book: economics itself. I finally decided to take the risk. My discussions in high schools, universities, and elsewhere have reinforced my awareness of the questions the discipline raises. The questions people pose are always the same: What does an economist actually do? Is economics a (real) science? If economics is based on "methodological individualism," in which collective phenomena result from, but also shape, individual behavior, what issues does this raise? Is it right to presume a form of rational behavior, and if so, what form does it take? Are markets moral? As they were unable to predict the 2008 financial crisis, are economists even useful?

Economics is simultaneously demanding and accessible. It is demanding because, as we will see in chapter 1, our intuition frequently plays tricks on us. We are all vulnerable to, and yield to, certain heuristics and beliefs. When we think about an economic problem, the first answer that occurs to us is not always the correct one. Our reasoning often does not transcend appearances, the beliefs we hold, or our emotions. Economics is a lens that shapes our view of the world and allows us to peer through the looking glass. The good news is that if we take care to avoid these pitfalls economics becomes accessible. Understanding it does not require a superior education or an above-average IQ. Intellectual curiosity and a map of the natural traps that our intuition, emotions, and beliefs lay for us are enough to understand economics. In each of the following chapters, I will offer concrete examples to illustrate theory and enhance understanding.

Echoing the vague malaise mentioned above, many books inquire into the morality of the market and emphasize the need to establish

a clear boundary between commercial and noncommercial domains. Chapter 2 shows that some of the moral criticisms of the market are simply reformulations of the concept of “market failure,” which therefore demand public action but do not raise specifically ethical problems. Other criticisms are more profound. We will try to understand why we are disturbed by market transactions involving, for instance, the sale of human organs, surrogate motherhood, or sex. I will stress the point that, although our feelings of indignation may alert us to aberrant individual behavior or the need to organize society differently, these feelings are a poor guide for economic action. In the past, indignation has often led to the assertion of individual preferences to the detriment of others’ freedom – and indignation all too often dispenses with the need for further reflection. Finally, chapter 2 analyzes concerns about the increase in inequality and the loss of social cohesion in market economies.

#### THE ECONOMIST’S PROFESSION

The second part of the book deals with the economist’s profession. It begins in chapter 3 with the engagement of economists in civil society. As a discipline, economics has a special place among the human and social sciences. More than any other, it challenges, fascinates, and disturbs us. The role of economists is not to make decisions, but to identify the recurring patterns structuring our economies, and to convey economic science’s current state of knowledge. In doing so, they face two contradictory criticisms. To some people, economists are ineffective. To others, on the contrary, they are influential, and often make arguments used to justify policies that do not serve the common good. I will concentrate on the second criticism, leaving the book as a whole to reply to the first.

It is entirely legitimate to question the role of the economist in society. Economic researchers, like their counterparts in other scientific disciplines, are usually financed at least in part by the state. They influence economic policy, either directly through their participation in civic life or indirectly through their research and teaching. They are fallible, like all scientists, but they should be accountable. As

absorbing as academic economists might find their intellectual life, collectively their research must also be useful to society.

The researcher's involvement in civic life takes many forms: interaction with the public and private sectors, or participation in public debate, in the media, or in politics. Each of these interactions, if well structured, is useful to society – but each also contains the seeds of self-destruction. Chapter 3 reviews what might compromise research and its transmission, taking economics as an illustration although the same lessons apply to academic research more broadly. This section offers some personal reflections on the way in which institutions can limit the risk that money, friendships, and the desire for recognition or celebrity might alter the researcher's behavior inside and outside the laboratory.

Chapter 4 describes the daily life of an economic researcher. I explain why the “dismal science” (as Thomas Carlyle called economics in 1849, in a tract proposing the reestablishment of slavery<sup>3</sup>) is, on the contrary, fascinating, and why a school or university student wondering what to do with his or her future might want to consider becoming an economist.

I discuss the complementarity of theory and empirical investigation and the back-and-forth exchange between them; the role of mathematics; how we validate knowledge; the things about which economists agree and disagree; and economists' styles of cognitive reasoning. Finally, I offer an intuitive description of two theoretical advances, game theory and information theory, which have revolutionized our understanding of economic institutions over the past forty years.

