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POWER AND NEOCLASSICAL ECONOMICS

A Return to Political Economy in the Teaching of Economics

Adam Ozanne

Power and Neoclassical Economics

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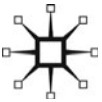

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To Ursula and Lily

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1
Introduction

Abstract: *It is argued that mainstream economics almost completely ignores the role power plays in determining economic outcomes. As J.K. Galbraith said, this "destroys its relation with the real world". Since mainstream or neoclassical economics is the dominant paradigm in schools and universities today, this has a limiting and detrimental effect on the way young economists are taught to think about their discipline.*

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It is a commonplace to observe that neoclassical economics is singular amongst the social sciences in its almost total neglect of power. A few quotations serve to indicate the sense of incomprehension and frustration this occasionally generates:

> There is a "strange divorce between the concept of power on the one hand and the study of economics on the other... In fact, we can argue that economics... embodies in its current state the very absence of power". (Monvoison and Rochon, 2006/2007, pp. 5–6)
>
> Power is a concept frequently employed by political scientists and sociologists, and totally ignored by economists and practitioners of social choice. (Mueller, 2003, p. 360)
>
> Power should be "a recurrent theme in economic studies of a theoretical and applied nature. Yet if we look at the main run of economic theory over the past one hundred years we find it is characterized by a strange lack of power considerations". (Rothschild, 1971, cited in Young, 2002, p. 48)
>
> Orthodox neoclassical economics fails to handle some of the key issues of power...the standard presumption is that there is no exercise of power if both parties voluntarily enter a transaction. (Bardhan, 1991, pp. 265–266)
>
> In economics, the study of power is clearly in a "prescientific" state. Moreover, of its various schools of thought, neoclassical economics "has had the very least to say about power". (Bartlett, 1989, p. 4, referring to Kuhn's classic analysis of the progression of scientific knowledge)
>
> While the distribution of power is a major focus of all the other social sciences, "Mainstream economics, alone, ...has developed a perspective and vocabulary, as well as a methodology, for avoiding consideration of this issue...the studious avoidance of that reality has been honed, polished, and embroidered into a fine art". (Klein, 1980, pp. 872–873)
>
> The decisive weakness in neoclassical economics...is not the error in the assumptions by which it elides the problem of power...Rather in eliding power – in making economics a nonpolitical subject – neoclassical theory, by the process, destroys its relation with the real world. (Galbraith, 1973, p. 2)

The net result in terms of the teaching of economics in present-day schools and universities is that, as noted by Bartlett (1989, p. 5), Young (2002) and Monvoison and Rochon (2006/2007, p. 28), a search of the index of any standard microeconomic textbook will find only a few very specific and rather benign uses of the word power, such as in "purchasing power", the "natural" power provided by wind or waves, monopoly or market power, and bargaining power in cooperative game theory.

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If one looks further afield to include other schools of economic thought, more frequent mention of power may be found, but not a body of theory that can be said to be consistent or widely accepted. Austrian economics shares with neoclassical economics the view that power is, by definition, absent from "free" market economies characterised by voluntary exchange (Young, 2002). However, power is a central concern of radical economists influenced by Marx and of institutional economists. For the former, power is vested in classes, especially the capitalist class, and exercised through the social and economic system. However, neither of these concepts is recognised by neoclassical economics, and radical or neo-Marxist economics has had little if any long-term impact on mainstream economic thought.

Power is also a central concept in institutional economics. In particular, J.K. Galbraith (1967, 1983) identified three types of power (condign power, compensatory power and conditional power), derived from three sources of power (personality, property and organisation), and considered how they are wielded in business corporations and enterprises, trade unions and the state. However, despite the fact that Galbraith and other institutional economists discuss power far more frequently and openly than neoclassical economists (see in particular the December 1980 special issue of the *Journal of Economic Issues*), ultimately their efforts have been frustrated by a lack of agreement on fundamentals. Writers (and even the same writer in different publications) adopt definitions of power that are not necessarily consistent with each other, and no single accepted definition or shared understanding has emerged that can be applied in different contexts (Bartlett, 1989, p. 7).

If one expands one's search yet further to include the other social sciences, one finds that while they also frequently address power, it cannot be claimed that their attempts to define and analyse power have been overly successful. Thus, Martin (1971, p. 240) observes of the attempts made by sociologists to develop models of power:

> Despite widespread use, power remains a slippery and problematic concept. There is little agreement upon basic definitions, individual theorists proposing their own more or less idiosyncratic terminology...Only crude attempts have been made to progress from ...conceptual model building to ...an empirical hypothesis; the attempts that have been made have often failed to progress beyond the level of the a-social small group or have disappeared into the jungle of game-theoretic formulae and failed to reappear.

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Similarly, although political science is, ostensibly, preoccupied with power, even here no generally accepted theory of power has emerged. Indeed, Dowding (2008) argues that mainstream political science has "almost left power behind", referring to it only in terms of the power of the president or prime minister, or the relative power of countries or organisations, and views power as essentially what these agents can do. Similarly, Philp (2004) says attempts to define and construct theories of power have become increasingly marginal since the 1980s following advances made by rational choice theorists and criticisms of poststructuralists such as Foucault. Allen (2008, p. 52) also attributes the marginalisation of power to the hegemony achieved by rational choice theory in political science, adding that "relatively little work explicitly links rational choice theory with theories of power. This may be because rational choice theory initially came to prominence in economics, which as a discipline is largely unconcerned with the concept of power".

According to Allen, therefore, economics not only has a blind spot of its own regarding power, but is also to blame for the neglect of power in modern political science. This can be seen as a symptom of what has been called a wider "economic imperialism", reflecting the way mainstream economics theorising has come to dominate discourse in the other social sciences over recent decades (Harcourt, 1982; Fine, 2000; Lazear, 2000; Skidelsky, 2014b).

It is widely recognised, therefore, that power is a very difficult concept to grapple with in a meaningful way. There appears to be no consistent, widely accepted body of theory available from any of the social sciences that can be lifted whole and applied to economic questions. It is perhaps not surprising, then, that power has been "only a peripheral interest for mainstream economists or a central interest of (mainstream-defined) peripheral economists" (Bartlett, 1989, p. 3). The danger for any economist who sets out to study power is clear: almost by definition, you will be labelled a "peripheral economist". But, if one decides to ignore this danger, the question remains, where to start?

The purpose of this monograph is to explore the reasons why neoclassical economics ignores power, to review the literature on power and to offer some suggestions for incorporating power within the standard model of general equilibrium. It should be emphasised that the aim here is less ambitious than that of Bartlett (1989), who argued that there is need for a "new theory" of power, and who made use of decision theory and a general, endogenous, utility function to develop such a theory,

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only to have his efforts ignored by mainstream economists. (In his own words, he became "peripheral".) Rather, it is argued here that neoclassical economics already offers within its own "tool kit" the means for developing a theory of power. All that is required is a slightly different way of looking at some familiar concepts.

The next chapter considers why neoclassical economics ignores power, and Chapter 3 argues that this neglect is important because without an understanding of power economists cannot fully answer the core problem they define their discipline by. Chapter 4 reflects upon the recent challenges to the way economics is taught in universities today from the Post-Crash Economics Society and other student movements and Thomas Piketty's *Capital in the 21st Century*, and argues that their widespread popularity arise at least in part from frustration with mainstream economics' neglect of power. Chapter 5 considers two areas of economics, the relative new one known as "political economics" and cooperative game theory derived from the seminal work on bargaining problems by John Nash (1950, p. 53), which, it is suggested, might offer avenues for addressing these challenges. Chapter 6 provides a brief overview of some of the approaches used by philosophers, sociologists and heterodox economists to conceptualise power, while Chapter 7 outlines Bartlett's theory of power – perhaps the most coherent, thorough attempt by a mainstream economist to investigate power. Chapter 8 offers a new definition of power, analogous to the definition of force in physics, and Chapter 9 outlines an approach for generalising the notion of bargaining power in cooperative game theory to identify a "political economy function". Chapter 10 outlines some applications of this approach and the eleventh and final chapter contains concluding comments.

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2

Why Does Neoclassical Economics Ignore Power?

Abstract: *The neglect of power by mainstream economics is traced back to the neoclassical or "marginalist" revolution of the 1870s, when "political economy" was supplanted by "economics", a process that was reinforced by the ordinalist revolution of the 1930s and shifts in thinking about welfare economics and social choice in the 1950s. Over many decades, this has led to the current dominance of a supposedly apolitical, "positive" science of economics today.*

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The neglect of power by neoclassical economics can be traced back to the neoclassical or "marginalist" revolution in the late-19th century, when classical "political economy" divided and was replaced by the more narrowly focussed "economics" and cognate disciplines of sociology and political science (Jary and Jary, 2000; *Encyclopaedia Britannica*, 2009). Whereas Smith, Ricardo, John Stuart Mill and Marx were centrally concerned with the distribution of wealth and power between classes in society and in the role of the state and the statesman in promoting the public good, in identifying themselves as "economists", Jevons, Walras, Marshall (who titled his textbook *Principles of Economics* rather than the traditional *Principles of Political Economy* of Ricardo and John Stuart Mill) and Pigou sought to place their discipline on what they saw as a sounder scientific basis, in two senses. First, it was to be based on the use of mathematical methods and formality of exposition. Second, the focus of economics was restricted to the study of price determination and allocation of resources in anonymous markets rather than the study of human relationships.

Walras, for example, defined economics as the study of the relationships between things rather than people, suggesting that interactions between human agents could be viewed as if they were relationships between inputs and outputs (Bowles and Gintis, 1993, p. 84). "Walras' fiction", as Bowles and Gintis call this device, implies "an apolitical conception of the economy, in which the only power wielded by economic agents is purchasing power" (ibid., p. 86). Thus, the great neoclassical economists of the late-19th and early 20th centuries believed that "economics", unlike political economy, could and should be discussed separately from the exercise of political power, the role of government and the relationships between classes in a capitalist society – fields of inquiry that they relinquished to (what they regarded as) the less scientific disciplines of sociology and political science.

This process, which narrowed the range of questions that could be addressed, was continued further by the ordinalist revolution of the 1930s, which rejected cardinalism and redefined economics – as "positive economics" – in terms of scarcity rather than economic welfare and the alleviation of poverty (Klein, 1980). For Jevons, the object of economics had been "to maximize happiness by purchasing pleasure, as it were, at the lowest cost of pain" (Cooter and Rappaport, 1984, p. 510). He, Pareto, Fisher, Marshall and Pigou – who represent what Cooter and Rappaport (1984) call the "material welfare school" – all

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recognised that interpersonal comparison of utility was not essential for explaining prices and commodity distribution. However, they persisted in using cardinal utility because they were primarily concerned with the alleviation of want and poverty, for which a measurable and comparable concept of utility was needed (ibid., pp. 510–512). Robbins (1932), the instigator of the ordinalist revolution, famously demolished the cardinal utility theory by attacking the idea that utility could be measurable and interpersonally comparable. He, followed by Hicks and Allen (1934) who more fully developed the indifference curve approach, promoted the idea that positive economics was superior to the earlier material welfare school, which relied on cardinality to address economic welfare and alleviation of poverty, because consumer behaviour could be explained using fewer, less restrictive, assumptions regarding the nature of utility.

As Cooter and Rappaport show, Robbins achieved this by misrepresenting the cardinalist view. In particular, Pareto had distinguished between "opthelimity" (the satisfaction of desires), which could not be compared, and utility (the usefulness of physical objects), which could be; but Robbins ignored this distinction, using the term utility to describe both concepts, which led him to reject the idea that economic theory could be used to justify redistribution. Effectively, he presented economists with a dilemma. Either they chose a convention that made interpersonal comparison of utilities possible, or they rejected utility comparisons. If they chose the former, they had (according to Robbins) to give up positive economic science; if the latter, they had to give up any interest in redistributive policy prescription (pp. 522–523). The ordinalists won this debate, and in so doing further narrowed the scope of economics to exclude interpersonal comparison of utilities. Power relationships were not an explicit part of the debate; however, since power is a feature of interpersonal relationships, discussion of it became more difficult and remote from economics.

Two further points can be made. First, contrary to the usual portrayal of these developments in economic theory found in textbooks, the ordinalist revolution did not necessarily represent scientific progress:

> the older school was concerned with economic polices to bring about income redistribution and alleviate poverty, and the ordinalists did not offer a more general theory for solving these problems. Instead, the trick that carried the day for the ordinalists was to argue that the questions asked by the older school, and the answers which they gave, were meaningless...Thus,

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> the ordinalist revolution represented a change, not progress in economics. (Cooter and Rappaport, 1984, pp. 507–508)

Second, even if the ordinalist argument is accepted, it is not actually necessary to exclude power from the list of legitimate questions that can be addressed by positive economics. For example, the questions, "How should the power of the state be used to redistribute wealth", or "Should individual, group or class A be allowed to exercise power to enrich themselves at the expense of individual, group or class B?" are undoubtedly normative questions. However, the questions, "Does power exist?" and if it does exist, "How does power influence the distribution of income and wealth in market economies?" or "Who exerts power?" and "How decisive is power in determining economic outcomes?" are all positive questions. By imposing the normative-positive dichotomy so rigidly, more rigidly than in any other social science, mainstream economics quite unnecessarily excludes such questions, with the result that it "cannot, in its 'positive' guise, deal with the real world" (Klein, 1980, p. 875).

Although hugely influential, the ordinal revolution was not, of course, the end of "normative" or "welfare" economics; rather, it was the beginning of the "New Welfare Economics". This had two strains, called by Fonseca (2007) the "Harvard" and "LSE" positions. In the former, Bergson (1938) and Samuelson (1947) developed the concept of the social welfare function as a means of identifying social optima, while in the latter, Hicks (1939), Kaldor (1939) and Scitovsky (1941) sought to identify compensation criteria that would increase social welfare. Both positions accepted Robbins' arguments that individual utilities are non-comparable, but challenged his interpretation of the normative-positive dichotomy in different ways. The Harvard position agreed with Robbins' view that the choice of the social optimum is a normative issue, but disputed his argument that it therefore lay outside economics, while the LSE position argued that social choice, when properly framed in terms of potential compensation payments, could, in fact, be shown to be a positive issue (Fonseca, 2007, p. 4).

There is no need to go into further detail here regarding the new welfare economics. From the perspective of the current discussion, just two points need to be made. First, although it is occasionally acknowledged that politics and power may play a role in the construction of a social welfare function (SWF), mainstream economics never fully articulates this idea and is more comfortable with the notion of a social welfare

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function as an ethical construct rather than a political one. Mishan (1981, pp. 130–131) expresses this well:

> The tacit assumption has always been that the SWF is a political construct... (However) it is not necessary to treat the concept of society's SWF as a political agreement...society's SWF should be raised not upon political, but upon an ethical basis...For the purposes of normative economics, at least, society's SWF ought to be regarded as a synthesis of the individual SWFs of men [*sic*] in their capacity as ethical beings, in which capacity their deliberations are guided solely by what is right and just. So regarded, the political problems of forming an SWF for society tend to dissolve.

Perhaps it would be more accurate if Mishan had ended this statement with the words "can be ignored" rather than "tend to dissolve".

