

# 1. Introduction

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Economics is an important study. Most would agree that it is crucial for business, for politics, and for many other aspects of our life. How, then, should we define economics?\*

It may come as a surprise that there is little consensus on this!<sup>(1)</sup> Perhaps it doesn't matter very much. Economist Kenneth Boulding said that "Economics is what economists do." (He attributed the remark to his teacher Jacob Viner.) John Stuart Mill, one of the greatest economist-philosophers of the nineteenth century, said that it is best not to begin with a definition, but to end with a definition, after the reader has enough examples so that the definition is meaningful.<sup>(2)</sup> But we shall not follow his advice. A definition is a brief statement of what psychologists call a frame.<sup>(3)</sup> A frame or frame of reference in this sense is a way of posing and understanding a decision, and psychologists have shown that the way we frame a decision influences the decision we make and the actions we undertake. And as we approach the study of economics, we have to make decisions – decisions about what is more important, what is less important, where the efforts of researchers would be best focused, what can safely be left behind and neglected. These decisions will depend on our frame of reference, and while the frame of reference is always too complicated to be completely expressed as a definition, the definition is an important tool with which we begin to frame our study of economics.

## INTERDEPENDENCE AND AFFLUENCE

Even if there is little consensus about the definition of economics, there is one definition that was particularly influential in the twentieth century, and it was stated by Lord Lionel Robbins:<sup>(4)</sup> "Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." By contrast, for Adam Smith it was (to quote the title of his founding book originally published in 1776) "an inquiry into the nature and causes of the wealth of nations." It seems clear that the efficient use of scarce resources (stressed by Robbins) is

\* For this book superscript numbers in parentheses refer to the notes in the final section of each chapter, "Sources and Reading."

one important cause of the wealth of nations, but perhaps not the most important one and certainly not the only one. In that sense Robbins's definition is narrower than Smith's. Robbins's definition also stressed the separation of the economics of his time from that of the earlier period. His definition reflected a narrowing of the attention of economists that took place around 1900. Since then, however, economists' attention has again broadened, with more attention, for example, to innovation and information as aspects of economics. Perhaps the variety of definitions is in part a result of that broadening.

How, then, should we frame the study of economics? What links the current research in economics to the ideas of Smith and the other early political economists as well as the economists of Robbins's time? What could link the various things that "economists do" and might guide us as to which should be given primary stress, and which can be left for advanced study? Economics emerged along with *modern* society. Physics, architecture, and meteorology can trace their studies back for thousands of years: economics at most a few centuries. Why would a study of economics emerge at the particular time it did, and not earlier?

Among the many ways that many modern societies differ from most past societies we may mention two: affluence and interdependence. We could mention other ways as well – widespread literacy and education, the great role of science and technology – and of course they all are interrelated, but the first two are particularly important for the study of economics. Affluence is obviously of interest to economists, and as we will see in this book, interdependence is a condition that is necessary for our affluence, although it can also sometimes be a threat to it. Accordingly, we will be particularly interested in the relation of interdependence to affluence – how people work together, interdependently, and how this working together produces affluence but also poses problems we must solve.

By affluence we mean that in Europe, North America, Australasia, growing sections of Asia and Latin America and some parts of Africa, many people have access to goods and services that would have been envied by a king a few generations ago. As to the basic needs of human life – food, shelter, and clothing – they are amply provided with comfort that no one would have commanded in most earlier societies. In most of human history, obesity was rarely a problem, and never a problem among the poor. Rather, the weight problem for poor people was that they were too thin, and could not get enough food to maintain their bodies. Thomas Malthus wrote:<sup>(5)</sup> "The sons and daughters of peasants will not be found such rosy cherubs in real life as they are described to be in romances . . . the lads who drive plough, which must certainly be a healthy exercise, are very rarely seen with any appearance of calves to their legs: a circumstance

which can only be attributed to a want either of proper or of sufficient nourishment.” Our homes are larger than the huts in which our ancestors mostly lived, and in most cases far more comfortable than anything a king could have aspired to! In an English folk song,<sup>(6)</sup> a coal-miner sings that “When I first went down to the dirt [the mine], I had no cowl nor no pitshirt. Now I’ve gotten two or three – Walker Pit’s done well by me!” *Two or three work shirts* was the beginning of affluence in an early modern coal-mining community. In addition to basic needs, many people in modern societies have access to vehicles for personal transportation, something that only the privileged would have had in earlier societies; and we enjoy a wide variety of other goods, comforts, and services. How is it that we are so fortunate?