Anthropologists, economists, historians, legal scholars, philosophers, political scientists, psychologists, and sociologists all take an interest in the same individuals, the same groups, and the same societies. Chapter 5 places economics within the humanities and social sciences, of which it was part until the end of the nineteenth century. In the twentieth century, economics developed independently through the fiction of *homo economicus*: the hypothesis that decision makers (consumers, politicians, and enterprises, for example) are rational, in the straightforward sense that they act in their own best interest

– most often understood as their *economic* interest – given the information they have available (although economics also emphasizes that this information may be partial or manipulated). In reality we are all biased in our thinking and our decision making, and we all have goals beyond our material self-interest, which is not something we pursue systematically. For the past twenty years, research in economics has increasingly incorporated contributions from other social and human sciences to improve its understanding of the behavior of individuals and groups, political decision making, and the ways in which laws are fashioned. Chapter 5 shows how we enrich the description of our economic behavior if we allow for phenomena such as procrastination, errors in belief formation, and the influence of context. The chapter then returns to morality and its fragility, discussing the connection between intrinsic and extrinsic motivation and the influence of social norms on our behavior.

## INSTITUTIONS

The following chapters examine two of the main actors in economic life: the state and the firm. In chapter 6, I make the case for a new concept of the state, on the basis of the common good. Our choice of society is not between the state and the market, as partisans of state intervention and those of *laissez-faire* policies would have us believe. The state and the market are complementary, not mutually exclusive. The market needs regulation; the state needs competition and incentives.

The state no longer provides as much employment through public sector jobs as in the past, nor does it produce as many goods and services through public enterprises. It has transformed itself primarily into a regulator. I show that the state's new role is to establish ground rules, to intervene when markets fail, to ensure healthy competition, to regulate monopolies, to supervise the financial system, to create true equality of opportunity, and to redistribute resources through taxation. Chapter 6 also analyzes the role and relevance of independent authorities and the primacy of politics. It insists on the need to reform the state (because the condition of public finances in many

countries now threatens the survival of existing social systems) and proposes some avenues for reform.

Chapter 7 deals with the firm. It opens with an enigma: Why is a particular form of management – capitalist management – so prevalent all over the world? This kind of management grants decision-making power to shareholders or, if debts are not repaid, to creditors. Yet a firm has many other stakeholders: employees, subcontractors, customers, local authorities, the country or countries in which it operates, and those who live nearby. Hence, there are many potential forms of organization in which stakeholders might share power in diverse configurations and arrangements. We also tend to forget that other ways of managing firms (such as the self-managed or cooperative firm) are possible in a world of free enterprise. Analyzing how viable these alternatives would be leads me to a discussion of the strengths and weaknesses of alternative forms of corporate governance. I analyze ideas of corporate social responsibility and socially responsible investment. What do these concepts mean? Are they incompatible with a market economy, or are they on the contrary a natural product of it?

#### A WINDOW ON OUR WORLD

The chapters dealing with a selection of key economic challenges (chapters 8 to 17) require much less of a road map, as their themes are so familiar. This part of the book is a journey through subjects that affect our everyday life, but over which we exercise no individual control: global warming, labor market challenges, the European Union, finance, competition and industrial policy, our relation to the digital world, innovation, and sectoral regulation. In each case, I analyze the role of public and private actors, and reflect on the institutions that might contribute to the convergence of individual and general interest – in short, to the common good.

My message is optimistic. I explain why the ills from which our societies suffer are not inevitable (there are solutions to unemployment, to global warming, and to the decay of the European Union). I also explain how we can meet the industrial challenge, and what we can do to ensure that goods and services benefit the public as a whole,

rather than simply increase the incomes of a firm's shareholders or employees. I show how we can regulate finance, monopolies, markets, and the state itself, without either derailing the economic engine or denying the state's role in the organization of society.

The choice of subjects is necessarily selective. I give priority to those on which I have published studies in academic journals. I have not addressed themes on which other economists could comment with far more expertise than I, or (as with globalization or inequality) discussed them only where they were necessary to complete the chapter's treatment.

### THE COMMON THREAD

Although this book is organized around themes that are familiar to everyone, the common thread is a concept with which many readers will probably be unfamiliar – information theory, one of the major advances in economics over the past forty years. This theory is based on an obvious fact: decisions made by economic actors (households, firms, the state) are constrained by limited information. We see the consequences of these informational limits everywhere. They make it difficult for citizens to understand and evaluate the policies of their governments, or for the state to regulate banks and powerful firms, to protect the environment, or to manage innovation. Lack of information also contributes to the difficulty investors have in controlling the way their money is used by the firms that they finance; to the way those firms are structured; to our interpersonal relations; and even to our relationship with ourselves, when for example we construct an identity or believe what we want to believe.

As I show, the need for public policies that reflect the information available has crucial implications for the design of employment policy, environmental protection, industrial policy, and sectoral and banking regulation. In the private sector, asymmetries of information underlie institutions of governance and modes of financing. The problem of limited (or "asymmetric") information is everywhere: at the heart of our institutional structures and of our political choices – and at the heart of the economics of the common good.