The second point to be made about the new welfare economics is that it was in turn, like the material welfare school before it, swept away, in this case by Arrow (1951). A social welfare function can be thought of as a way for a policymaker or politician to choose the best, that is, fairest, outcome from a range of Pareto efficient possibilities involving conflicts of interest between members of society. Another means of making such a choice is through a voting system or constitution, which can be thought of as a tacit expression of an underlying social welfare function, or social "ordering". Arrow demonstrated that there are inherent incompatibilities in ensuring that a voting system or constitution is rational, decisive and democratic at the same time (Blair and Pollak, 1983). In so doing, he continued the undermining of neoclassical welfare economics begun by the ordinalist revolution of Robbins et al. and thereby further distanced mainstream economics from power considerations.

Arrow's famous "impossibility theorem" is often claimed to imply the non-existence of social welfare functions. Actually, its real implication is that a social welfare function cannot exist, or rather that groups of agents cannot jointly arrive at a social ordering, without the exercise of power. Without going into the detail, the impossibility theorem is based upon five assumptions, one of which rules out dictatorship. Essentially, Arrow's proof involves showing that a social ordering can be reached only if the preferences of the group coincide with the preferences of one person, a dictator; but, since dictatorship has been prohibited as being unacceptable in a democracy, this proves the "impossibility" of the social ordering/welfare function.

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This is the usual way of looking at Arrow's theorem. However, turning the argument on its head, we see that for a society to arrive at a social ordering, Arrow's proof demonstrates the necessity of recognising the role power plays. The problem with it, for anyone interested in power, is that it only envisages one form of power relationship – dictatorship – and, of course, dictatorship is not the sole way in which power can be exercised; power is more nuanced than that.

As Sen (1979) shows, the Arrow impossibility theorem arises from combining a version of welfarism that rules out non-utility information (on, for example, incomes and endowments) with "remarkably poor" (to use Sen's words) utility information that rules out interpersonal comparability. This combination does not permit distributional considerations, in particular those relating to conflicts of interest between rich and poor. Indeed, the Arrovian framework (welfarism, ordinalism, non-comparability of utilities) cannot even distinguish between rich and poor; and, if it cannot do that, it certainly cannot cope with power relationships between rich and poor.

It can be argued that Arrow and subsequent social choice theorists pulled off a trick similar to Robbins' confusion of opthelimity and utility. By focussing attention on utility space rather than commodity space (i.e., welfarism), they effectively restrict discussion to utility possibility frontiers and social welfare contours whose shapes are indeterminate and whose axes cannot be calibrated unambiguously (i.e., ordinalism and non-comparability), rather than the contract/conflict curves of the underlying Edgeworth boxes in commodity space, which do not present insuperable measurement problems. Thus, attention is shifted away from the material needs of individuals, which are observable, measurable and comparable, to their subjective desires, which are not, in the same way that Robbins shifted attention away from Pareto's concept of (material, observable) utility to (unobservable) opthelimity.

The result, as Sen showed, is that it is not even possible to distinguish between rich and poor. It must seem strange to non-economists that economic and social choice theorists have dug themselves into such a deep hole (though a very tidy, immaculately constructed hole) that they cannot even distinguish between rich and poor, but that appears to be the case. Paul Samuelson explicitly rejected such unnecessary restrictions. In *Foundations of Economic Analysis*, he rails against "Robbins' dicta concerning the inadmissability of welfare economics in the body of economic theory", saying that such ideas are "nugatory" and that

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refusing to take the "last step" (i.e., accepting interpersonal comparability and social welfare functions) is "like pouring out a glass of water and then refusing to drink" (Samuelson, 1947, p. 249). There are strong grounds, therefore, for arguing that Arrow's acceptance of the ordinalist rejection of interpersonal comparability is unnecessarily restrictive; and, if we relax this assumption, as we do in Chapter 9, other, non-dictatorial representations of power relationship become "possible".

The almost total neglect of power by neoclassical economics is, therefore, the result of the self-imposed limitations the discipline has placed upon itself over the past 100–150 years; first, the neoclassical revolution that led to political economy being supplanted by economics in the late-19th century, then the shift inspired by the ordinalist revolution from economics to positive economics in the 1930s, which was reinforced by the emergence of social choice theory in the 1950s. But does this matter? The vast majority of economists, or at least neoclassical economists, are clearly content with the boundaries their discipline sets itself, and are happy to leave consideration of power relationships to political scientists, sociologists, philosophers, anthropologists and others. However, power is important, because without it economists cannot seriously claim that they fully address the core problem they define their discipline by.

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3

Why Power Matters for Economics

Abstract: *It is argued that the neglect of power means that neoclassical economists cannot fully answer the core problem they define their discipline by, since marginal productivity theory provides only a partial explanation of the distribution of income and wealth. Because standard textbooks ignore power considerations, and blur the distinction between functional and personal distributions of income, they cannot provide an adequate answer to the For Whom part of the scarcity question by which neoclassical economics defines itself. This, it is argued, is a fundamental failing and the source of much dissatisfaction with and cynicism about economics in today's world.*

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Given the deliberate distancing of mainstream economics from political economy over the past 100–150 years, it is not surprising that considerations of power in anything but very narrowly defined terms have disappeared from the teaching of economics. Hill and Myatt (2010) have reviewed the most commonly used textbooks used in teaching economics today and find that the word "power" appears only in references to purchasing power, examples of market power such as monopoly, oligopoly and so on and bargaining power in cooperative game theory. Similarly, Monvoisin and Rochon (2006/2007, p. 28) say they have looked at a great many of the main textbooks and found that, whatever the level, all are "conspicuously silent" on power. The result is that, for many, mainstream economics has lost its relevance to major problems such as inequality and poverty, unemployment, Third World development, banking and financial crises, and the intergenerational equity challenges posed by climate change, in all of which power relationships – whether between individuals, groups of people, people and the state, organisations and enterprises, nation states or generations – play a considerable role. As noted in one of the quotations that begin this book, J.K. Galbraith (1973, p. 2) called this the "decisive weakness in neoclassical economics" that "destroys its relation with the real world".

In terms of teaching future economists, the neglect of power means that mainstream economists cannot fully answer the core problem they define their own discipline by, so that even by its own internal criteria, neoclassical economics fails to deliver. As noted earlier, this situation has developed, barely noticed or remarked upon, since Lionel Robbins' (1932) seminal essay criticising notions of cardinal utility and interpersonal comparability, which led to neoclassical economists defining their discipline in terms of the scarcity of goods and services instead of the economic welfare of people.

Economics textbooks typically open with a statement of the "economic problem" whereby, following Robbins, all societies have to reconcile the almost limitless desires of its members for more of everything with the scarce resources available for satisfying them. This scarcity definition of economics is then followed by three questions: the "What?", "How?" and "For Whom?" questions, the third of which asks for whom are goods and services produced (e.g., Begg, Fischer and Dornbusch, 1994, p. 2; Lipsey and Chrystal, 1995, p. 6). For many students new to the subject, this last question may suggest that economists are not interested just in how consumers use their incomes, but also in explaining prevailing

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distributions of income, especially where they are seen to be highly unequal. However, if that is the case, while the hundreds of pages that follow may provide them with satisfactory answers to the first two questions relating to resource allocation ("What goods and services to produce?" and "How to produce them?"), they will often search in vain for a satisfying answer to the third.

Some textbooks, after setting out the For Whom question, distinguish between the "functional" distribution of income, which refers to the rewards received by the factors of production, and the "personal" distribution of income across individuals and households; they then state quite unequivocally that the business of economics relates primarily, if not solely, to the first distribution, and go on to show how marginal productivity theory explains how the rewards to factors of production are determined in subsequent chapters. For example, Cairncross (1966, p. 288) describes his approach thus:

> The theory of distribution might be expected to deal with the reasons why some people are rich while others are poor... Traditionally however, economists have preferred to put the question in a different way. They have analysed the distribution of the national income, not between persons, but between factors of production – land, labour and capital. They have set themselves to explain how rent, interest, profits and wages are fixed, *leaving over to later study* the resulting distribution of income between owners of the factors of production. This procedure *splits the problem of distribution into two parts*. The first...analyses the forces governing the prices of the factors of production... The second, which involves research into social structures of particular communities rather than the working of economic principles, analyses the forces governing the ownership of the factors of production; it is mainly a study of the influence of inheritance and *political power*. Once we know what governs earnings and ownership of the factors of production, we also know what governs the distribution of income between persons... In this chapter, we shall concentrate on the first problem. (emphases added)

Cairncross has already noted earlier: "Whether the economist is right to treat a theory of wages, rent, interest and profit as if it added up to a theory of the distribution of income is (rather more) doubtful" (ibid., p. 25).

Similarly, Chacholiades (1986, p. 4) initially sets out the third question in terms of personal distribution: "For whom are those commodities to be produced? That is, who is to enjoy [them]?...How is the national output of goods and services...to be distributed among the residents of

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the country? Should all residents be treated equally? Are there to be some rich and many poor?" Later, however, in the chapter entitled, "The Theory of Distribution", he explains that in fact, "The distribution of resources among individuals...does not belong to the study of economics, because it is the result of historical processes that are greatly influenced by the institutions of society with regard to inheritance, marriage, and so on. It is for this reason that traditionally economists have been concerned with the theory of functional distribution". So in Chapter 1 of Chacholiades, the student is told that the For Whom question is about the personal distribution of distribution, but when it finally gets down to business, he or she finds out that, in fact, economic theory is concerned only with the functional distribution.

Not all authors, by any means, are as clear as Cairncross and Chacholiades in explaining the limitations of the answers their textbooks provide to the For Whom question. Many segue between personal and functional income distributions with little indication given to the student that they might be different. Take this example, from Sloman (2001, p. 7): "For whom are things to be produced? ...how will the nation's income be distributed?...the higher your income, the more you can consume of the nation's output. What will be the wages of farm workers, printers, cleaners and accountants? How much will pensioners receive? How much of the nation's income will go to shareholders or landowners". Note the subtle shift here from personal (your income) to functional (wages, workers, shareholders, landowners) distribution.

Similarly, for Samuelson (1976, p. 45), the distinction is implicit and parenthetical: "For whom things are produced is determined by supply and demand in the markets for productive services, by wages rates, land rents, interest rates and profits. (Of course, the character of the distribution of income is highly dependent on the initial distribution of property ownership, upon acquired and inherited abilities, educational opportunities, and presence or absence of racial and sexual discrimination.)"

Economics textbooks generally do, though rather briefly, mention that property rights and ownership of factors of production as well as marginal productivities are important in explaining income inequalities and the existence of poverty in the world. They also often consider empirical data and the measurement of income inequality using Lorenz curves, Gini coefficients and so on and may even make passing reference to equity, justice and the work of political philosophers such as John Rawls and Robert Nozick. However, little or no connection is made

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between these ideas and empirical evidence and the economic theories presented in the rest of the textbook, for the good reason that there is no relevant economic theory. Thus, while economics textbooks devote hundreds of pages to the theories of exchange, production and consumer behaviour, leading up to detailed expositions of Pareto efficiency and general equilibrium analysis, the chapters on the theory of wages, rent, interest and profit do not "add up", as Cairncross puts it, to a theory of the distribution of income. Nor, of course, is there any serious discussion of economic or political power.

The general impression gained is that, whereas classical economists were fundamentally concerned with the distribution of wealth and income (though students are rarely told this in introductory texts), neoclassical economists have on the whole, in the pursuit of scientific objectivity, allowed such concerns to slip off their teaching and research agenda. Thus, mainstream economic theory makes no attempt to fully explain income and wealth distribution, and most economists prefer to leave attempts to answer the crucial, second part – as Cairncross describes it – of the For Whom question to historians, sociologists and political scientists.

Moreover, as again pointed out by Cairncross, since the ownership of factors of production is linked to political power, this "later study" must in one way or another address power relationships. However, neoclassical economics has studiously avoided discussion of power for the reasons outlined in the previous chapter. What is required, therefore, if economics is to be able to address power and thereby develop a more complete analysis of the economic problem, is a reversal of the process outlined earlier – a turning back of the clock, as it were _ and a recognition that it is not possible to provide convincing explanations of economic outcomes, especially the persistence of poverty and income inequalities, without asking (positive) questions about the power relationships between economic agents with conflicting interests, whether they be individuals, groups of people, people and the state, organisations and enterprises, or nation states. In short, a recognition that "[i]nterest groups may not only attempt to sway public opinion but may also use the threat of political and economic power...the wider political structure... must be taken into account in any realistic assessment of the prospects for reform. In this *return to 'political economy'*, a great deal remains to be done" (Atkinson and Stiglitz, 1980, p. 576, emphasis added). The starting point for a "return to political economy" has to be an attempt

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to define and clarify what we mean by power, a question we will return to in Chapter 6 after reviewing challenges to mainstream economics in Chapter 4 and areas of economics, in particular so-called political economics or new political economy and cooperative game theory that might offer avenues for addressing these challenges in Chapter 5.

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4

Challenges to Mainstream Economics from PCES and Piketty

Abstract: *Recent challenges to mainstream economics posed by Post-Crash Economics Society (PCES) students and Thomas Piketty are reviewed. It is argued that a major part of the reason why PCES students are so frustrated with the economics taught in most higher education institutions, and why many non-economists view economics to be strangely myopic and irrelevant, is due to mainstream economics' neglect of power. Some of the key points in Piketty's seminal work, Capital in the 21st Century, are summarised; in particular, he argues that marginal productivity theory cannot account for burgeoning inequalities in many countries and that bargaining power is the key to understanding what is happening.*

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What can loosely be described as mainstream, orthodox or neoclassical economics has come under attack from two directions over the past couple of years. First, students' discontent with the way economics is taught emerged at the University of Manchester before spreading to other universities in the United Kingdom and then internationally. Second, the prevailing notion, the subject of Chapter 3, that marginal productivity theory provides an adequate explanation of personal as well as functional income and wealth distributions received a profound rebuttal from French economist Thomas Piketty, whose book *Le Capital au XX1 siècle* was published in English translation as *Capital in the 21st Century* in 2014 to great acclaim.

The University of Manchester students' campaign began with an online petition and setting up of a society, the Post-Crash Economics Society or PCES, whose initial focus was an informal, extramural course, *Bubbles, Panics and Crashes: An Introduction to Alternative Theories of Economic Crises*, taught by a temporary lecturer, which looked at economic crises from the Great Depression to the 2008 banking crisis from a heterodox economics perspective. The course was extremely popular with students, attracting large numbers to its weekly lectures *cum* seminars, and the PCES asked the economics department to adopt it formally and make it part of the curriculum. However, the issue quickly developed (especially after their request for the *Bubbles* course to be adopted was rejected) into a more general critique of economics education at Manchester University and elsewhere and the publication in 2014 of a report, *Economics, Education and Unlearning: Economics Education at the University of Manchester*, with a foreword by Andrew Haldane, Executive Director for Financial Stability at the Bank of England.

From there, the student campaign spread to other UK universities (including Cambridge, London School of Economics, University College London and Sheffield) and then internationally with the launching of the online *International Student Initiative for Pluralist Economics* (see www.isipe.net and associated Facebook group), which set out a similar manifesto for change in economics curricula that very quickly gained support from (at last count) sixty-five student associations across twenty-one countries.

The PCES is not by any means the first movement of its kind. Indeed, it is quite likely that the Manchester students took their inspiration, and adapted the name for their society, from the economics students in Paris who, in 2000, launched the Post-Autistic Economics Movement (PAEM).