The other characteristic of modern societies that we call attention to is interdependence. Here we may quote from Adam Smith:<sup>(7)</sup>

The woollen coat, for example, which covers the day-labourer, as coarse and rough as it may appear, is the produce of the joint labour of a great multitude of workmen. The shepherd, the sorter of the wool, the wool-comber or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their different arts in order to complete even this homely production . . . what a variety of labour is requisite in order to form that very simple machine, the shears with which the shepherd clips the wool. The miner, the builder of the furnace for smelting the ore, the seller of the timber, the burner of the charcoal to be made use of in the smelting-house, the brickmaker, the brick-layer, the workmen who attend the furnace, the mill-wright, the forger, the smith, must all of them join their different arts in order to produce them . . . without the assistance and co-operation of many thousands, the very meanest person in a civilised country could not be provided, even according to what we very falsely imagine the easy and simple manner in which he is commonly accommodated.

The interdependence that Smith observed has only increased in the following two centuries.

Smith can also provide us with a key clue about the relation between these two great phenomena of modern society, interdependence and affluence. He tells us that the one is the cause of the other. He began his great book by observing that the standard of living of any country depends on the productivity of labor in that country, and that this in turn depends primarily on the “skill, dexterity, and judgment with which labour is applied.” But Smith was more specific about the causes of the relatively high standards of living he observed in the most productive countries. He said it was a result of “the division of labour.” Division of labor is a specific form of interdependence, and while interdependence may have other forms that are no less important, what we see in Smith’s idea is true and is

a central idea this book means to put forward: interdependence, in many forms, is the cause of the affluence we enjoy.

Smith's book was not the first written on topics related to economics, but it marked the emergence of economics as a discipline. We have asked why economics did not emerge until early modern times. The answer we now see is that economics is a study of phenomena that are especially prominent in modern society – affluence, interdependence, and the links between them. This book will argue that it is the job of economics to understand these things.

## COOPERATION AND INTERDEPENDENCE

Some concepts from game theory will help us to understand them. “Game theory” is a misleading phrase – the subject might better be called “interactive decision theory.”<sup>(8)</sup> Game theory, then, is concerned with situations in which a number of people make decisions, and the outcomes for each of them depend on the decisions made by all. This is one way to think about interdependence. Game theory can be quite a mathematical study, and its mathematical development has given rise to powerful results. For our purposes, however, broad concepts will be more important. An important distinction is between non-cooperative and cooperative decision-making. This distinction arises in non-zero sum games, that is, decision problems in which there is a potentiality for all those affected by the decision to gain more, or to lose more, depending on the decisions each may make. Cooperative decision-making is decision-making motivated by the potentiality to increase mutual gain, or to limit the mutual losses. In non-cooperative decision-making, by contrast, each person treats the decisions of others as given parameters, and is motivated by the potentiality for individual gain. If, indeed, our affluence is a consequence of our interdependence, then we have a great deal to gain by managing that interdependence well. In terms of the dichotomy of cooperative and non-cooperative game theory, that will often require that we act cooperatively.

Non-cooperative and cooperative game theory develop different concepts of decision-making, in each case assuming that only one of these two kinds of rational decision-making occurs, and assuming also that human beings are “absolutely rational decision makers whose capabilities of reasoning and memorizing are unlimited.”<sup>(9)</sup> But we observe that in the real world, cooperative and non-cooperative decision-making both occur in various mixtures, and real human beings are only boundedly rational. This is why the powerful mathematical theorems of game theory will play little role in this book; but on the other hand, the opposition of

cooperative and non-cooperative decision-making will be central to the book.

Why do people sometimes act cooperatively, and sometimes non-cooperatively? More particularly, why do people sometimes act non-cooperatively when they can realize mutual benefits by acting cooperatively? If indeed they were “absolutely rational decision makers whose capabilities of reasoning and memorizing are unlimited,” then they would act cooperatively whenever they can benefit by doing so. To act cooperatively requires that they coordinate their decisions though, and this may be costly or impossible. The mainstream economics of the mid-twentieth century had a coherent answer to the question. One element of cooperative action was recognized: bilateral contracts of exchange. This includes the exchange of labor for money. That exchange is mutually beneficial was a key idea for mainstream economics; beyond that, however, competition, not cooperation, was supposed to determine everything else.