*A guide to reading this book: It is possible to read the seventeen chapters independently. If you have limited time or specific interests, you can therefore concentrate on your preferred subjects. It is, however, advisable to read chapter 11 (on finance) before reading chapter 12 (on the 2008 crisis).*





# **PART I**

## **ECONOMICS AND SOCIETY**



# ONE

## Do You Like Economics?

IF YOU ARE NOT an economist by training or profession you might be intrigued by economics (otherwise you wouldn't be reading this book), but you do not necessarily like it. You probably find economic discourse abstruse, even counterintuitive. In this chapter I would like to explain why that is, describe a few cognitive biases that sometimes play tricks on us when we think about economic questions, and propose some ways of spreading an understanding of economics more widely.

Economics concerns all of us in our everyday lives; it is not just for experts. Once we look beyond appearances, and identify and overcome the initial obstacles, it is also accessible and fascinating.

### WHAT PREVENTS OUR UNDERSTANDING ECONOMICS

Psychologists and philosophers have long examined the factors that shape our beliefs. Numerous cognitive biases work to our advantage (which no doubt explains why they exist) but they also occasionally mislead us. We will encounter these biases throughout this book, and see how they affect our understanding of economic phenomena and our view of society. In short, what we see – or want to see – and reality are different.

### WE BELIEVE WHAT WE WANT TO BELIEVE, AND WE SEE WHAT WE WANT TO SEE

We often believe what we want to believe, rather than what the evidence points to. Thinkers as diverse as Plato, Adam Smith, and the

great nineteenth-century American psychologist William James have all pointed out that the way we form and revise our beliefs serves to confirm the image we want to have, both of ourselves and of the world around us. When these beliefs are aggregated, they determine a country's economic, social, scientific, and geopolitical policies.

Not only are we subject to cognitive biases, we also frequently seek out things that reinforce them. We interpret facts through the prism of our beliefs; we read the newspapers and seek the company of people who will confirm us in those beliefs; and thus we stick obstinately to these beliefs, whether or not they are correct. When Dan Kahan, a professor of law at Yale University, confronted Americans who voted Democrat with scientific proof of the anthropogenic factor (the influence of human beings on global warming), he observed that they were more convinced than ever of the necessity of taking action against climate change. When Republicans were confronted with the same data, many of them were confirmed in their skepticism.<sup>1</sup> Even more astonishing, this was not a matter of education or intelligence: statistically, the refusal to face up to the evidence was at least as firmly anchored in Republicans who had advanced degrees as it was in less well-educated Republicans. No one is immune to this phenomenon.

The desire to reassure ourselves about our future also plays an important role in our understanding of economic (and more generally, scientific) phenomena. We do not want to hear that the battle against global warming will be expensive. Hence the popularity in political debate of the idea of "green growth." The name suggests that in environmental matters we can have our cake and eat it too. But if it is really so easy, why hasn't it already been implemented?

We like to think that accidents and illnesses only afflict others, not ourselves or those close to us. This can lead to harmful behavior, such as driving carelessly or not looking after our health (though this is not entirely negative since worrying less improves our quality of life). In the same way, we do not want to believe the possibility that an explosion of public debt might endanger the survival of our social safety net – or at least we want to believe that someone else will foot the bill.

We all dream of a world in which the law would not have to encourage or constrain people to behave virtuously, a world in which

companies would voluntarily stop polluting and avoiding their taxes, in which people would drive carefully even without police officers around. That is why movie directors (and not only of Hollywood movies) invent endings that meet our expectations. These happy endings confirm our belief that we live in a fair world where virtue wins out over vice (what the sociologist Melvin Lerner called “belief in a just world”<sup>2</sup>).

When populist parties on both the right and the left promote the vision of an economy free of difficult choices, anything that questions this sugarcoated fairytale is perceived at best as scaremongering, at worst as lies put about by global warming fanatics, austerity ideologues, or other enemies of humanity. The insistence on reality rather than fairytale is one reason why economics is often called “the dismal science.”

## WHAT WE SEE AND WHAT WE DON'T SEE

### *First Impressions and Heuristics*

The teaching of economics is usually based on the theory of rational choice. To describe the behavior of an individual, economists start by describing his or her objectives. Whether the individual is selfish or altruistic, seeking profit or social recognition, or has some other ambition, in every case he or she is assumed to act as far as possible in his or her own interest. This hypothesis is sometimes applied too strongly, and not only because an individual does not always have the necessary information to make a good choice. As the victim of cognitive biases, this agent is also likely to make a mistake when evaluating the best way to attain an objective. Humans are subject to many biases in reasoning or perception. These biases do not invalidate the theory that rationality defines the choices that individuals ought to make to act in their best interest (*normative* choices), but they explain why we don't necessarily make those choices.