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The PAEM had a similar set of demands and also spread rapidly to other countries: twenty-seven Cambridge University PhD students launched Opening Up Economics in 2001; in the same year students from seventeen countries gathered in Kansas City in the United States and released their *International Open Letter;* in 2003 Harvard students petitioned their economics department demanding a new introductory economics course with a "better balance and coverage of a broad spectrum of views"; and by 2007 the open-access journal of the movement, the *Post-Autistic Economics Review* (renamed the *Real-World Economics Review* in 2008) had over 10,000 subscribers (Fullbrook, 2007; Post-Autistic Economics Network, 2014).

It should also be noted that the PCES report does not demand, as some critics have suggested, that universities stop teaching neoclassical economics. Rather, in their report, international manifesto, newspaper articles and online commentary, the students have asked for greater diversity in the curriculum. They criticise what they view to be an unnecessary emphasis in economics curricula on abstract, deductive theorising, which, they argue, gives axioms primacy over evidence and neglects historical, sociological and political contexts so comprehensively that the economics they learn has little relevance to the real world they enter after graduation. In particular, they point out that the standard macroeconomic models they are taught, which are based on "micro foundations" but do not include the financial sector, failed to predict and provide only partial understanding of the 2008 and previous economic crises. This was the gap the rejected *Bubbles* course sought to fill, and the students are clearly perplexed by the reluctance of mainstream economists at Manchester and elsewhere to engage with alternative theories, much like the Queen was perplexed when she famously asked a group of economists at the London School of Economics a few months into the 2008 economic crash, "Why did nobody notice it?"

Thus, the PCES students, like their PAEM predecessors, deplore what they view to be an overly narrow concentration on neoclassical economics to the exclusion of other, heterodox schools of thought, which they argue demonstrates an academically and intellectually indefensible lack of critical thinking, as well as the decline in the teaching of economic history and the history of economic thought in recent decades. The majority of the Manchester students active in the PCES campaign are Politics, Philosophy and Economics (PPE) students, who noticed the contrast between the way economics is often portrayed as an ahistorical

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technical science, with more-or-less universally accepted analyses of economic questions, whereas politics and philosophy are contested disciplines in which different schools of thought are recognised and, if not all treated with equal validity, are at least open to argument and debate.

Whatever the fairness and merits of the campaign, the PCES has been enormously successful in generating debate about the relevance of economics and economics teaching in the modern world, gaining widespread coverage in the media and online blogs, including contributions by Paul Krugman, Robert Skidelsky, Ha-Joon Chang, Simon Wren-Lewis and articles in the *Financial Times* (FT), the *Wall Street Journal*, *Washington Post*, the *New Yorker*, *Guardian*, *Independent* and elsewhere (see links on PCES website and Facebook: www.post-crasheconomics.com). For this, the students should be applauded. However, from the point of view of this monograph, the chief interest of the PCES report lies in the students' clearly sincere request that more emphasis be placed on the ethical, philosophical and political foundations of economics – in other words, on political economy as it once was rather than supposedly value-free economic science. Thus, the report argues, part of the "toolkit" of skills and knowledge an education in economics provides should include "knowledge of institutional power structures and politics. Economic analysis must take into account power and politics or it risks, as Ronald Coase famously argued, only being fit to model 'individuals exchanging nuts for berries on the edge of the forest' " (PCES, 2014, p. 47).

Amongst the "alternative approaches" the PCES students call for in the economics curriculum include "class (bargaining power) models of income distribution" (ibid., p. 30). This chimes well with the major theme of Piketty's *Capital*, a book that has received enormous critical acclaim and commentary in press and media; indeed, remarkably for a hefty academic tome of over 600 pages, it reached the top of the Amazon bestseller list for a period. Not all the commentary and criticism of Piketty, especially from other economists, has been positive; in particular, his preferred solution – an internationally enforced progressive wealth tax – has rather predictably been attacked from the left for not being radical enough (e.g., Galbraith, 2014; Graeber, 2014) and from the right for being unrealistic and utopian (e.g., Aldrick, 2014; Summers, 2014; Economist, 2014). However, if nothing else, the attention he has received is an indication that it is not just a few economics students who are disillusioned with orthodox economics.

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Capital is a wide-ranging analysis of how inequalities in income and wealth have evolved over the past two hundred years and, especially, since the early 20th century. The result of a major research project and painstaking data collection and analysis by Piketty and a group of collaborators over many years, it undermines the optimistic belief that, although inequality tends to increase in the earlier stages of the economic development of capitalist systems, eventually and reassuringly, it diminishes as they mature. This view, which is the diametric opposite to the Marxist belief that capitalism must in time succumb to its innate contradictions, originates in the work of Simon Kuznets in the 1950s, is encapsulated in the famous bell-shaped curve named after him, and has been used for many years to justify "trickle down" development policies in less developed countries: the argument being that while free market economic policies may appear to favour the better-off and lead to periods of rising inequality and poverty, there is no need for people and governments to be concerned or to do more than alleviate the worst of the hardships faced by the poor, since these are short-term problems that will be righted with the passage of time as the natural tendency of capitalism is for the fruits of economic growth to spread far and wide and reach everyone, even the poorest, eventually.

Piketty reaches this view by, in effect, extending Kuznets's data from one country, the United States, and a thirty-five-year period from 1913 to 1948 to cover thirty countries (though the main focus is on a dozen: the United States, France, the United Kingdom, Germany, Spain, Portugal, Switzerland, India, China, Japan, Argentina and Australia) and lengthier time spans, in most cases from pre–World War I to the 21st century and in some instances back as far as the 18th century. There are no doubt gaps and flaws in the data; nevertheless, Piketty presents a convincing case for believing that Kuznets's analysis, based on data ending in 1948, has been misleading and that, in fact, far from decreasing, global income and wealth inequalities are increasing and set to return to late-19th-century levels in the 21st century. This conclusion has been generally welcomed and applauded by liberals and radicals, who welcome the support it gives to their belief that inequality is a major and increasing problem that can be solved only by progressive taxation and regulation of the banking and finance industries, while conservatives have responded with what has sometimes verged on panic. For example, within weeks of publication of the English-language edition of *Capital*, the *Financial Times* published a scathing attack suggesting that

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its analysis of Piketty's data had revealed such errors, inconsistencies and evidence of selective usage of statistics to prove a point as to totally undermine the credibility of Piketty's main findings. These allegations were swiftly rebutted by Piketty, who published an addendum to the online technical appendices he had already made available, and by Paul Krugman and others, who pointed out that the broad sweep of Piketty's findings were consistent with other research on US, European and global inequalities (see Giles, 2014; Giles and Giugliano, 2014; Piketty, 2014 b, c; Cameron, 2014; Krugman, 2014 a, b).

Quite apart from who is right and who is wrong in this argument, the contrast between the treatment the *Financial Times* gave to *Capital*, a book about inequality and the need for redistributive economic policies, and to "Growth in a Time of Debt", the now infamous research paper published by Reinhart and Rogoff (2010), which was seized upon by George Osborne, who became the UK chancellor of the exchequer a few months later, and others to justify austerity policies, is striking and informative. The editor of the *Financial Times* made no attempt to investigate the veracity of Reinhart and Rogoff's empirical work.

According to Piketty, the increase in inequality since the 1980s has been most pronounced in the United States – a turnaround from the position at the beginning of the century when the United States was less inegalitarian than Britain, France and other European countries: at just a little over 40%, the share of national income earned by the top 10% in the United States in 1900–1910 was below that of Britain, France, Germany and Sweden, where the share of the top decile was 45–50%. The fall in inequality between 1914 and 1945, first identified by Kuznets and confirmed by Piketty, was greater in Europe so that by 1950 the top decile's share was similar across these five countries at 30–35%, a level at which it remained until the 1970s. However, this is when the optimistic picture portrayed by the Kuznets curve breaks down, for since then the United States has experienced what Piketty describes as an "explosion" in inequality, with the top decile's share of total income rising to 45–50% in 2000–2010, that is, similar levels to Europe a hundred years ago, while in Britain it has risen to around 40%, France and Germany around 35% and Sweden just under 30%. Similar patterns are found in other countries in Europe, in Japan, Canada, Australia and (so far as is allowed by the data) in less developed countries such as India, China, Indonesia, Colombia and South Africa.

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Piketty ascribes the mid-century decline in inequality to the destruction of physical capital in the two world wars. Graeber (2014) has argued that Piketty neglects the importance of the Cold War in restraining the growth of incomes at the top, arguing that it was the existence of an alternative economic system in the Communist countries of the USSR and eastern Europe that restrained excess pay at the top. It is true that Piketty largely omits Russia et al. from his detailed analysis (no doubt due to lack of data) and perhaps curious that he does not mention the Cold War. Nevertheless, overall his explanation is plausible as the destruction of capital, being greater in Europe than in North America, explains why inequality declined more in Europe in 1914–1945, whereas it is not clear why the existence of an alternative economic system in the world should have affected inequality more in Europe than in the United States in that period; nor does it explain why inequality began its steep rise in the 1980s, when the Cold War was at its hottest during the era of Ronald Reagan, Margaret Thatcher, cruise missiles at Greenham Common and much talk of Mutually Assured Destruction.

However, from the point of view of this work, Piketty's explanation of the post-1980 explosion in inequality is of more interest, for it is here that questions concerning marginal productivity theory and power arise. According to standard theory, returns to factors of production are determined by the forces of supply and derived demand in the respective factor markets, so differences in incomes reflect differences in the marginal productivities of workers. Better educated, more talented, harder working people making use of more advanced technologies contribute more to production; derived demand for their skills is greater and, consequently, so are the rewards they receive. It follows that the way to raise the incomes of the poor is through education and training and technological improvements that will raise their productivity. Rising inequality is, according to this view of the world, the fair and just outcome of the economic contributions different people make to society; and if this means the salaries and bonuses of some bankers and financiers are hundreds of times the average wage of the population, then so be it – they earned it and deserve it.

Piketty unpicks this story. First, he shows that the increase in inequality since the 1970s is even more apparent the further up the income hierarchy you look; in particular, the share in income accruing to the top 1% and top 0.1% have risen even faster than the share of the top 10%. Furthermore, he shows that there is significant variation across

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countries, with greater rises in inequality in the United States and United Kingdom than in continental Europe and Japan or in less developed countries, such as India, China and South Africa. Piketty then argues that marginal productivity theory is inadequate for two reasons. First, it cannot explain why the super-rich are doing so much better than the rich, it being inconceivable that skills and productivity can vary so much between the top 1% or top 0.1% and the next 9% or 9.9% of top earners. Second, it cannot explain the observed variations in inequality between countries. For example, it cannot explain why the United States and United Kingdom are so much more unequal than France, Germany and Japan – countries that have access to the same technologies and have similar levels of education and training. Nor is it plausible to argue that productivity, educational and skill levels vary more in the United States or United Kingdom today than they did in India or apartheid South Africa thirty years earlier.

Piketty does not reject marginal productivity analysis altogether, saying that up to a certain (unspecified) level it offers a plausible explanation of the long-run evolution of income distributions. However, he argues that it cannot explain the above anomalies. Something else must be going on. His own explanation of the explosion in inequality in the United States and, to a slightly lesser degree in the United Kingdom, is the rise of what he calls "supermanagers" – top executives of large firms in both the non-financial and financial sectors who earn "supersalaries" completely unrelated to any known, objective measure of productivity based on individual or company performance. Rather than being determined by anything approaching market forces, Piketty argues that supermanagers are able to set their own salaries by, for example, sitting on each other's remuneration committees where they agree to reward each other with massive bonuses, share options and pay increases, and through the exercise of bargaining power in company hierarchies.

As Robert Skidelsky (2014a, p. 44) observes in his review of *Capital*, "all of this is just a way of saying that distribution is fixed by power, not by the market." Going back to the argument presented in Chapter 3, what this means is that, essentially, Piketty looks at the data – indeed, he takes a more careful, more detailed look at the data than anyone previously – and says the "For Whom" question cannot be answered using standard economic theory because it neglects power.

Piketty does not accuse supermanagers of having their "hands in the till" (although he does, waspishly, suggest the metaphor is "probably

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more apt" than Adam Smith's "invisible hand" of the market metaphor (Piketty, 2014a p. 332). However, he points out how difficult, if not impossible, it is to judge somebody's opportunity cost when there are very few comparators, which places such people in a position where they "have a natural incentive to treat themselves generously, or least to be rather optimistic in gauging their own marginal productivity" (ibid., p. 332).

Although he does not say this, Piketty's analysis is very much in the post-Keynesian tradition of people such as J.K. Galbraith who, as Pressman (2006/2007) observed, viewed the firms that produce most of the goods and services we consume today as being "large bureaucracies dominated by professional managers... (who) have usurped power from the entrepreneurial owners". This distinction between entrepreneurial owners and the bureaucracies who actually manage large firms in a modern capitalist economy, although very much the subject of public choice economics, is ignored by standard textbooks. Typically, the chapter on the "Theory of Distribution" lists the main factors of production (labour, capital, land) and explains the returns to each of them (wages, interest, rent), then introduces a fourth factor, entrepreneurship. However, the explanation of the returns to this last factor – confusingly called the "normal profit" or "wages of management" – is rather vague, reflecting the usual unwillingness in mainstream economics to address the role power plays, in this case in the inner workings of firms.

According to Piketty, the main difference between the situation today and that which prevailed a hundred years ago – the last period when such high levels of income and wealth inequality were seen – is that today the topmost incomes are a return to labour rather than capital/wealth. Up until around 1914, the richest 10% were primarily a rentier class – that is, the landowning aristocracy and gentry earning income from inherited wealth so exquisitely portrayed, as Piketty points out, in the novels of Jane Austen and others. Piketty descibes such a society as "hyperpatrimonial", in contrast to today's "hypermeritocratic" society in which the income of the top decile – the supersalaries of the supermanagers – is, ostensibly at least, a return for their labour.

Piketty foresees this changing in the coming decades and a new rentier class emerging. For the deregulation and reduction in top marginal income tax rates seen in recent decades, together with the expansion in the activities of tax havens around the world, mean high earners can keep more of what they earn. As this new class of supermanagers invest a portion of their supersalaries and pass on their wealth to their

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descendants, the balance of income earned by the richest 10% will shift from rewards for their labour to unearned income from capital/wealth, and the situation will return to that which prevailed in the 19th century. That is, as supermanagers invest part of their vast salaries in property (in London and elsewhere), stocks and other assets, they will accumulate capital/wealth and pass it on to their descendants; so, a new rentier class will emerge and today's hypermeritocratic societies will become, once again, the hyperpatrimonial societies dominated by the kind of rentier class satirised by Austen and criticised by Marx, Keynes and others.

Although Piketty does not provide empirical evidence to back up his supermanager theory, others have. For example, Hill and Myatt (2010, pp. 190–194) report that average executive pay was around forty times higher than average wages in the United States for forty years after World War II but then rose dramatically after 1985, reaching a "stratospheric spike" of over 300 times average wages in 2001 before "settling back" to a mere 160 times average wages in 2005. They also cite evidence from Bebchuk and Fried (2004), who found that the pay received by the top five executives in a large sample of companies rose from 5.2% of the companies' net income to 8.1% in 1999–2003, and that shareholders would have saved $69 billion if it had been restricted to 5.2% (ibid., p. 114). Hill and Myatt (2010, pp. 190–191) also cite evidence from O'Reilly et al. (1988), who found a strong association in the United States between CEO compensation and the compensation of members of company remuneration committees, whereas the practice in Japanese firms was to maintain lower pay differentials across their employees in order to promote loyalty, cohesion and productivity – a finding entirely consistent with Piketty's findings regarding the differences between anglophone countries, continental Europe and Japan.