Apart from bilateral contracts of exchange, everything determinate in mid-century mainstream economics was determined by the interaction of large groups. In large-group interactions, it would be impossible to coordinate decisions cooperatively. Most of the things important for economics – prices, quantities produced, and similar things – would be determined by the operations of large groups, and therefore non-cooperatively. For cases in which the decisions of small groups interact to determine a result, there was no consensus. Thus, oligopoly – that is, price competition among only a small group of firms – remained an unsolved problem.

Over the years this coherence has dissolved. Two of the most influential critical papers after mid-century, those of Coase and Barro,<sup>(10)</sup> demanded that certain failures to make cooperative decisions should be explained, perhaps in terms of the costs of doing so. Despite these critiques, much modern economic theory makes use of non-cooperative models of decision-making, with ad hoc exceptions and special-case assumptions to explain particular empirical data or conjectures. The difficulty with this is that the whole is much less than the sum of the parts – the coherence of mid-century economics has been lost.

On the other hand, in the words of game theorist Eric Maskin,<sup>(11)</sup> “we live our lives in coalitions,” that is, in groups that are organized to realize mutual benefit. Every business firm is such a coalition. Every club, union, cooperative, and syndicate, and many other organizations, are organized around cooperative objectives. Yet there are also non-cooperative decisions, and some of them lead to inefficiency, that is, to a failure to realize the mutual gains we might otherwise obtain. If we were “absolutely rational decision-makers whose capabilities of reasoning and memorizing are unlimited,” every inefficiency would be eliminated by cooperative

arrangements (as Coase and Barro point out). Instead, our economy is characterized by *imperfect cooperation*. A major objective of this book will be to understand economic activity as imperfect cooperation.

What this book proposes, then, is that economics should be defined as, and in practice is, the study of cooperative arrangements, and also of the failure to bring about cooperative arrangements – in short, a study of imperfect cooperation. In simple terms, the topic of economics is how people work together.

The first and central objective of the book is to make the case that economics is best understood in the frame of that definition. The case can only be made by examples, and, in the nature of things, many of the examples are not original – if they were original they would not support the case! To the extent that the argument as a whole is novel, perhaps these examples can derive some novelty from the context. In any case, there are also some blank spots to be filled in, and a few examples of well-established propositions in economics will be examined and rejected as simply flawed in the light of this approach.

A second objective of the book is to stress the continuities that extend from classical political economy through the neoclassical, Keynesian, and modern economics of the twenty-first century. There is no “new paradigm,” but a more encompassing cognitive frame. In the same spirit, the book will borrow freely, hopefully without doctrinairism, from Austrian and other heterodox traditions, including Marxism where it is helpful, and social philosophers in the social contract tradition. Game theory of both branches will play a key role throughout.

A third objective, and I regret that it can only be third, is to make the book as approachable as possible for the reader who has limited background in economics. This is not to say that it is an easy read – that is not to be hoped for – but that some elementary topics will be explained that well-trained economists know well.

Part I, “How People Work Together,” is primarily concerned with the why of it – why is interdependence a cause of affluence? Part I begins by reviewing some of the ways that our relative affluence requires us to form groups around common courses of action, that is, to work together, in Chapters 2, 4, and 5. First, Chapter 2. Production provides us with opportunities to benefit by working together. Twentieth-century production theory is not especially helpful to us here, so the book returns to Adam Smith, John Stuart Mill, and the elder Austrian School for their more substantive theories of production. Chapter 4 discusses the theory of exchange in economics. Exchange is well understood in conventional economic theory, so this chapter is relatively conventional in its content. The approach of these chapters thus is largely historical, drawing from

the history of economic thought. In Chapter 5, the mutual advantages of sharing risks are explored. This requires some unavoidable digression into statistics. Part I also considers some well-known *obstacles* to working together, drawing on game theory (Chapter 3).

Part II, “Information is Not Free,” addresses the mixture of cooperative and non-cooperative decision-making that we observe in the actual world of economics. It will be argued that cooperative decision-making often requires more and more costly information than non-cooperative decision-making does. Chapter 6 is a forced march through a number of well-established concepts of modern economics, from externality to organization, discussing how these phenomena can be explained by the cost of information. Chapter 7 focuses specifically on organizations as imperfectly cooperative arrangements. Chapter 8 explores, as a hypothesis, the idea that a government might be understood as a cooperative organization of the whole population. Chapter 9 revisits macroeconomics in that same context, and recognizes that the organizations that drive the macroeconomy are (however imperfectly) cooperative. Chapter 10 argues that the modern system of “democratic capitalism,” with its imperfectly cooperative government, has its roots in class compromise between the employing and working classes in mature capitalism.