We will make use of the notion of heuristics, as described by Daniel Kahneman,<sup>3</sup> a psychologist who won the Nobel prize in economics in 2002. Heuristics are rules of thumb for thinking, shortcuts to an answer to a question. They are often very useful because they allow

us to make decisions quickly (if we are face-to-face with a tiger, we don't have time to calculate the optimal response), but heuristics can also mislead. They channel emotion, which can be a reliable guide but can also be very ill-advised.

For example, we are more likely to remember situations in which our activity has been interrupted. Thinking "the telephone always rings when I'm in the shower" is clearly a trick played by our memories. The call that interrupted the shower remains imprinted on our memories, unlike the calls that did not. Similarly, we are afraid of airplane crashes and terrorist attacks because they are covered at length in newspapers; we forget that car accidents and "ordinary" murders kill many more people than these fortunately rare events. Since September 11, 2001, there have been 200,000 homicides in the United States, of which only 50 were carried out by (American) Islamic terrorists.<sup>4</sup> This does not, however, prevent terrorist acts from being etched on our psyche.

The main contribution of Kahneman and Tversky's work has been to show that these and other heuristics often mislead us. They give many examples, but one is particularly striking: medical students at Harvard made significant errors<sup>5</sup> when calculating the probability that a patient had cancer given certain symptoms. These were the brightest American students, yet their shortcuts in reasoning were not corrected, not even by their brilliant intellects and stellar education.<sup>6</sup>

In economic matters too, first impressions can mislead us. We look at the direct effect of an economic policy, which is easy to understand, and we stop there. Most of the time we are not aware of the indirect effects. We do not understand the problem in its entirety. Yet secondary or indirect effects can easily make a well-intentioned policy toxic.

Throughout this book we will encounter many examples of this phenomenon, but let us start with a deliberately provocative example.<sup>7</sup> I have chosen this example because it allows us to see immediately the kind of cognitive bias that leads to poor public policy decisions. Let's suppose an NGO confiscates ivory from traffickers who kill endangered elephants for their tusks. The NGO has to choose between destroying the ivory or selling it discreetly on the market. The immediate reaction of most readers would be that the latter choice is

reprehensible. My spontaneous reaction would be the same. But let us examine this example more closely.

The NGO would receive revenue from selling the ivory, which it could use to provide more resources to detect and investigate, or to provide additional vehicles to limit the traffic in ivory. Selling the ivory might also have the immediate effect of lowering its price. The price would be a little lower if not much was sold, and a lot lower if a lot of ivory was put on the market.<sup>8</sup> Traffickers are economically rational actors: they consider how much money they can make from their activity and consider the risks they take (in this case, prison or meeting armed police). If the price of ivory falls, it would therefore discourage some of them from killing elephants. Given this, would the NGO's sale of ivory be immoral? Possibly. A conspicuous sale by an organization with a respectable reputation might legitimize the trade for potential buyers who would otherwise feel guilty about their desire to purchase ivory – hence my emphasis on a “discreet sale” in this scenario. But at the very least, we ought to think twice before we condemn the choice of selling the ivory, especially since doing so would not prevent the government from exercising its sovereign authority to prosecute poachers or retailers of ivory or rhinoceros horn, or from communicating to the public the importance of protecting endangered animals in the hope of changing the accepted social norms.

This hypothetical scenario helps explain why the 1997 Kyoto Protocol failed. The Protocol promised to be a major step in the battle against global warming. Because of carryover effects (known in environmental economics jargon as “the leakage problem”), whereby polluting activities tend to migrate to countries with more lenient regulations, the battle against greenhouse gases in a single region may have little or no effect on worldwide pollution. Suppose, for example, that the United States reduces its consumption of fossil fuels (oil, gas, and coal). On its own, this effort would be laudable. Experts agree that it would require similar major efforts by every country to limit the global rise in temperature to the 1.5 to 2 degrees centigrade that is considered to be a bearable level of global warming. The problem is that when one country saves a ton of coal or a barrel of oil, the price

of coal and oil falls, which encourages greater consumption elsewhere in the world.