Hill and Myatt conclude (2010, p. 179), as Piketty has done four years later, that the standard textbook story (i.e., marginal productivity theory) cannot explain the "seismic shift" in executive pay relative to average wages, which has much more to do with "bad incentives, lax accounting rules and poor oversight" that lead to executives getting "what they can get away with" rather than "what they are worth". None of this is likely to come as a surprise or seem implausible to a general public familiar with newspaper headlines about corporate scandals, arrogance and greed (e.g., Enron, WorldCom, Adelphia, Lehmanns, the Bank of Scotland's Fred "the Shred" Goodwin, Libor inter-bank interest rate fixing, mis-selling of Payment Protection Insurance), massive bankers'

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bonuses (even in failed banks bailed out by taxpayers), secretive and complex dealings conducted by rich individuals through international tax havens, and famous-name companies like Google, Starbucks and Vodaphone avoiding corporation tax in the United Kingdom by setting up subsidiary companies in other countries where tax rates are lower. Nor will these ideas seem particularly new or outlandish to campaigning groups, such as ShareAction (2014), whose members have in recent years begun attending shareholders' meetings and challenging the remuneration packages of top executives. However, as yet there seems to be little room for them in undergraduate economics textbooks and classrooms.

This is not justified by any pressing need for strict boundaries between social science disciplines (economics/politics/philosophy/sociology/history... etc.) for the sake of maintaining the academic integrity of each separate discipline, nor is it required to maintain the objective, "scientific" purity of any one of them: no, this a matter of ideology. Denying that power is a legitimate concern to economics is useful to those who believe nothing can or should be done about inequality and poverty because the former is natural and the latter will, in time, disappear as the benefits of economic growth trickle down to them. And this denial has a long history in economics: it is the underlying reason why Thomas Carlyle's description of economics as the "dismal science" has always had such resonance; Pareto believed that nothing can be done about inequality as it is a "universal constant" (Samuelson, 1976, pp. 797, 817); while Robert Lucas, one of the most influential macroeconomists of the late 20th, early 21st centuries, has said, "Of the tendencies that are most harmful to sound economics, the most seductive, and in my opinion the most poisonous, is to focus on questions of distribution" (quoted in Krugman, 2014a). Thus Carlyle and Pareto believed – rather pessimistically and wrongly, as it turned out – that nothing can be done about inequality, while Lucas believes nothing should be done about it, at least not by economists.

A full exploration of the role ideology plays within the history of economic thought lies outside the scope of this work. The interested reader is referred to: Dymski (2014), who explains the recovery of pro-market, pro-austerity, anti-regulation economics since 2008 in terms of a "double invisibilisation" of power within economics, which hides both the political purposes of the profession and the chasm between neoclassical and heterodox elements within it; Mair and Miller (1991, pp. 18–19), who describe the incentives that discourage academic economists from

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stepping outside the mainstream paradigm; Owen Jones (2015, pp. 256–258), who describes how even an economist as eminent as Danny Blanchflower was frozen out of discussions at the Bank of England for not toeing the line in the run-up to the collapse of Lehman Brothers in September 2008 and subsequent economic crash; and Cole et al. (1983), who provide a history of economic thought from a heterodox perspective. However, what we can say is that the PCES's complaints about economics teaching and Piketty and the debates his book have provoked highlight an ideological divide.

On the one side are those who argue that income and wealth inequalities arise from variations in marginal productivity, the supply and demand for labour and other factors of production, in particular the education and technology that determine factor productivities, and no more. It follows that, if there are great inequalities of the kind identified by Piketty, they arise because some people work harder or are cleverer and more talented, which often means they are just plain born lucky. Great wealth, therefore, is the just reward for those who are most productive and contribute most to the general well-being of society. And *vice versa* for those at the bottom; they are poor because by choice they are lazy and feckless or by bad luck have been born without the intellect, skills and talents valued by society. This, essentially, is what the standard textbook approach boils down to. On the other side are those like Piketty and Hill and Myatt who argue that, while marginal productivity theory is useful up to a point in explaining factor rewards, including variations in wages and salaries, ultimately it is inadequate since it fails to take account of the ways in which more powerful people (such as Piketty's supermanagers) can manipulate economic outcomes in their favour.

However, who is correct – those who defend marginal productivity theory or those who argue that other, broader explanations that address power considerations are needed – is not the real question here. The key point is that mainstream economics and the textbooks used to train future economists cannot even address the question of who is correct, because they encompass only one side of the argument. Because neoclassical economics neglects the role power might be playing, it cannot entertain other possibilities and there is no room for such debate in its textbooks. As discussed in Chapter 3, because standard textbooks ignore power considerations and blur the distinction between functional and personal distributions of income, they cannot provide an adequate answer to the "For Whom" part of the scarcity question by which

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neoclassical economics defines itself. This, as J.K. Galbraith (1973, p. 2) said, is the "decisive weakness in neoclassical economics...(that) destroys its relation to the real world". It is a major part of the reason why PCES and PAEM students are so frustrated with the economics taught in most higher education institutions and why many non-economists view economists to be strangely myopic.

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5
Political Economics and Cooperative Game Theory

Abstract: *This chapter considers areas of economics, in particular so-called political economics and cooperative game theory, whose importance in research is not yet reflected in undergraduate teaching but which might offer avenues for addressing these challenges. Two concepts, political equilibria, which select from possible economic equilibria, and Nash bargaining power are seen as being particularly important.*

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As we saw in the earlier chapters, Piketty argues that the enormous and increasing inequalities existing in the early years of the 21st century can be explained only by recognising the role power plays in determining personal income and wealth distributions through ownership of the factors of production and the various ways in which the returns to the different factors, especially capital, can be influenced. However, Piketty does not develop his own detailed, coherent, economic theory showing how this takes place. His approach is empirical and inductive rather than the abstract, deductive approach whose dominance in economics teaching the PCES students have criticised; this is laudable, but means no over-arching theoretical perspective emerges that might create the kind of alternative narrative required to supplant the standard textbook narrative.

This is not a criticism of Piketty. As noted earlier, there has been a singular failure by economists to develop an economic theory of power, and doing so is not Piketty's objective. But, since the standard economics textbook narrative is dominated by and formed by neoclassical economics, without such an alternative theory, the situation is unlikely to change. The question is, where to find such an economic theory of power? Does one need to look within mainstream economics, or outside, to the various strands of heterodox economics or to the other social sciences, or elsewhere? Is a Kuhnian paradigm shift required, or might a slight adjustment of perspective within the neoclassical paradigm do the trick?

The position taken here is that the second of these options, a solution already lying within the body of mainstream economics, is entirely possible. As Thomas Palley (2014b) has argued, there are two key mechanisms by which power influences income distributions; all that is required is an understanding of how they can be represented within standard microeconomic theory. First, power determines who owns factors of production. Often this is masked by the passage of time: the open, physical struggles over resources took place in the past and have been transformed into the more peaceable rule of law and recognition of the rights of inheritance. Nevertheless, power and the reproduction of power relationships from generation to generation is at the root of who controls and owns resources. Thus, marginal productivity theory can explain, at best, the functional distribution of income, but, as discussed in Chapter 3, this is not the same as the personal distribution of income, which depends on the pattern of ownership of factors

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of production, which in turn depends on inheritance and power relationships.

Second, power can be used to influence the returns to and therefore the shares of different factors in total income. As Piketty has shown, returns to capital have grown faster than economic growth in recent decades, as a result of which the share of capital (accepting Piketty's broad definition of capital/wealth) in total income has grown. Piketty ascribes these trends to the way executives in large companies and banks use their bargaining power to set their own wages; this, he argues, is enabling them to accumulate capital/wealth and pass it on to their progeny – a process which, if unchecked, will lead to the recreation of hyperpatrimonial societies and the kind of extreme income and wealth inequalities not seen for over a century. Further examples of the way power can be used to influence relative factor prices will be explored in Chapters 7 and 10. However, the question arises, can these power relationships be more clearly identified and illuminated using the standard tools of microeconomic theory and thereby brought into economics teaching?

Thus far, only economics textbooks have been considered, but these do not, of course, represent the full canon of mainstream economics. In particular, undergraduate textbooks do not reflect the full range of research conducted by economists, mainstream or otherwise. Therefore, to be fair to mainstream/neoclassical economics, let us consider where, if anywhere, within its bounds we might look for answers to these questions. There are two likely areas: political economics and cooperative game theory. Both will be looked at in the pages that follow, but it should be noted that the aim here is not to provide anything like a rigorous or thorough explanation of either field; rather, it is to consider whether either might act as a source, or provide a theoretical framework, for the kind of new narrative of power needed to transform economics teaching and the way economists are taught to think about their discipline in order to address these challenges.

If they do not, then we must look elsewhere for answers. However, if either looks promising, then it may be possible to transform mainstream economics teaching from within and achieve the kind of evolutionary change seen before, when mainstream economics has responded to criticism by absorbing and adopting new ideas. For it would be wrong to suggest that mainstream economics has not changed and evolved over the years: the study of market failure, imperfect competition and transaction costs, uncertainty and asymmetric information, and more recently

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behavioural and experimental economics, all began life outside of what was at the time considered to be the mainstream but were absorbed into it to become staples of economics textbooks. Indeed, this is partly why there is such debate about what actually constitutes or differentiates mainstream, neoclassical, orthodox and heterodox economics (Dequech, 2007; Colander et al., 2004). However, none of these changes has led economics back towards any kind of recognition of the role power plays in determining economic outcomes.

"Political Economics" is a term that conjures up memories of the political economy that prevailed before the marginalist/neoclassical revolution of the 1870s. Indeed, it is also sometimes referred to as "New Political Economy", for example, by Besley (2007), who describes it as representing a reversal of the split between the disciplines of economics and political science at the end of that century. However, it is a rather vaguely defined area. At the Royal Economics Society Conference held in Manchester in 2014, it was denoted as one of the topic areas for organising research papers, under which twenty-five papers were presented. The list of topics covered, which included coup d'états and defence spending, the relationship between elections and economic activity, corruption in the Romanian school-leaving exam system and the origins of the Sicilian mafia in the production of oranges and lemons, is very interesting. However, whereas it is easy to discern an over-arching theme or methodology for the other topic groupings (microeconomic theory, macroeconomics, econometrics, development economics, experimental economics, industrial organisation, labour economics, public economics etc.), it is rather difficult to do so for the political economics theme; the label appears to be have been applied wherever the primary focus is on a political activity (e.g., voting, rent seeking, corruption) rather than an economic one.

Two advanced, graduate-level textbooks have been published with "Political Economics" in their title: Alt and Chrystal (1983) and Persson and Tabellini (2002). Given the two decades separating them, it is not surprising that they are quite different in the mode of delivery – the first discursive with little formal mathematical modelling, the second more technical – but both are concerned primarily with how public and, especially, economic policy is formulated through the interplay of political forces, and particularly through the voting process in representative democracies. Political economics therefore has much in common with social choice theory and public choice theory; all assume rational

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behaviour by economic agents and make extensive use of game theory to explain how producers, consumers, politicians, political parties, government bureaucrats and other stakeholders in capitalist democracies behave. However, although the introductions to both books note that the focus of political science is on non-market decisions and the exercise of political power while the focus of economics is on voluntary choices by independent agents in market economies, neither explicitly seeks to define what is meant by power or analyses how different individuals or groups exercise power. Also, the emphasis is on how standard economic theory can inform political decision making; that is, it is not the other way round, how politics, that is, the exercise of power, might explain economic outcomes. Thus, after these introductions, the only explicit reference to power in Persson and Tabellini is in a discussion of the separation of powers between executive and legislature or between two chambers of parliament or congress in Western democracies, while in Alt and Chrystal only the vaguest of references occur thereafter to, for example, business power, the fragmentation of power in US politics and the way in which private banks can influence monetary policy through the recruitment of their staff to central banks. There is nothing wrong with any of this; indeed it is often interesting and enlightening and can be of use – indeed, Persson and Tabellini's notion of political equilibria will be made use of in the pages that follow – but it doesn't amount to a coherent economic theory of power of the kind needed to fundamentally address the For Whom part of the scarcity question and thereby transform economics teaching. We must look elsewhere.

The work of Daren Acemoglu and James Robinson, which draws on the institutional economics of Douglass North and others, provides a more coherent approach to including power in economic models, even though they also do not actually attempt to define what they mean by power. In his 2009 book, *Introduction to Modern Economic Growth*, Acemoglu argues, for example, that if there is a conflict of interest between a potential monopolist and consumers, the equilibrium of a political process determines the economic outcome, that is, "the political power of the parties with conflicting interests plays a central role...[as] their relative powers determine the ultimate outcome" (ibid., pp. 782–783). He goes on to construct a series of increasingly elaborate models that investigate the effects of conflicts of interest between three groups: workers, who supply labour and receive wages; capitalists/entrepreneurs who make investment decisions and receive interest/profit; and an elite who set

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the tax rate and generally receive transfer payments only because they are unproductive, though they may also participate in entrepreneurial activity.

In these models, Acemoglu essentially does the following: he identifies the first-best economic outcome, that is, the investment, output and wage levels that would occur without taxation; he then shows that non-lump sum taxation is distortionary in the sense that by reducing investment below first-best levels it leads to sub-optimal growth even though allocations at any given moment in time are Pareto efficient; finally, he finds the tax rate that will be set, which depends on the balance of power between the three groups. The final step involves a process that is equivalent to maximizing a social welfare function (ibid., pp. 783–784, 791–792). If the elite hold all power, that is, are an oligarchy, they have to balance the two effects of an increase in taxation: it directly raises tax revenue and therefore transfers to themselves, but indirectly it also reduces incentives to invest by entrepreneurs, thus reducing the capital/labour ratio, which in turn reduces output and transfers. This results in the elite choosing distortionary, non growth-enhancing policies in order to extract tax revenue from the non-elite, manipulate factor prices to make their own activities more profitable (as suggested also by Palley), and impoverish the non-elite in order to maintain and consolidate their political power and the transfers that come with it. If, on the contrary, power is spread more evenly between the three groups, as in more democratic and pluralistic societies, this tendency towards distortionary policies is reduced; unproductive transfers are lower and more evenly distributed, entrepreneurs have greater incentives to invest and the economy grows faster. According to this thesis, the economic growth and development of countries therefore depends largely on whether their political institutions are fundamentally "extractive" or "inclusive" (Acemoglu and Robinson, 2012).

If this analysis of extractive and inclusive institutions is correct, countries with greater inequality should be associated with higher taxation and slower growth. There is considerable amount of robust historical and cross-country evidence to support such a contention: for example, Alesina and Rodrik (1994), Persson and Tabellini (1994) and, especially, Acemoglu and Robinson (2012) all find evidence of correlations between inequality and growth.