This book will leave more questions unanswered than answered. That is as it should be. The purpose of the book is to suggest a new frame of reference for economics, and such a new frame should raise new questions and cast a new light on old ones. If readers find some of those questions challenging, then perhaps new answers will be found.

## SOURCES AND READING

(1) For some discussion of economists’ definitions of economics, see Roger E. Backhouse and Steven G. Medema (2009), “Retrospectives: On the definition of economics,” *Journal of Economic Perspectives*, 23(1) (Winter), 221–33, online at <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.23.1.221>, as of 1 August 2012. This is also the source of Boulding’s quotation from Viner that follows. (2) John Stuart Mill (1874), *Essays on Some Unsettled Questions of Political Economy*, 2nd edition, Kitchener, ON: Batoche Books. (3) On framing decisions and knowledge, see, for example, Amos Tversky and Daniel Kahneman (1986), “Rational choice and the framing of decisions,” *The Journal of Business*, 59(4) (Oct.), S251–S278. (4) Robbins’s definition is from Lionel Robbins (1952), *An Essay on the Nature and Significance of Economic Science*, 2nd edition, revised and extended, London: Macmillan, originally published in 1932.

(5) Malthus's writing on the poverty of rural workers is, of course, from Thomas Malthus (1978), *An Essay on the Principle of Population*, London: Davis, Taylor and Wilks, found online at <http://socserv2.socsci.mcmaster.ca/~econ/ugcm/3ll3/malthus/popu.txt> as of 1 August 2012. (6) The song is "Byker Hill," and may be found online at [http://www.traditionalmusic.co.uk/song-midis/Byker\\_Hill.htm](http://www.traditionalmusic.co.uk/song-midis/Byker_Hill.htm), as of 1 August 2012. (7) This is from Smith's great book, Adam Smith (1994), *An Inquiry into the Nature and Causes of the Wealth of Nations*, New York: The Modern Library. It may be found online at <http://www.econlib.org/library/Smith/smWN.html>, as of 1 August 2012.

(8) This interpretation of game theory has been pointed out by Thomas Schelling (1960), *The Strategy of Conflict*, Cambridge, MA: Harvard University Press, and is a longstanding position also of Robert Aumann. See Robert J. Aumann (2003), "Presidential address," *Games and Economic Behavior*, **45**(1), 2–14. For an introduction to game theory, I, of course, prefer my own textbook, Roger A. McCain (2014), *Game Theory: A Nontechnical Introduction to the Analysis of Strategy*, 3rd edition, Singapore and Hackensack, NJ: World Scientific. On the interpretation of cooperative and non-cooperative game theories as different understandings of rationality, see Roger A. McCain (2009), *Game Theory and Public Policy*, Cheltenham, UK and Northampton, MA, USA: Elgar, Chapter 10, section 4. (9) Reinhard Selten (1975), "Reexamination of the perfectness concept for equilibrium points in extensive games," *International Journal of Game Theory*, **4**(1), 25–55.

(10) In a famous and widely honored critique of the concept of external social costs, Coase argued that the failure of the victims and generators of external costs to arrive at a cooperative agreement requires clarification and suggested transaction costs as an explanation. See Ronald Coase (1960), "The problem of social cost," *Journal of Law and Economics*, **3**(1), 1–44. Robert J. Barro (1977), "Long-term contracting, sticky prices, and monetary policy," *Journal of Monetary Economics*, **3**(3), 305–16, criticized papers in the general disequilibrium Keynesian tradition (to which he had made important contributions) on the grounds that they omitted to explain why employers and employees failed to come to a cooperative agreement that would eliminate inefficient unemployment. The influence of Coase's critique seems to have been spent in the 1980s, but Barro's critique reinforced the call for "microfounded" macroeconomic models, which continue to be produced in dizzying, and mutually contradictory numbers. (11) Eric Maskin (2004), "Bargaining, coalitions and externalities," Plenary Lecture, Second World Congress of the Game Theory Society, Marseille.