Similarly, if a virtuous country forces its resident industries to pay to emit greenhouse gas, these industries are likely to move to another country where the absence of carbon taxation would make it cheaper to produce. This would partly or entirely cancel out the reduction in greenhouse gas emissions in the virtuous country, and there would be only a weak effect on the environment. Any serious solution to the problem can only be global. In economic matters, the road to hell is paved with good intentions.

### *The Bias toward the Identifiable Victim*

Our empathy is naturally directed toward people who are geographically, ethnically, and culturally close to us. Our natural inclination, which has evolutionary origins,<sup>9</sup> is to feel more compassion for people in economic distress from our own community than for children dying of hunger far away, even if we recognize intellectually that the starving children are in more urgent need of help. More generally, we feel greater empathy when we identify with victims; and to do so it helps if we can recognize them. Psychologists have identified our tendency to attach more importance to people whose faces we know than to other, anonymous people.<sup>10</sup>

This bias toward the identifiable victim, no matter how instinctive it is, affects public policies. In the words of the quotation often attributed to Joseph Stalin: “The death of one man is a tragedy. The death of a million men is a statistic.” Thus, a deeply distressing photo of Aylan Kurdi, a three-year-old Syrian child found dead in 2015 on a Turkish beach, forced us to pay attention to a situation it would have been more comfortable to ignore. It had much more impact on Europeans’ awareness of refugees than the statistics about the thousands of migrants who had already drowned in the Mediterranean. The photo of Aylan had a similar impact on European attitudes toward migration as the 1972 photo of Kim Phúc, a Vietnamese girl burned by napalm running naked down a street, had on opinions about the Vietnam War. A single identifiable victim may affect many more minds than



millions of anonymous victims. In the same way, an advertising campaign against drunk driving has a more powerful effect when it shows a passenger flying through a windshield than when it announces the annual number of victims (a statistic that provides, however, far more information about the consequences of drunk driving).

The bias toward the identifiable victim also leads astray the employment policies practiced in Southern European countries, in which some permanent jobs are strongly protected while other jobs are insecure. In many countries with this kind of strong employment protection, the media focuses on the battles to save jobs fought by employees with permanent contracts; their tragedy is made more acute because they live in a country where they have little chance of finding another similarly secure job. These victims have a face. Yet the media reports ignore the much larger group of people who alternate between short-term jobs and spells of unemployment. They have no faces, they are only statistics. As we will see in chapter 9, they are the victims of institutions – some of them set up to protect the first set of employees on permanent contracts – that cause firms to prefer to hire employees on fixed-term contracts rather than create stable jobs. While we worry about dismissals of protected workers, we forget the people who are excluded from the labor market in the first place, even though these groups are two sides of the same coin.

### *A Tale of Two Professions*

The contrast between economics and medicine is striking: in contrast to its low opinion of “the dismal science,” the public regards medicine – rightly – as a profession devoted to people’s well-being (we call it “the caring profession”). Yet economics takes a similar approach to that of medicine. The economist, like the oncologist, makes a diagnosis on the basis of the best available (though necessarily imperfect) knowledge, and then either proposes the most suitable treatment on that basis or recommends no treatment at all, if none seems necessary.

These diverging perceptions of medicine and economics are easy to explain. In medicine, the victims of secondary effects are for the most part the same people who are being treated (epidemiology is an

exception – think for example of the consequences of the spreading resistance to antibiotics, or of the loss of herd immunity when vaccination levels decline). A doctor has only to remain faithful to the Hippocratic Oath and recommend what is in the best interest of the patient. In economics, the victims of secondary effects are rarely the same people who received the original treatment, as the example of the labor market shows very clearly. An economist is obliged to think about invisible victims as well, and so the public sometimes accuses that economist of being indifferent to the sufferings of the visible victims.

#### THE MARKET AND OTHER WAYS OF MANAGING SCARCITY

Air, water from a stream, or a beautiful landscape can be enjoyed by one person without others being prevented from benefiting as well. But for most goods, one person's consumption means that others cannot consume it too. An essential question in organizing societies is how to manage the scarcity of goods and services that we all want to consume or possess, in rivalry with other people's demands: the apartment we rent or buy, the bread we buy at the bakery, or the rare earths needed to make metal alloys, or dyes, or green technologies. Although society can diminish scarcity by producing goods more efficiently, either by innovation or by commerce, it must also manage people's consumption of goods from one day to the next. Societies vary widely in how well they do this.