It was pointed out earlier that in Acemoglu's model of a "simple economy" involving just three groups – workers, entrepreneurs and an

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elite – a "political economy equilibrium" can be thought of as the result of maximization of a social welfare function, for example, one that gives all the weight to the elite (ibid., pp. 783–784). In this particular case, the elite is an oligarchy and acts collectively like a dictator in the proof of Arrow's impossibility theorem (discussed in Chapter 2); if we consider a two-dimensional representation in utility space, with elite and non-elite on the axes, the isowelfare curves will be straight lines parallel to the non-elite axis indicating that since the elite hold all the power, only their utility matters. However, this is an unnecessarily restrictive interpretation of power relationships since oligarchies and dictatorships are, thankfully, quite rare and power is generally distributed more widely in society with different parties able to exert different levels of what John Nash (1950, 1953) called "bargaining power".

In the two seminal papers mentioned earlier, which lay the foundations of cooperative game theory, Nash considered how a given sum of money, a "prize" of one dollar, would be shared between two people. In doing so, Nash, being a mathematician rather than an economist, did the exact opposite of what any neoclassical economist would do: instead of ignoring power he began with the premise that the dollar would be shared out in accordance with the relative bargaining power of the two protagonists, which he characterized as two parameters, α and β where $\alpha + \beta = 1$. (Initially, Nash assumed $\alpha = \beta$, i.e., equal bargaining power; $\alpha + \beta = 1$ represents the later, generalized bargaining solution.) Working backwards from this premise and using a further set of assumptions similar to those used for Arrow's impossibility theorem (e.g., rational behaviour, non-comparable utility functions, Pareto efficiency, independence of irrelevant alternatives), he then showed that there was only one possible bargaining solution and that this unique solution corresponds to the distribution of the $1 prize which maximizes the generalized "Nash product", which in a simplified form can be written as $W = x^{\alpha\gamma}(1-x)^{\beta\delta}$, where x and (1–x) are the shares of the dollar received by the two people and $\gamma<1$ and $\delta<1$ represent their respective marginal utilities of income.

The Nash product is often interpreted as an social welfare function, although Nash himself was not actually concerned with social welfare but with the solution to a two-person bargaining problem. He was seeking to describe the outcome to such a game rather than to prescribe what ought to be the outcome, though he rather confused this objective by assuming symmetry (i.e., $\alpha = \beta$) and arguing that the consequent

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outcome would be "fair" to both people (Mueller, 2003, pp. 576–577). We will return to the Nash product in Chapter 8.

These ideas and the models developed are complex. Nevertheless, in terms of how they might be made more accessible for teaching purposes, there are three key lessons from the political economics of Persson, Tabellini, Acemoglu and Robinson and the bargaining problem solution of Nash. First, the workings of economic systems cannot really be understood unless power is taken into account; it is therefore necessary to model not just economic equilibria but also political equilibria, where the former identifies an infinite number of possible Pareto optimal allocations of resources and distributions of wealth and income, and the latter chooses between them to reach a unique economic outcome. Second, this is equivalent to maximizing a social welfare function that captures the relative bargaining power of the various individuals and groups whose interests are in conflict. Third, although none of the above defines what they mean by power, which means there is little overlap between political economics or cooperative game theory and the literature on power that will be covered in the next chapter, whenever power is mentioned it always relates to how economic outcomes are determined and incomes distributed, rather than (as we will see in the chapters that follow) defining it in terms of how agent A influences agent B. These idea will be returned to in Chapters 8 and 9 after we have looked at the literature on power in Chapters 6 and 7.

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6
The Concept of Power

Abstract: *Various definitions and theories of power developed by philosophers, sociologists and others are reviewed to see if any could help inform thinking about economic problems, or indeed the economic problem. However, it is noted that no single definition or theory of power has been universally accepted.*

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It was noted at the end of Chapter 3 that the starting point for, as Atkinson and Stiglitz (1980) put it, a "return to political economy" has to be an attempt to define and clarify what we mean by power. Unfortunately, this immediately leads us into a minefield.

Typically, power has been defined in behavioural terms – that is, the ability of one person to control the behaviour of another – rather than in terms of the broader economic and social system and institutions or the ownership and control of resources. Examples of the behavioural approach include Weber (1925 [1986]), Russell (1938), Simon (1953, 1957) and Taylor (1982), but according to Bowles (2004, p. 344), the most famous behavioural definition is that of Dahl (1957, pp. 202–203): "A has power over B to the extent that he can get B to do something that B would not otherwise do". As noted in the Introduction, however, neither this nor any other definition has been universally accepted. Power has proved to be an extremely "slippery concept" to deal with (Martin, 1971, p. 240). Indeed, one authority who has written extensively on the subject suggests that every attempt to provide a single, generally applicable definition of power "has failed and seems likely to fail" (Lukes, 1986, p. 4), and even the *Encyclopaedia of Power* (Dowding, 2011), which has over 800 entries, does not contain a specific entry about or definition of power itself, which seems rather extraordinary – like a dictionary that does not contain a definition for the word "dictionary".

Perhaps this does not matter greatly and we simply have to accept that power is one of those phenomena, like love, that everyone recognises when they see it, or experience it, but on which no one can ever have the final, definitive word and whose precise meaning will therefore always be open to debate. Besides, it is not possible to do justice to a literature on power in all its complexity and nuances that go back in time via Hobbes, Machiavelli, Aristotle and Plato to ancient Mesopotamia; nor, thankfully, is this necessary given the extensive literature reviews and summaries already provided by Lukes (1974, 1986), Bartlett (1989), Bardhan (1991), Jary and Jary (2000) and Philp (2004). Therefore, all that will be attempted here will be a thumb-nail sketch of some of the main ideas that have been put forward concerning the different sources of power and the different ways in which it is exercised. The following chapter will then take a closer look at Bartlett's work on power, and Chapter 8 will offer a new definition (inspired by Newton's laws in physics) that may help us see how power might be introduced into the standard framework of neoclassical economics.

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Despite the difficulties referred to earlier, one can see certain themes and patterns repeating over the years. In fact over thousands of years, since writings on a power date back almost as far as the origins of writing itself, to the "Instructions of Shuruppak". Shuruppak was one of the ancient cities of antediluvian Sumeria, in the 3rd millenium BCE, and the Instructions were advice to a king's son. Included amongst them is the following: "To have authority, and possession, and strength, these are princely divine properties...You should submit to the strong man, you should humble yourself before the man who yields power" (Holland, 2005, p. 48). The language may be archaic, but we begin to see here ideas that have appeared again and again over the years. We also see a pattern, a typology in threes – three types of power, three sources of power, three faces of power, three dimensions of power – which many writers have adopted.

Max Weber, for example, identified three sources of power: ideological power, economic power and political power (Hutchinson, 2008). This triad was extended to a tetrad by Mann (1986), who identified four sources: the first arising from the need people have for meaning in their lives, which manifests itself as ideological power; the second arising from the need for subsistence, from which economic power emerges; the third arising from the need for law and order, which is expressed as political power, and the last arising from the need for defence, expressed as military power. Mann, therefore, differentiated between military power and political power, although, as Hutchinson (2008) points out, since political power ultimately rests on military power it is not clear how useful this distinction really is.

J.K. Galbraith (1983) also identified three sources of power: leadership qualities such as physical strength and the ability to persuade; property or wealth, which enables an individual to offer rewards and compensation that can in effect "purchase" submission; and organisation, especially of the state in modern societies. Although there are many nuances between these various triads, if we interpret "authority" as ideological power and leadership qualities, "possession" as economic power, property and wealth, and "strength" as political and military power and, perhaps, organisation, there are clear similarities between the Instructions of Shuruppak, Weber, Galbraith and Mann (if we collapse the latter's tetrad into a triad).

Although power may be based on one or more of these sources, it can also be exercised in different ways, giving rise to further triads. Bertrand

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Russell (1938), for example, distinguished between three types of power: direct physical power, that is, the ability to imprison or put to death; the ability to reward and punish by pecuniary inducements, that is, hiring and firing employees; and the ability to influence opinion through education and propaganda. Similarly, Galbraith (1983, 1986) identified three "instruments" of power, which he called, respectively, condign power (the power to inflict unpleasant or painful alternatives), compensatory power (the ability to reward) and conditional power (the ability to change beliefs through education and persuasion). Finally, Lukes (1974) offers yet another triad, in his case three "dimensions" of power: one dimensional power refers to the ability to prevail in outright conflict; two dimensional power refers to agenda setting, that is, the ability to influence the issues to be decided upon; and three dimensional power refers to the ability to manipulate people's preferences (which, as Bartlett [1989] points out, are usually assumed to be given, or "exogenous", by economists).

Although there are many differences, we can once again see similarities in these triads. Lukes' one dimensional power is similar to Russell's direct physical power and Galbraith's condign power, and his three dimensional power is clearly closely related to Russell's power to persuade and educate and Galbraith's concept of conditioned power. There are also clear similarities between Russell's power to reward and punish and Galbraith's compensatory power. Lukes' two dimensional (agenda setting) power appears to be unique and will have to be allowed to stand alone, but since it applies mainly to organisations and committee meetings, it need not concern us here.

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7

Bartlett's Economic Theory of Power

Abstract: *Randall Bartlett's theory of power, which offers perhaps the most coherent, thorough attempt by a neoclassical economist to investigate power, is reviewed, but it is noted that it has largely been ignored by the economics profession – perhaps because, in offering a brand new approach rather than building upon (or subverting) existing models, it was too radical an approach.*

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Chapter 6 briefly summarised, rather inadequately perhaps, a complex literature covering several disciplines and over four thousand years of thought on power. However, the question remains for the economist, how can any of this inform our thinking about economic problems, or *the* economic problem? Should one seek an answer from within the body of current economics research – perhaps cooperative game theory or the relatively new area known as political economics or new political economy, as suggested in Chapter 5? Or should one look outside standard economic theory and more carefully at the extensive literature on power developed by the other social sciences and reviewed in Chapter 6 and try to construct an entirely original economic theory of power? In other words, should one seek a relatively minor adjustment to the way economists are trained to think about their discipline, or a Kuhnian paradigm shift?

The mainstream economist who has given most thought to the latter approach is Randall Bartlett (1973, 1989). Therefore, this chapter is devoted to explaining his theory and assessing how successful he has been in persuading other mainstream economists to take power seriously.

Bartlett provides his own definition of power: "The ability of one actor to alter the decisions made and/or welfare experienced by another actor relative to the choices that would be made and/or welfare that would have been experienced had the first actor not existed or acted" (Bartlett, 1989, p. 30). This definition is in the behavioural tradition, focussing on the relationship between two individuals – an "exerciser" and a "subject", as Bartlett calls them – but also introduces elements – choice, welfare – that are familiar to economists. Indeed, Bartlett expressly wishes to work within the conventional neoclassical framework (what he calls "the most hostile of foundations" [ibid.] p. 17) as much as possible. However, since neoclassical economics has, as we have seen, an aversion to power, inevitably he has to innovate in order to capture how it operates in a dynamic market economy. These innovations are threefold: the specification of a general form of utility function to capture the physical and social environments in which utility-maximising individuals make decisions, the use of decision theory to capture dynamics in a market economy, and the characterisation of six different forms of power (a radical departure from the traditional triad). Bartlett uses these innovations along with standard neoclassical tools to look for and evaluate the use of power in dynamic market economies.

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The first of Bartlett's innovations extends Gary Becker's new household economics framework. Becker assumes preferences are given, immutable and identical for all people, but allows natural or non-human external factors in the physical environment to influence household preferences. Bartlett, similarly, assumes society is made up of rational consumers who maximise lifetime utility subject to constraints; however, his "general" utility function includes variables that measure changes in the social environment as well as the physical environment and conventional consumer goods. Since the social and physical environments an individual experience at any point in time depend on the decisions made not just by themselves but by others – at that particular moment in time and previously – this opens up conventional neoclassical theory to the possibility that the exercise of power may transform both the constraints individuals face and their own preferences.

For example, property rights constrain the choices available to individuals. Whereas neoclassical economics assumes property rights are given, Bartlett recognises that they are in fact endogenous, the result of economic activity *and* the exercise of power in the past. Furthermore, although the Coase theorem shows that in terms of efficiency the allocation of property rights has no effect on economic outcomes, in terms of the distribution of wealth and income it has a profound effect. This latter aspect of the Coase theorem, which implies much about power, is generally ignored. As Bartlett (1989, p. 151) says, it is as if Coase shouted out aloud the first, efficiency, part of his theorem, and added the second, distribution, part only "in a barely audible whisper".

A humorous story illustrates the role of power in determining property rights. A Scottish laird is out walking one day when he meets a poacher carrying a pair of grouse. "Hey, there", he demands, "You can't have those, they're mine". "And why would that be?" asks the poacher. "Because they're on my land", says the laird. "So why is it your land?" asks the poacher. "Because my ancestors fought for it", replies the laird. The poacher thinks for a moment. "All right then", he says, "I'll fight you for these grouse". (My thanks to my colleague Bernard Walters for this story.) For those who prefer history to a humorous story, Bartlett points to the Enclosure Acts in England in the 18th century and the expropriation of Native American lands, enforced by the US cavalry, in the 19th century as vivid examples of occasions when the formation of property rights created winners and losers not just at the time but into the future (*op.cit.*, pp. 149–155).

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Preferences also change over time and are susceptible to "human-created" social conditions, as Bartlett calls them. Preferences are not determined solely by the genetic make-up of individuals, but are influenced by persuasion, education, advertising and propaganda. This is the essence of Russell's power to persuade and educate, Galbraith's conditioned power, Lukes' three-dimensional power and Bartlett's own value power. The changes in attitudes to smoking in Western societies over the past twenty years, resulting from deliberate efforts of health agencies and governments to persuade people to change their smoking habits, are a good example: nurture, not just nature, determines preferences for cigarettes.

Bartlett's second major innovation is the use of decision theory to model the way in which power is exercised in the context of technologically dynamic market economies in which property rights and consumer preferences are under continual pressure to adapt and change. Since neoclassical economic theory is fundamentally static in nature, portraying a snapshot of an economy at a moment in time, it does not capture the crucial role time plays in determining economic outcomes (Currie and Steedman, 1990). This is important when it comes to power relationships, since decisions made by one person at one moment influence the choices they and others face later in time, and many decisions have to be made on the basis of only partial knowledge of the future. Bartlett uses the tools of decision theory to construct a model of power that captures these dynamic elements of a market economy, portraying each person's lifetime as a decision tree, from left to right diagrammatically, with alternative pathways dividing at "decision nodes" that represent choices the individual must make, and at "chance nodes" that represent "chance" events occurring after choices have been made. Each branch emanating from a chance node has an associated subjective probability and payoff, followed by subsequent choice, nodes, chance nodes, probabilities and payoffs to the end of the individual's life. Individuals' paths can intersect, with the decision nodes of "exercisers" on occasion appearing as chance nodes for "subjects". Thus, an economic system is represented by a multitude of interconnecting trees: "the tree for each individual is part of a larger forest in which branches of one overlap parts of another. In the exploration of power, it is in the interaction of two or more decision trees that this social phenomenon would be found" (*op.cit.*, p. 40).

Following on from this portrayal of a dynamic market economy, Bartlett distinguishes four forms that power can take, two of which can

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themselves be of two types, making six forms together. *Decision power* is associated with decision nodes and can be either *simple economic power* or *decision control power*. The first of these is the only type recognised by conventional microeconomic theory, which makes the fundamental assumption that there is no exercise of power if a market exchange is voluntary (Friedman, 1962, cited in Bartlett, 1989, pp. 6–8; Bardhan, 1991, p. 266). Simple economic power corresponds, therefore, to the concept of purchasing power, and occurs when, for example, a customer enters a market offering to buy a good or service; the offer appears in an individual producer's decision tree as a new branch from a decision node, and can be accepted or rejected depending on the price.