Historically, scarcity has been managed in many ways: queues when there are shortages of vital goods such as food or gasoline; drawing lots for green cards, concert tickets, or organ transplants; distributing goods administratively to priority groups; fixing prices below the level that would balance demand and supply. Scarcity is also managed by corruption, favoritism, violence, wars, and, finally, by the market. The market, then, is only one of many ways to manage scarcity. Though the market prevails today and allocates resources between firms (B2B), between firms and individuals (B2C, as in e-commerce), and between individuals (C2C, on platforms such as eBay), it hasn't always been so.

The alternatives, though, all imply prices set below the market clearing level that would match demand and supply. Buyers in these cases search for a “windfall” (economists call this “economic rent”) created by this excessively low price. Suppose that buyers are all prepared to pay one thousand dollars for a good available in limited quantities, and that there are more buyers than available goods. The market price is the one that balances supply and demand. At more than one thousand dollars, no one buys; at less than one thousand dollars, there is excess demand. The market price is therefore one thousand dollars.

Now suppose the state sets the price of the good at four hundred dollars and prohibits its sale at a higher price. There are more interested buyers than there are goods available. Buyers would each be prepared to spend six hundred dollars more than the set price to get the good. If they have an opportunity to spend other kinds of resources to get their hands on this scarce good, they will take it. Take the example of the queue, a method used systematically in the Soviet Union (and still used today to allocate seats at some sporting events or concerts). Consumers may arrive several hours early and wait in line, sometimes in the cold,<sup>11</sup> to obtain the scarce commodity. Lower the price further, and the queue will form even earlier. This loss of utility means that, in addition to the other perverse effects of a price that is too low (to which we will return later), the so-called “beneficiaries” of the low-price policy are actually not benefiting at all. The market is not working through prices, but through the use of another “currency”: time. This leads to a considerable loss of social well-being. In the example given above, the equivalent of six hundred dollars per purchase has disappeared: the (public or private) owner of the resource has lost six hundred dollars per sale, and yet the buyers have gained nothing – their financial advantage has evaporated because they had to spend time in a queue.

Some methods of allocating goods, such as corruption, favoritism, violence, and war, are profoundly unjust. But they are also inefficient for society as a whole, once we take into account the costs paid or imposed by the actors in their ambition to get their hands on goods without paying the market price for them. There is no need for us to dwell on the inadequacy of these methods of allocating goods.

As long as they are not tainted by favoritism or corruption, waiting in line, drawing lots, and the administrative distribution of rationed goods are fairer solutions. But they cause three kinds of problems. The first has already been mentioned: a price that is too low leads to waste through the search for an advantage (for instance, by standing in a queue). Second, the quantity of the good in the example was fixed, but in general it is not. Clearly, if the price of the good was one thousand dollars, sellers would produce more of it than they would if it was four hundred dollars. In the long run, setting a price too low leads to a shortage. That is what we see when rents are capped: the stock of quality housing gradually diminishes, creating scarcity and ultimately penalizing the potential beneficiaries. Finally, some mechanisms lead to a bad allocation of something in fixed supply. For example, drawing lots to allocate seats at a sporting event will not necessarily give the seats to those who have the greatest desire to be there (unless there is a secondary market to resell the tickets); or, to return to the waiting-in-line example, a mechanism may allocate the good to those who are available on a particular day, or to those who least feel the cold, rather than to those who have the greatest desire to consume the good in question.

A poor allocation of resources arises when they do not necessarily go to those who value them most. If they are distributed administratively, essential goods may fall into the hands of people who already have them or who would prefer other products. That is why it would never occur to anyone to allocate housing in an arbitrary way. The housing unit given to you would probably not be the one you desired in terms of location, square footage, or other characteristics – unless it could then be traded without restriction for one you did want. But that brings us back to the market.

The assignment of scarce radio spectrum is another relevant example here. Bandwidth is a resource that belongs to the community, but unlike air, the quantity of airwaves available to consume is limited. There is a high demand for bandwidth from telecommunications and media companies, so there is a problem of how best to allocate it to them. In the United States, a 1934 law ordered the agency regulating telecommunications (the Federal Communications

Commission or FCC) to allocate spectrum frequencies “in the public interest.” In the past, the FCC often held public hearings at which the candidates competing for licenses had to present their cases, at the end of which licenses were granted to the candidate that seemed make the best case. These hearings consumed time and resources; moreover, we don’t really know whether the FCC made good choices, because competence in this process is not the same thing as good strategic planning or good management. The FCC also sometimes used lotteries to grant licenses.

When using either a hearing or a lottery, the United States government granted private agents a public resource free of charge (in many countries, valuable taxi licenses have been similarly granted free of charge). Furthermore, there was no guarantee that the person or firm receiving this privilege would be capable of making the best use of it. For that reason, selling licenses on a secondary market was authorized, or at least tolerated. When it is possible to transfer a license, the allocative benefits of the market reappear. But the giveaway remains: the benefit derived from scarcity goes into the pockets of private individuals, rather than to the community to which it belongs.

So for the past twenty years, the United States (like most countries now) has used auctions to assign spectrum licenses. Experience shows that auctions are an efficient way to make sure that the licenses are assigned to the companies who will make the most of them,<sup>12</sup> while at the same time recouping the value of the scarce resource for the community. For example, auctions of bandwidth in the United States have earned about sixty billion dollars for the US Treasury since 1994. This is money that would otherwise have gone, without any justification, to private actors. Economists’ role in designing these auctions has helped to increase greatly the financial benefit they brought to the state.<sup>13</sup>

## WHAT WE WANT TO DO AND WHAT WE CAN DO

You might now be asking what the connection is between this discussion of the mechanisms of managing scarcity and the cognitive biases discussed earlier. When the state decides to set the price of a

scarce good at four hundred dollars rather than its market price of one thousand dollars, it has the laudable intention of making this good accessible to more people. But it does not consider the indirect effects: in the short run, that means waiting in line or some other form of inefficiency; in the longer run, it means a depletion of property supply due to a price that is set too low.

When the state tries to allocate bandwidth free of charge to those it judges able to make the best use of it, it often confuses what it would *like to do* with what it *can do*, forgetting that it does not have all the information needed to make the right decision. Information is at the heart of the issue, and the mechanism of the market reveals it. The state does not know which firms have the best ideas or the lowest development costs for a particular slice of the radio spectrum, but bandwidth auctions reveal which firms are prepared to pay the most for it.<sup>14</sup> Generally speaking, the state hardly ever has the information it needs to make allocation decisions by itself. That does not mean the state has no room to maneuver, but it has to accept its limits. We shall see later in the book how *hubris* – in this case, a government’s excessive confidence in its ability to make complex choices in the realm of economic policy – can lead to harmful environmental and labor-market outcomes especially if combined with the desire to retain oversight and thereby the power to distribute favors. Citizens may worry about a world in which a faceless market makes the decisions: they want real people to look out for them. But citizens should also recognize that public officials are not superheroes. Voters are entitled to expect officials to implement what is feasible and useful, but should not label them as incompetent or corrupt when they fail to work miracles.

## THE RISE OF POPULISM AROUND THE WORLD

Throughout the world, populist parties on both the right and left are gaining ground. “Populism” is hard to define because it takes many forms, but one common thread is the exacerbated eagerness to exploit the ignorance and prejudice of voters. Fanning widespread hostility to immigrants, distrust of free trade, and xenophobia plays on people’s fears. Rising populism clearly has specific causes in different

countries, but anxieties about technological change and employment, the financial crisis, the slowdown in economic growth, rising debt, and increasing inequality seem to be universal factors. On a purely economic level, the contempt that populist programs have for elementary economic mechanisms, and even for simple public accounting, is striking.

Economists – and academics in general – have to ask themselves how much influence they have. Take the example of the vote in the UK referendum in favor of leaving the European Union (“Brexit”) on June 23, 2016. We cannot measure the impact on the electorate of the nearly unanimous message from British and international economists (as well as reputable organizations such as the Institute for Fiscal Studies, the IMF, the OECD, and the Bank of England) that the United Kingdom had nothing to gain economically, and possibly a great deal to lose, by leaving the European Union.<sup>15</sup> To be sure, the election seems to have been determined by other concerns – immigration in particular – that were also easy for populists to misrepresent. The British electorate did not seem engaged by what it believed (or wanted to believe) was an esoteric debate among economic experts who were popularly regarded as unable to agree among themselves. The same might be said of the high degree of consensus amongst economists against President Trump’s proposed economic policies during the US election campaign.<sup>16</sup>

## HOW TO MAKE ECONOMICS BETTER UNDERSTOOD

Economics is like any culture, for instance music, literature, or sports. We like it more the better we understand it. So how can we make economic culture more accessible?

## ECONOMISTS AS CONVEYERS OF KNOWLEDGE

First of all, economists themselves could play a more active role in sharing their knowledge.

Researchers respond, like anyone else, to the incentives they face. Academic careers are universally judged on the basis of the research

academics publish and the students they train, but only rarely on public outreach or impact. What's more, staying safely in the ivory tower is much more comfortable for academics, because, as we shall see in chapter 3, switching from academic debate to communicating with the public is not as simple as it seems.