Since such exchanges are voluntary, simple economic power is a very weak form of power in the sense that both exerciser and subject benefit and there is no conflict of interest. This is not necessarily the case with the second type of decision power. Decision control power is any other type of power exercised over the active decisions people make, whether by government (e.g., all eligible taxpayers must contribute to the upkeep of the armed forces whether they are jingoists or pacifists) or by another individual. It includes principal-agent relationships (e.g., a landowner handing over production decisions to a tenant, or the owner of a firm to a manager) as well as the use of threats and direct physical force.

Event power, which may be *ungranted* or *granted*, occurs when with the decision nodes of "exercisers" appear as chance nodes for "subjects". The former includes externalities and the formation of property rights. The latter includes contracts where one party agrees to a course of action (e.g., planting a crop) on the basis of future, promised action by another party (e.g., a local grain merchant). Since the party acting later can choose whether or not to abide by the contract, he or she can decide the payoff received by the party who has to act first.

Decision power and event power can be interpreted as different aspects of Lukes' one-dimensional power, Russell's power to reward and punish and Galbraith's compensatory power. Bartlett's final two forms of power are *agenda power* and *value power*. Agenda power corresponds to Lukes' two-dimensional power and occurs when an individual or group is able to restructure part of a tree; for example, the person chairing a meeting may be able to influence its outcome by determining which items of business appear on the agenda and in which order. Value power corresponds to Lukes' three-dimensional power and occurs when the subjective evaluation of payoffs can be altered; this implies

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that preferences are endogenous and can be influenced by, for example, education, propaganda and advertising.

The different forms of power can be used in isolation or in combination with others. However, exercising power incurs costs to the exerciser as well as payoffs (a point also recognised by Hirshleifer, 1991 and Bardhan, 1991). Deciding which form or combination of forms of power to use – in particular, whether to go beyond the exercise of simple economic power – is therefore a "How?" question that can be tackled using standard microeconomic theory. Bartlett models the exercise of power as a choice of technique problem using the tools of production economics, that is, isocost lines and isoquants. Individuals maximising lifetime utility will use the optimal, that is, least cost, combination of forms of power. Conventional microeconomic theory recognises only simple economic power. But individuals will forgo the use of other forms of power only if simple economic power is the most efficient means of getting what they want, and Bartlett shows that this will be the case only under a very restrictive set of conditions. Thus, conventional economic theory (the "special case", as Bartlett describes it) is incapable of finding evidence of power in market economies for the simple reason that it wishes power out of existence. As Bartlett points out, using the special case to search for power results in a tautology: "Assuming that it cannot ever exist I shall now proceed to find that it does not exist" (*op.cit.*, p. 67).

Having defined power, identified different forms of power and constructed a model of economic behaviour in the context of a dynamic market economy, Bartlett next looks for examples of where the neoclassical model (the "special case") corresponding to simple economic power fails; that is, he looks for evidence of power and finds many examples with which to illustrate the practical relevance of his theory. A few have already been touched upon: the power invested in the state to tax, the formation of property rights, the power to influence preferences through advertising and education. Another is associated with the economics of information. For example, when a patient defers to a doctor's superior knowledge in deciding whether or not to undergo an operation or a car owner relies on the advice of a mechanic regarding whether or not the big end needs replacing, the sale of a service (surgery, parts replacement) is not based on perfect information; rather, asymmetries in the information held by the patient/car owner and surgeon/mechanic enable the latter to exercise power over the former, if they so wish. Risk, decision making under uncertainty, adverse selection and moral hazard are already

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recognised as subjects of legitimate enquiry in neoclassical economics, but Bartlett highlights the way in which "knowledge is power", especially when it is not shared equally.

Other areas highlighted by Bartlett involve the role of power in organisations and in the employee/employer relation. Again both are familiar territory for economists, with major contributions from, amongst others, Coase, Arrow, Alchian, Demsetz and Williamson. Bartlett's contribution is to highlight the exercise of power by drawing on examples from the business world. In particular, he points out the ways in which principal-agent relationships involve power – sometimes with the principal acting as exerciser and agent acting as the subject of power, and sometimes with the reverse happening. For example, sometimes the principal exerts power over the agent, rewarding or inflicting punishment depending on how satisfactory (from the point of view of the principal) the agent's performance is. On other occasions, the principal grants decision control power to the agent in the expectation that the decisions made by the agent will benefit both of them; however, the agent may, in pursuing his or her own ends rather than those of their principal, exercise granted or ungranted event power, creating unintended events that are costly to the principal.

Other economists, particularly those from the institutional economics tradition referred to in the Introduction but also neoclassical economists like Bardhan (1991), have covered much of the same territory as Bartlett, recognising the role power plays with regard to externalities, property rights, information, organisations and principal-agent relations. However, Bartlett is the only economist who has managed to locate the analysis of power in a market economy within a coherent theoretical framework complete with definition, typology and set of analytical techniques. Sadly, however, it has been largely ignored: his book has relatively low citation levels and his ideas have not been taken up in new editions of any of the main textbooks. One can only surmise the reasons: perhaps because it is so original and so unusual it does not fit in with the way economists think, and want to think, about the world, or perhaps because it is not thought to be "rigorous" enough, meaning that it is not couched sufficiently in mathematical terms. As Bartlett himself notes, economists frequently make the mistake of equating intellectual rigour with mathematical modelling (ibid., p. 199).

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8
A New Definition of Power

Abstract: *A new definition of power that focuses on economic outcomes rather than behaviour, analogous to the definition of force in physics, is proposed. It is argued that this definition is more suited to economics than the behaviouralist definitions discussed in Chapter 6. Moreover, it lends itself to an approach that, instead of attempting to create a brand new theory as Bartlett attempted, simply invites economists to look at some familiar ideas in a new way.*

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Despite Bartlett's achievement in constructing a reasonably coherent theory that throws light on the ways in which power can be exercised in a market economy, his theory does not explicitly address the For Whom part of the economic problem – or, at least, it does not address it with the directness and clarity required to influence the thinking of neoclassical economists and find its way into mainstream economics textbooks. How could this be done?

Microeconomic textbooks invariably share the same basic chapter structure: the economic problem, exchange, consumer behaviour, production, (functional) distribution, market failure, general equilibrium and welfare economics, with optional chapters on information and social choice theory depending on the level the textbook is pitched at. The final chapter or chapters meld together the previous strands of analysis, explaining Pareto optimality with the $2 \times 2 \times 2$ (two inputs, two outputs, two consumers) model and corresponding Edgeworth boxes, contract/conflict curves and production and utility possibilities frontiers. This, again depending on the target audience, is followed by discussions of the social welfare function, the fundamental theorems of welfare economics and the role of the state in rectifying market failure and promoting equity when different people and groups have conflicting interests.

Power is excluded from the analysis largely because, as discussed in Chapter 2, most neoclassical economists are highly suspicious of the concept of cardinal utility and are obsessed with a narrow view of scientific objectivity. However, once it has been shown that all the points on the grand utility possibilities frontier are Pareto optimal, a slightly different direction could be taken that would open up the analysis to allow power to interpose without compromising "positive" economics or scientific objectivity. It all depends on the nature of the questions we ask.

A chapter on welfare economics asks, essentially, "Given a set of Pareto optimal outcomes, which is the best?" Similarly, a chapter on social choice theory asks, "Given a set of Pareto optimal outcomes, can a group of rational individuals agree which is the best?" Ethical and rational considerations tend to get mixed up and confused when addressing these questions, especially the second, but the overriding objective of both is normative (Mueller, 2003, p. 582). Also, the answers to each are well known. The first depends on who chooses the shape of the social welfare function, while Arrow responded resoundingly in the negative

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to the second. However, instead of focussing on the "best" outcome, that is, which outcome "ought" to be or "should" be chosen, we could ask: "Given a set of Pareto optimal outcomes and prevailing power relations, which outcome will emerge?" This (recalling the discussion in Chapter 2, and ignoring the value-laden content of the Pareto ethic itself) is a positive question. Moreover, the response answers the For Whom question – not just with regard to the functional distribution but also the personal distribution of income, which, as Cairncross said, is usually left for "later study".

Let us return to how power is defined and, with the help of an analogy from physics, reassess the standard approach. It was noted earlier that the most popular interpretation of the meaning of power is a behavioural one. This is understandable since power is a relationship between people. In addition, although radical and heterodox economists have tended to associate power with the ownership and control of resources, sociologists and others are suspicious of such asset-based approaches to power on the grounds that, while it may offer the potential for power, the possessors of wealth may not choose to exercise that potential fully or properly (Bardhan, 1991, p. 275). However, such misgivings need not concern us here. Just as economics is interested in the incentives economic actors are presented with for improving their lot, and generally assumes that rational individuals act in accordance with those incentives, we are concerned here with the potential advantages power offers, and less concerned with the reasons (such as moral scruple) particular individuals may forgo those advantages. An analogy can be made with efficient and inefficient farmers. Economic inefficiencies occur for various reasons: some are economic and/or political, such as market failure and policy or government failure that influence economic incentives; others relate to the personal characteristics of individual farmers, such as their management ability, aptitude, age or enthusiasm that influence their ability or readiness to respond those incentives. The latter are worthy subjects for investigation, but often we are not interested in explaining them and are content to treat such variations in the data as white noise so we can focus on the former. Similarly, in the present context, we are primarily interested in the incentives power provides for determining which one of an infinite number of possible general equilibria emerges, and are willing to assume that individuals will act in accordance with those incentives.

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What is proposed, therefore, is the replacement of the behavioural definition(s) of power, favoured by sociologists and others, with a definition that focuses on economic outcomes. This is reminiscent of the change in the interpretation of physical force that took place in the 17th century with the revolution in physics initiated by Galileo and Newton. For the many centuries beforehand, Aristotle's view of force prevailed. This stated, essentially, that a body at rest (in its "natural" state) experienced no force. Force was that which kept a body moving, which gave it velocity – that is, a force was associated with constant velocity, not acceleration. However, this created a dilemma. When a stone was thrown through the air, it was clear what initially gave it velocity: the hand that threw it. But once airborne, the hand was no longer in contact with the stone. What, therefore, kept it airborne, rather than falling to the ground and regaining its natural state of rest? Aristotle's answer was that the force was now inside the stone; force was an independent entity that separated entirely from arm and hand and entered the stone. Galileo is said to have disproved this view of force by dropping metal balls of different weights and sizes from the top of a tall tower and showing that they arrived at the bottom at, roughly, the same time. Newton built on Galileo's ideas to develop his first law, the Law of Inertia, that defines force for us today: *A force is that which moves an object from its state of rest or uniform motion in a straight line*. Note that although force always involves two bodies – one which pushes and another which is pushed – there is no mention of two bodies in the definition, which centres instead on the change in static or dynamic equilibrium brought about by a force. Thus, force is not exerted, as Aristotle thought, when a body travels at constant velocity, but when there is a change in velocity, that is, when it accelerates or decelerates (hence Newton's famous second law, $F = ma$). Similarly, despite the reservations of sociologists and others, despite the undisputed fact that power is a relationship between people, there is no need to explicitly mention two people when defining power, any more than it is necessary to mention two bodies when defining force. What is important is the change in stationary or dynamic equilibrium brought about by the exercise of power.

What really concerns us here, as in most of neoclassical economics, is what determines the economic outcome, that is, the distribution of goods and services, incomes and wealth represented by a particular Pareto optimal state. With this in mind we can, tentatively, suggest an alternative definition of power, one which emphasises economic outcomes rather

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than the behaviour of two individuals, and which recognises that power manifests itself in changes in static or dynamic equilibria:

> Power is that which alters an economic equilibrium, moving it from a stable state or changing the direction of growth in favour of one or more individuals.

This definition covers those aspects of power already recognised by neoclassical economics, which Bartlett termed simple economic power, plus the five other forms he identified. It covers coercion and the use of physical force, the offering of rewards and compensation, the formation of property rights, the control of information as in agenda setting and the manipulation of preferences through education, persuasion and propaganda. In other words, it is broad enough to cover all those aspects of power reviewed in the previous chapters.

Also, it is consistent with the theories of political economics and cooperative game theory familiar to mainstream economists. It will be recalled from Chapter 5 that Acemoglu et al. refer to power without ever actually defining what they mean by power; in particular, there is no reference to the way agent A influences agent B as with the behavioural approach to power. Instead, their focus is on how actual economic outcomes result from the interplay of political equilibria and economic equilibria, where the latter must be consistent with the former. Thus, there may be an infinite number of Pareto efficient economic equilibria possible in any given market economy, but only one may be consistent with (and in effect be chosen by) the political equilibrium reached by the interplay of political forces and the playing out of power relationships in that economy. Similarly, cooperative game theory focuses on how one economic outcome (e.g., splitting £1 between two people) emerges from myriad possibilities as a result of the bargaining power. The focus of political economics and of cooperative game theory, therefore, is on the way actual economic outcomes are determined rather than on how political agents behave. This definition captures these ideas. Moreover, as will be seen in the next chapter, it lends itself to an approach that, instead of creating a brand new theory as Bartlett attempted, simply invites economists to look at some familiar ideas in a new way.

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9

Re-envisioning the Social Welfare Function as a "Political Economy Function"

Abstract: *An approach is outlined for generalising the notion of bargaining power in cooperative game theory to identify a "political economy function" as a conceptual approach for analysing power within a general equilibrium framework. Rather than being a completely new theory (as tried by Bartlett) this political economy function (PEF) can be viewed as simply another way of thinking about the social welfare function. However, if adopted in teaching and research, the PEF approach could bring power considerations to the fore instead of ignoring them as at present.*

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In this chapter, an approach is outlined for generalising the notion of bargaining power in cooperative game theory to identify a "political economy function" as a conceptual approach for analysing power within a general equilibrium framework. Rather than being a completely new theory (as tried by Bartlett) this function can be viewed simply as another way of thinking about the social welfare function – one that describes the prevailing political forces involved in determining economic outcomes. The political economy function, or PEF, therefore captures the notion of (positive) political economy equilibria in political economics rather than (normative) social preferences regarding equity, justice and so on, as in traditional welfare economics. If adopted as a tool in teaching and research, the PEF approach could bring power considerations to the fore instead of ignoring them as at present.

Recall that the welfare economics question ("Which is the best Pareto optimal outcome?") can be answered by specifying a Bergson-Samuelson social welfare function (SWF) and finding the "bliss point" – the point of tangency between the grand utility frontier and the isowelfare curves associated with the SWF – where social welfare is maximised subject to resource constraints. The problems associated with this solution are well known. In particular, the shape of the SWF and isowelfare curves reflect the views of society regarding the trade-off between efficiency and equity, but it is not clear who decides their shape. Since the decision involves a value judgement, and value judgements are necessarily subjective and individual, an SWF can never represent more than the views of just one individual. That individual may be a dictator, or a randomly chosen member of society (parodied as "individual No. 10" by Little, 1952, p. 424), or a dominant class acting in unity, or perhaps not a real person at all but anthropomorphised tradition and custom (Dasgupta and Pearce, 1972, pp. 72–73). However, these problems arise only because the SWF seeks to identify the social optimum, which is not our concern here: we are not concerned with which state "ought" to be chosen or "should" be chosen (a normative issue), but simply with the state that actually emerges from the interplay of economic and political forces in society (a positive issue).