The most creative researchers often do not engage in public debate. Unless they have exceptional energy, it is difficult for them to combine their mission to create knowledge and impart it to their students with communicating ideas to the public. No one would have expected Adam Smith to make predictions, produce reports, speak on television, write a blog, and compose popular economics books. Each of these new demands that society makes are legitimate, but they sometimes open a gap between those who create knowledge and those who convey it.

Even economists exercising their mission as strictly defined are not exempt from criticism. They need to make greater efforts to construct a pragmatic and intuitive education, relying not only on their tried-and-tested conceptual frameworks, simplified for pedagogical purposes, but also on empirical observation. Teaching obsolete economic ideas or less-than-rigorous debates between earlier economists – or, conversely, promoting an exaggeratedly mathematical approach – does not meet the needs of secondary school and university students. The overwhelming majority of students will not become professional economists, and very few will be researchers in economics. They need a pragmatic initiation into the subject that is both intuitive and rigorous.

### EVERYBODY'S RESPONSIBILITY

Our personal economic understanding, like our scientific or geopolitical understanding, guides the choices made by our governments. The conventional wisdom agrees with Joseph de Maistre that “every nation gets the government it deserves.” That may be true – even if, as the philosopher André Comte-Sponville observed, it is better to constructively help public officials than to constantly criticize them.<sup>17</sup>

What I do know is that we get the economic policies we deserve, and as long as a lack of economic understanding prevails among the



general public, making good policy choices will take a lot of political courage. Politicians hesitate to adopt unpopular policies because they fear an electoral backlash, so if the public had a better understanding of economic mechanisms, this would be a public good. We want others to make the intellectual investment required to encourage political decision makers to make more rational collective choices, but we are often not prepared to make that intellectual investment ourselves. We lack intellectual curiosity, and so behave like “free riders” who leave others to put in the effort to understand economic mechanisms rather than bothering to do so ourselves.<sup>18</sup>

In his book *The Age of Diminished Expectations: U.S. Economic Policy in the 1990s* (MIT Press, 1997), Paul Krugman, a Nobel laureate and one of the few economists who has succeeded in making difficult economic concepts accessible, describes the situation like this:

There are three kinds of writing in economics: Greek-letter, up-and-down, and airport.

Greek-letter writing – formal, theoretical, mathematical – is how professors communicate. Like any academic field, economics has its fair share of hacks and phonies, who use complicated language to hide the banality of their ideas; it also contains profound thinkers, who use the specialized language of the discipline as an efficient way to express deep insights. For anyone without graduate training in economics, however, even the best Greek-letter writing is completely impenetrable. (A reviewer for the *Village Voice* had the misfortune to encounter some of my own Greek-letter work; he found “equations, charts, and graphs of stunning obscurity ... a language that makes medieval scholasticism seem accessible, even joyous.”)

Up-and-down economics is what one encounters on the business pages of newspapers, or for that matter on TV. It is preoccupied with the latest news and the latest numbers, hence its name. “According to the latest statistics, housing starts are up, indicating unexpected strength in the economy. Bond prices fell on the news ...” This kind of economics has a reputation for being stupefyingly boring, a reputation that is almost entirely justified. There is an art to doing it well – there is a Zen of everything, even short-run

economic forecasting. But it is unfortunate that most people think that up-and-down economics is what economists do.

Finally, airport economics is the language of economics bestsellers. These books are most prominently displayed at airport bookstores, where the delayed business traveler is likely to buy them. Most of these books predict disaster: a new great depression, the evisceration of our economy by Japanese multinationals, the collapse of our money. A minority have the opposite view, a boundless optimism: new technology or supply-side economics is about to lead us into an era of unprecedented economic progress. Whether pessimistic or optimistic, airport economics is usually fun, rarely well-informed, and never serious.

We must all take responsibility for our limited understanding of economic phenomena, our desire to believe what we want to believe, our relative intellectual laziness, and our cognitive biases. We all have the ability to understand economics, but as I have already shown, errors in reasoning cannot necessarily be explained away by IQ or educational level.

Let's admit it: it's easier to watch a film or devour a good thriller than to launch into a book on economics (this is not a criticism, by the way: I myself read too little about climate science, biotechnology, medicine, and other scientific fields that influence public policy design). When we muster the resolve to do so, we expect the economics book to be easy to understand, exemplified in an extreme form by the simplistic theses of what Paul Krugman calls "airport economics" books. In every area of academic study, going beyond appearances requires more effort, less certainty, and more determination in the quest for understanding. But that is the price we have to pay if we are to get the policies we deserve.