Mishan (1981, p. 130) suggests that the "tacit assumption has always been that the SWF is a political construct". Let us turn that tacit assumption into an explicit purpose. The function we are looking for does not represent an attempt to obtain a unique measure of social welfare, but instead represents the power relations within society. It

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is explicitly a political construct, one that captures the concessions, the forfeits, the sacrifices, the outright defeats that the more powerful can extract from the less powerful. Furthermore, it needs to recognise that the less powerful are not entirely without power, and that as their situation deteriorates they are likely to resist more as they have less to lose; thus, the more powerful must reckon with increased opposition, possibly even chaos and the breakdown of the economic and political system, if they push their advantage too far. These ideas, which relate to the constitutional settlement or social contract that bind democratic societies together, may not be familiar to neoclassical economists but are widely recognised in public choice theory and heterodox economics (see, e.g., Bardhan, 1991; Buchanan, 1976, 2003; Mueller, 2003; Bowles and Gintis, 1993) and, of course, in the concept of political equilibrium that, as we saw in Chapter 5, is central to political economics/new political economy.

Whereas the arguments of the Bergson-Samuelson SWF are the neoclassical utility functions or indices of each individual, in order to be able to allow for the exercise of power the proposed function must reflect the full range of conditions in the physical and social environment experienced by members of society. Therefore, for a society consisting of n individuals, the function is defined as:

$$P = P(U_1, \ldots, U_n) \tag{1}$$

where $i = 1, 2, \ldots, n$. Each U_i can be thought of as the Bartlett general utility function for the ith individual, $U_i = U_i(X_i; E_i; S_i)$, where X_i are the goods and services consumed by individual i, E_i represents the physical environment experienced by i, and S_i are the social conditions i experiences. Alternatively, if $\partial U_i/\partial E_i = \partial U_i/\partial S_i = 0$ at all times and for all sets of environmental and social conditions, they are the conventional utility functions for each individual.

Although similar to the SWF, it must be emphasised that the raison d'être of the proposed function is quite different. Though it aggregates individual utilities and can therefore be interpreted as a measure of social welfare, no value judgement is implied by its structure; in particular, its curvature does not reflect the desirability or otherwise of achieving an equitable or just outcome. Rather, its structure is meant to reflect at least some of the political realities that inevitably have an effect on the economic problem. It does not, therefore, suffer from the uniqueness problem of the SWF; whereas

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everyone can hold a different, equally valid view regarding what is a fair outcome, everyone has to accept, as a fait accompli, the same, single outcome resulting from the playing out of conflicting political forces, whether they like it or not. The focus of the new function is power, not social preferences. It will therefore be called a "political economy function" in order to distinguish it from its close relative the social welfare function.

In much the same way as a given level of social welfare can be represented graphically in utility space for two (or two groups of) individuals by an isowelfare curve, so can a particular political consensus, constitutional arrangement or (in political economics terminology) political equilibrium, as illustrated in Figure 9.1. The negative slope of the curve representing $P = P(U_1, U_2 \mid U_3 \ldots U_n)$ indicates that the power relationship between individuals *1* and *2* is such that individual *1* can persuade, induce or force individual *2* to accept moves from point *a* to point *b*, point *b* to point *c* and so on, which involve gains for individual *1* and losses for individual *2*. Likewise, the balance of power is such that the reverse is possible, individual *2* can persuade, induce or force individual *1* to accept moves from point *c* to point *b*, point *b* to point *a* and so on. The two parties will agree and cooperate in a move to any point above and to the right of the curve, say from *b* to *d*, or for that matter from *b* to *e* or *f* since they know they could be forced to accept even less. But neither will accept nor cooperate in a move to a lower curve; they will both reject a move from, say, *b* to *g*, while if one of the parties attempts to bring about a shift from *b* to *h* or *i* it will be so objectionable to the other party

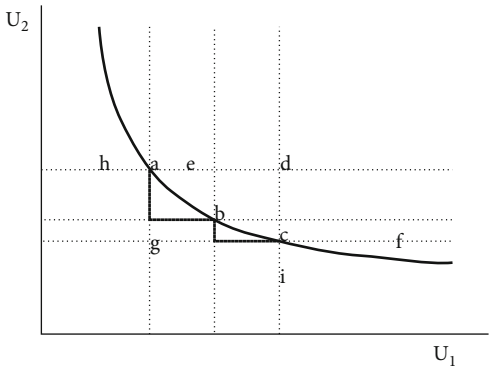

FIGURE 9.1 *A political consensus curve,* $P = P(U_1, U_2 \mid U_3 \ldots U_n)$

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that there will be social strife, disorder and even violence threatening the breakdown of the whole social system.

Given the technology available to producers and the preferences of consumers, the feasible economic outcomes can be represented by a negatively sloped grand utility possibilities frontier (GUPF), which is the envelope of point utility possibility curves derived from all feasible contract curves (or, more aptly, "conflict" curves [Bator, 1957, p. 26]) associated with the economy's production possibility frontier. If, following Becker, we assume for simplicity that preferences are immutable and identical for all individuals and that the marginal utility of income is diminishing, we can represent the GUPF for two individuals by a concave curve as in Figure 9.2. Pareto optimal outcomes are represented by points along the frontier and Pareto sub-optimal outcomes by points below the frontier. Again recalling the terminology of political economics discussed in Chapter 5, this frontier can also be said to represent the possible economic equilibria.

The solution to the economic problem that emerges from the interplay of purely economic forces (represented by the concave GUPF) and the exercise of power (represented by the convex "political consensus curve", for want of a better name), is then represented by the point *e* where the curves touch. In the terminology of political economics discussed in Chapter 5, it is the result of the interaction between economic equilibria (the GUPF) and political equilibria (the PEF). Most importantly of all, this unique point *e* – with its underlying configurations of outputs and inputs, commodity prices, factor rewards and functional *and* personal

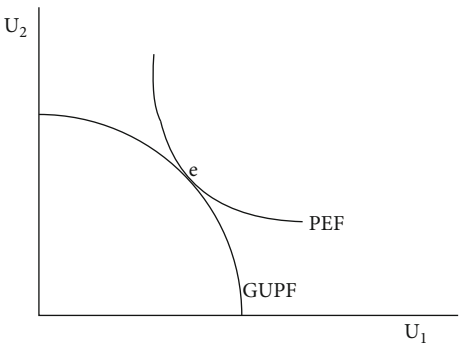

FIGURE 9.2 *The economic problem*

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income distributions – represents a complete solution to the economic problem, including the complete For Whom part which is usually only partially answered.

The convexity of the political consensus curves in Figures 9.1 and 9.2 indicates that as *1* becomes progressively better off and *2* becomes progressively worse off, *1* finds it more and more difficult to extract concessions from *2*, and vice versa. The logic is similar to the arguments justifying the laws of diminishing marginal rates of substitution and technical substitution in consumer and producer theory respectively. Whereas the curvature of indifference curves and isoquants represent the substitutability of consumer goods and factors of production, and the curvature of isowelfare curves represents society's view (or rather the subjective view of a particular individual) regarding equity, the curvature of the political consensus curve can be thought of as representing how decisive power is in determining economic outcomes. This is illustrated using two political consensus curves in Figure 9.3, one for which power is more convex and therefore more decisive than the other; it can be seen that a change in utility possibilities – brought about by a change in tastes or change in technology – has less effect on the outcome the more decisive power is.

Adapting Hirshleifer's (1991, pp. 181–182) concept of decisiveness and the definition of the elasticity of substitution widely used in production economics, decisiveness can be defined as the degree to which a change in the slope of the political economy function (PEF)

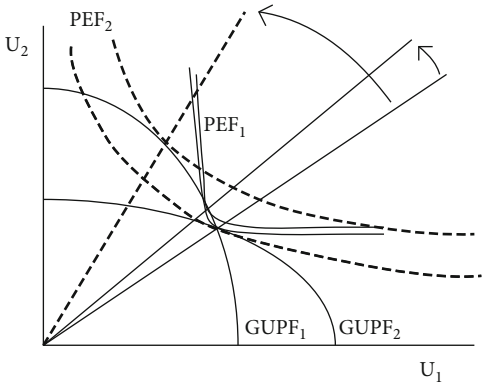

FIGURE 9.3 *Convexity of the political consensus curve and the decisiveness of power*

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translates into a distributive change, and can be characterised by an elasticity:

$$\delta = \frac{d \ln \left[\dfrac{\partial P}{\partial U_1} \Big/ \dfrac{\partial P}{\partial U_2} \right]}{d \ln (U_2 / U_1)} \tag{2}$$

where $0 < \delta < \infty$ increases with the degree of decisiveness. When $\delta = 0$, the political consensus curves are linear and as $\delta \to \infty$ they become more rectangular.

It is well known that different ethical assumptions and different levels and types of information regarding the measurability and interpersonal comparability of individual utilities impose restrictions on the functional forms that can be used to represent the SWF (Boadway and Bruce, 1984, chapter 3; Mueller, 2003, chapter 27; Gaertner, 2006, chapter 7). Indeed, as noted in Chapter 2, there has been considerable debate concerning the appropriateness of some commonly accepted informational and ethical restrictions; for example, Sen (1979) has argued that the Arrow impossibility theorem rests on the assumption that only "remarkably poor" utility information is available.

Similarly, ethical and informational requirements have implications for the functional form that can be used to represent the political economy function. Since the PEF is not concerned with distributive justice, the ethical requirements are weak. Clearly, the function need not be symmetric since anonymity – implying impartial treatment of individuals and the absence of anything but simple economic power, or an equal balance of power – would defeat the object of the exercise. The Pareto ethic will hold in so far as a Pareto-improving change that makes every person better off (e.g., *b* to *d* in Figure 9.1) will be reached more readily than one where some are made better off at the expense of others. Also, a welfarist approach appears to have been adopted (although Sen's term "welfarism" is inappropriate in this context) since the PEF has been specified in terms of individual utilities; however, this is not actually the case since non-utility information is contained in the physical and social environmental variables, E_i and S_i.

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In terms of the information framework, the PEF requires a cardinal measure of utility, including diminishing marginal utility, since it is necessary for individuals to recognise not only when they are better or worse off but also incremental changes in utility. However, interpersonal comparability of utility is by no means essential, since no one is attempting to promote the public good by weighing up the gains of some with the losses of others; individuals are simply trying to maximise their own general (in Bartlett's sense) lifetime utility, and are not directly concerned with the costs to others so long as they acquiesce and do not undermine the social and economic system. Thus, the PEF requires an informational framework that allows for cardinal individual utility functions without interpersonal comparability – or "CMN", standing for Cardinal Measurability and Non-comparability, in the terminology Gaertner (2006, pp. 110–112) uses to categorise the different forms of informational set-up required by SWFs. Each individual can choose his or her own origin and utility scale independently, but neither utility levels nor gains and losses can be compared across individuals; mathematically, outcomes are unique up to a positive afine transformation of each individual's general utility function, $V_i\,(X_i; E_i; S_i) = a_i + b_i\,Ui\,(X_i; E_i; S_i)$ where $a_i > o$ and $b_i > o$ can be different for each individual.

This implies that an appropriate functional form for specifying a PEF is the generalised Nash product similar to the well-known Cobb-Douglas function:

$$P = \prod_{i=1}^{n} (U_i - U_i^*)^{\alpha_i} \tag{3}$$

where $\alpha_i > 0$ represents the degree of power of individual *i* is able to exercise and the U_i^* represent their fallback positions, that is, the utility of each individual if there is a breakdown in the constitutional settlement or social contract necessary for the existing social and political system to continue.

The Nash product is often interpreted as an SWF but, as discussed in Chapter 5, originates in cooperative game theory and the Nash bargaining solution. It can be derived from three fairly innocuous axioms: the outcome must (1) satisfy the Pareto principal, which implies individual rationality and Pareto efficiency; (2) be invariant to linear transformations of individuals' utility function (i.e., cardinal measurability); and (3) be independent of irrelevant alternatives, also known as the

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"α-contraction" property (Nash, 1950, 1953; Bowles, 2004, p. 175; Mueller, 2003, pp. 576–577). That it offers an appropriate specification for a PEF is not surprising since, although the Nash product is often interpreted as one, Nash was not actually concerned with finding an SWF, but with the solution to a two-person bargaining problem. He sought to describe the outcome to such a game rather than to prescribe what ought to be the outcome, though he rather confused this objective by assuming symmetry and arguing that the consequent outcome would be fair (Mueller, 2003, pp. 576–577). Use of the Nash product as a PEF therefore generalises the idea of a bargaining problem between two people to the power struggles in society as whole.

The U^*s represent status quo or fallback positions for each individual and are reminiscent of Buchanan's characterisation of the Rawl's original state as "Hobbesian anarchy" (Buchanan, 1976) as well as Ng's "misery point" (Ng, 1979, p. 148): by completely withdrawing cooperation or engaging in outright rebellion, the poor and dispossessed can threaten to bring the system down on everybody's heads and plunge society into chaos, anarchy and utter misery. The role played by the status quo in the Nash product has been criticised when it is used as an SWF, on the grounds that it implies a bias in favour of the status quo (Mueller, 2003, p. 577). However, since we are not concerned here with distributive justice, that is not a problem; we are simply recognising an existing reality. The U^*s can be thought of as fallback positions in one of two ways. First, in a static economy, represented in Figure 9.4, in which case the PEF determines which Pareto optimal outcome along the grand utility possibilities frontier (GUPF) is reached. Second, as the initial positions for each individual in a dynamic, growing economy, represented in Fig. 5, in which case the PEF determines how the fruits of growth are shared as the economy grows over time, that is, the direction of growth.

To elaborate on these ideas a bit further, it was pointed out in Chapter 4 that there are two key mechanisms by which power influences income distributions, and thereby the welfare, of individuals or groups whose interests conflict: first, power determines who owns factors of production; second, power can be used to influence the returns to and therefore the shares of different factors in total income (Palley, 2014). Moreover, this can occur in both a static and a dynamic sense: as the definition offered in Chapter 8 puts it, "Power is that which alters an economic equilibrium, *moving it from a stable state or changing the direction of growth* in favour of one or more individuals". Figure 9.4 illustrates how a shift in

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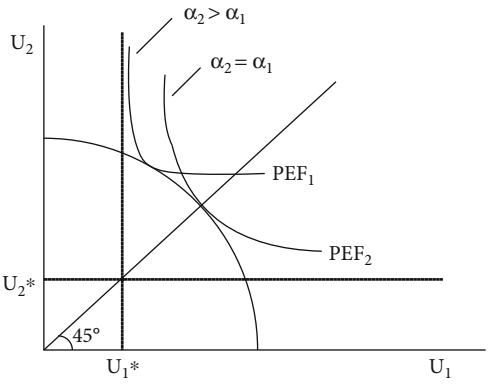

FIGURE 9.4 *Nash product PEFs with differing power distributions in a static economy*

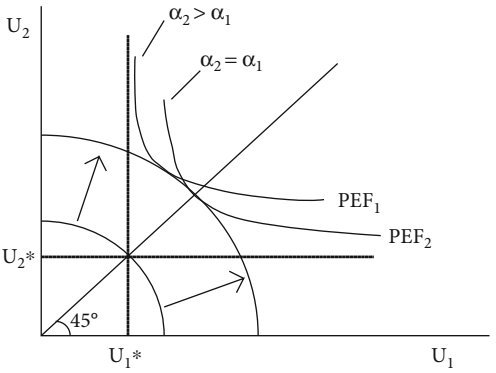

FIGURE 9.5 *Nash product PEFs with differing power distributions in a growing economy*

power, represented by a shift of the political consensus curve from PEF_1 to PEF_2, may shift the political economy equilibrium from one stable state to another in an economy that is not growing. Figure 9.5 illustrates how the direction of growth in an expanding economy depends on prevailing power relationships, with those represented by PEF_1 leading to an increase in inequality over time as compared with PEF_2.

A possible drawback of the generalised Nash product is that it imposes a particular degree of curvature on the political consensus curves and

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cannot, therefore, capture the different degrees of decisiveness in the exercise of power illustrated in Figure 9.3. This arises because, like the Cobb-Douglas production or utility function whose functional form it shares, it assumes an elasticity of substitution/decisiveness of unity. A more flexible functional form is the iso-elastic function, which is analogous to the constant elasticity of substitution (CES) production function:

$$P = \frac{\sum_{i=1}^{n} \alpha_i U_i^{1-\delta}}{1-\delta} \tag{4}$$

where δ is the elasticity of decisiveness defined in equation (2). When δ = o the political consensus curves are linear. As δ → 1, (4) collapses to the generalised Nash product in (3), and as δ → ∞ the political consensus curves approach the rectangular shape familiar from Leontief fixed-proportions isoquants and Rawlsian isowelfare curves, but in this case without the commitment-to-equality connotations of the latter.

The isoelastic SWF is more restricted in terms of informational requirements than the generalised Nash SWF; similarly, the isoelastic PEF (4) is more restricted than the generalised Nash/Cobb-Douglas PEF (3). In particular, it can be shown that whereas (3) assumes cardinal measurability and non-comparability of individual utilities, (4) assumes cardinal measurability but unit comparability. Unit comparability requires that outcomes are unique up to a positive afine transformation of each individual's general utility function, $V_i\ (X_i;\ E_i;\ S_i) = a_i + b\ Ui\ (X_i;\ E_i;\ S_i)$ where $a_i > o$ can be different for each individual but the slope parameter $b > o$ is the same (Ng, 1979, p. 15; Boadway and Bruce, 1984, p. 161). This means that, as well as being able to compare levels and increments in their own utility, individuals are also able to compare their own increments with those of other households; thus, when exercising the power at their disposal, individuals can compare their gains with the losses their actions impose on others and vice versa.

The Nash/Cobb-Douglas and isoelastic/CES functions are both simple and familiar functional forms. However, while the latter is more flexible in terms of the decisiveness of power, the former has advantages in terms of aggregation. Because (3) exhibits homogeneous separability (Chambers, 1988, Ch.7), the PEF can be easily partitioned into groups of individuals representing different social classes, races, genders and so

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on. For example, if the n people in (3) consist of two groups of, say, m and n-m individuals, where each group shares the same preferences and fallback positions and have the same access to power, (3) can be simplified as:

$$P = \prod_{i=1}^{n} (U_i - U_i^*)^{\alpha_i} = (U_1 - U_1^*)^{A_1} (U_2 - U_2^*)^{A_2} \tag{5}$$

where $A_1 = \sum_{i=1}^{m} \alpha_i$ and $A_2 = \sum_{i=n-m}^{n} \alpha_i$ represents the degrees of power of groups 1 and 2 respectively. The isolastic PEF, however, does not exhibit homogeneous (or weak homothetic) separability and does not lend itself to consistent aggregation across individuals, just as the CES function does not lend itself to consistent aggregation of inputs in applied production analysis.

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10

Examples of Applications of the Political Economy Function

Abstract: *A few examples are presented to illustrate how the PEF approach may be used in practice. These include: how international trade negotiations tend to favour industrial countries over less developed countries; how power can be incorporated into the Stolper-Samuelson theorem to show how tariffs and other trade restrictions may be used to benefit particular classes and interest groups; how the Coase theorem may be extended to make explicit the role of power in distributional conflicts arising from externalities; how investment in R&D can be used by those in power to influence the direction of technological change in ways that favour themselves; and an apparent anomaly of power whereby the situation of those in power improves whether an economy is growing or in recession.*

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The aim of this work is to challenge the way mainstream economists think and teach their students to think about their discipline by focussing on the core principles of microeconomic theory rather than by providing detailed case studies or empirical models. Nevertheless, in this chapter a few examples are presented to illustrate how the Political Economy Function approach might be used in practice.

To begin with an extremely simple example, consider the role power plays in determining the distributional consequences of the Coase Theorem, which, as pointed out in the discussion of Bartlett's work in Chapter 7, is so often downplayed if not totally ignored. Taking the example used by Coase himself, consider Figure 10.1 where U_2 represents a cattle rancher and U_1 represents a farmer growing crops. The initial position is *a*; because there is no fence between the ranch and farm, cattle roam everywhere damaging crops – a classic example of how market failure due to a negative externality leads to an inefficient outcome. However, as Coase showed, if transaction costs are negligible, there is no need for government intervention because, regardless of who has the property rights over the land, the farmer and rancher will come to a suitable arrangement and one or other of them will pay for a fence, and the crops will not be damaged and a Pareto efficient outcome on the Grand Utility Possibility Frontier (GUPF) somewhere between *b* and *c* will be achieved. However, who pays for the fence will depend on the relative negotiating powers of the rancher and farmer, which we can now represent with a political consensus curve. If the rancher is the more powerful

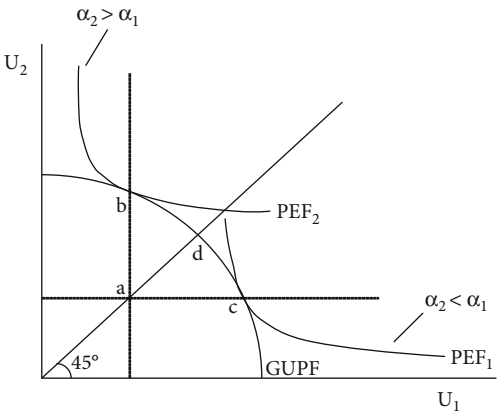

FIGURE 10.1 *The distributional consequences of the Coase Theorem*

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of the two, this may be PEF_2 and the political economy equilibrium is at *b*, while if the farmer is the more powerful of the two, this may be PEF_1 and the outcome is at *c*. This analysis makes the role power plays in the Coase Theorem explicit, instead of downplaying or ignoring it as usually happens.

The Coase example focuses on how a Pareto optimal outcome can be achieved in a market economy even when externalities exist. However, it has been pointed out in previous chapters that power can be exerted in an economy that is already in a Pareto optimal state, whether stable or growing. As the definition offered in Chapter 8 puts it, "Power is that which alters an economic equilibrium, *moving it from a stable state or changing the direction of growth* in favour of one or more individuals". Figure 9.4 illustrates how a shift in power may shift the political economy equilibrium from one stable state to another in an economy that is not growing, while Figure 9.5 illustrates how the direction of growth in an expanding economy depends on prevailing power relationships. This, therefore, is where we should look for signs of the exercise of power, in comparative statics and in changes in the direction of growth that benefit the more powerful.

Comparative statics have been the usual fudge economists have made regarding changes over time ever since Alfred Marshall's days (Currie and Steedman, 1990). So, thinking first of changes to static equilibria within an economy that is not growing, and ignoring for the sake of simplicity the dynamic aspects of his analysis, we saw in Chapter 4 that part of Piketty's explanation of changes in the levels of inequality in income and wealth focuses on the bargaining power of supermanagers. These supermanagers can, he suggests, by exercising their bargaining power through remuneration committees packed with other supermanagers, extract supersalaries well above anything their productivity would justify. Essentially, over the past twenty-five years or so, we can think of them as having shifted the political economy equilibrium around the GUPF as shown in Figure 9.4. This is a simple idea, but that does not mean it has no traction anymore than demonstrating how the changing taste of consumers for, say, cigarettes can be represented by shifts in consumer indifference curves lacks useful insights because it is so simple.

At the risk of appearing to trivialise and oversimplify, diagrams like these can also be used to illustrate the effect of events and processes in history when the exercise of violent force by the powerful to gain what they wanted from the dispossessed was all too evident, such as the

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Enclosure Acts in 18th-century England and the expropriation of Native American lands in 19th-century United States, or the resistance of landowners to the abolition of the Corn Laws in 19th-century England, not to mention the centuries during which slavery and the slave trade treated hundreds of millions of people as property rather than human beings.

The role of power in the economy is so obvious in such cases that it is undeniable. However, it is not difficult to identify other, less dramatic mechanisms by which the powerful can influence and raise the returns to the assets – whether labour, capital or land – they themselves own in a stable economy. For example, international trade negotiations have lead to trading regimes that favour industrial countries over less developed countries (Southgate et al., 2010; Hill and Myatt, 2010, pp. 234–238), while the Stolper-Samuelson theorem shows how tariffs and other trade restrictions can be used to shift the relative prices of commodities and thereby influence the returns to capital and labour, or skilled and unskilled labour, in favour of particular classes and interest groups (Stolper and Samuelson, 1941).

The Corn Laws are an interesting case that can be used to illustrate not only the Stolper –Samuelson theorem but also the importance of power in great historical events. In his justly famous textbook, Paul Samuelson discusses the limitations of the LSE branch of the New Welfare Economics (i.e., the version developed by Kaldor, 1939; Scitovsky, 1941; see Chapter 2) in relation to the Corn Laws and in particular the question of whether or not landowners should have been compensated. As he says, the LSE New Welfare Economics cannot say, "The Corn Laws should be repealed, and the landowners should not be compensated"; the only possible assertion is, "Twere better that the Corn Laws be repealed, and compensation be paid, *if necessary*" (Samuelson, 1976, p. 250, emphasis added). The question is, "necessary" for what: to increase overall social welfare, or to buy off landlords and persuade them not to use their power to fight repeal? As pointed out in earlier chapters, the former is a normative question, one that requires utilities to be measurable and interpersonally comparable, while the latter is a positive question that can be addressed using the Political Economy Function approach.

To briefly recount some history for those unfamiliar with it, the Napoleonic Wars had restricted food imports from the continent, which raised domestic prices, stimulated agricultural investment and boosted the profits and incomes of the landowning classes, but with the ending of

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the wars in 1815 at Waterloo, cheap continental grain imports increased. Therefore Parliament, which was dominated by landowners, passed the Corn Laws banning imports of wheat and other grains until their domestic prices reached certain set levels. This protected landowners and domestic farmers but made food more costly for factory workers, leading them to demand higher wages that in turn reduced the profits of manufacturers in the Lancashire cotton industry centred on Manchester, which over the previous half-century had become the birthplace of the industrial revolution. This is all consistent with the Stolper-Samuelson theorem: protectionist measures raise the relative price of one good, grain, relative to another, cotton, which increases the rewards to the owners of the factor of production, land, used most intensively in its production.

Such distortions also create inefficiencies, and mass unemployment and recurring depressions lead to increasing unrest over the following decades. Protests against the Corn Laws and for electoral reform (to widen the suffrage and increase the representation of growing urban populations in manufacturing centres of the north of England) were often put down using brutal force, most famously at the Peterloo Massacre in Manchester on 16 August 1819 where up to 150,000 people had gathered to hear Henry "Orator" Hunt speak. Despite the meeting being peaceful, local magistrates were alarmed by the size of the crowd and ordered mounted yeomanry and hussars to disperse it and arrest Hunt. Within ten minutes, at least eleven people, including a two-year-old infant, a pregnant woman and a veteran of Waterloo, had been killed and more than six hundred wounded, many trampled by horses and slashed by cavalry sabres (Kidd, 1993, pp. 92–102).

Despite such repression, which if anything increased in the aftermath of Peterloo, the campaigns of electoral reformers and the Anti-Corn Law League, led by the Liberal manufacturers John Bright and Richard Cobden, were eventually successful. The Great Reform Act of 1832 widened the suffrage and abolished rotten boroughs, replacing them with new parliamentary constituencies in Manchester and other cities. This weakened the power of the aristocracy and landowning classes, and finally the Corn Laws were repealed in the 1840s.

The inefficiency of the Corn Laws, and the shift in power that took place in 19th-century England from aristocratic landowners to industrial workers and urban middle classes that led to their repeal, can be represented using first-best and second-best GUPFs as in Figure 10.2.

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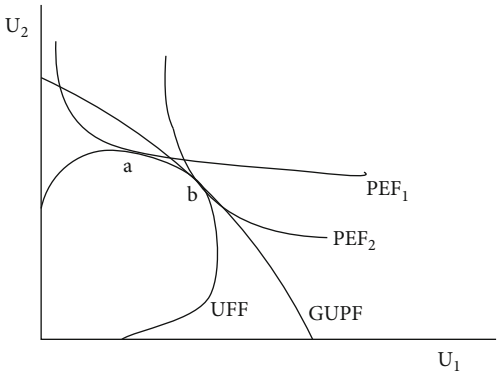

FIGURE 10.2 *The Corn Laws: grand utility possibility frontier and utility feasibility frontier*

First-best GUPFs were explained in Chapter 9. Second-best GUPFs or, adapting the terminology of Samuelson (1950, p. 87), "Utility Feasibility Frontiers" (UFFs), frequently appear under different names in the literature in illustrations of the inefficiency of non-lump sum taxation and subsidies or explanations of the differences between Rawlsian, libertarian, utilitarian and egalitarian views of equity and justice (see e.g., Phelps, 1973, p. 420; Hochman and Rodgers, 1974; Buchanan, 1976; Ng, 1979, pp. 147–148; Atkinson and Stiglitz, 1980; Boadway and Bruce, 1984, pp. 114–117; Mas-Collel et al., 1995, pp. 823–829). Essentially, whereas a first-best frontier represents all the possible outcomes that could be attained in a perfect world in which lump sum taxes and subsidies incurring no efficiency losses can exist, a second-best or "feasible" frontier represents the outcomes that are actually achievable taking into account the inevitable inefficiencies and deadweight losses that occur whenever governments intervene in the market.

In Figure 10.2, the political equilibrium resulting from the power relations between aristocratic landowners, U_2, and urban factory owners and workers, U_1, during the operation of the Corn Laws is represented by PEF_1, and after their repeal by PEF_2, while UFF and GUPF represent the possible economic equilibria with and without the distorting effects of the Corn Laws. It can be seen that the initial political economy equilibrium *a* was inefficient; the landed interest controlling Parliament were able to vote through Corn Laws despite their being, in terms of the overall welfare of society, a wasteful subsidy. The campaigns of the Anti-Corn

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Law League – led by the two manufacturers, free trade advocates and Liberal Party MPs John Bright and Richard Cobden – and other radical reformers like Henry Hunt, brought about a new political equilibrium between landed interests and the rising urban middle and working classes represented by the shift from PEF_1 to PEF_2, which resulted in a new, efficient, free market political economy equilibrium at *b*.

Before moving beyond comparative statics to consider power and economic growth, note that similar analysis can be used in the context of international trade. For example, Figure 10.1 could be used to illustrate the political economy aspects of international trade negotiations between industrialised and developing countries. Such negotiations are often portrayed as seeking to promote free trade, that is, to move the world economy away from point *a* towards the efficiency frontier GUPF in the pursuit of mutually beneficial comparative advantage. However, all too often they end up in developing countries being forced to open their markets to the manufacturing exports of the rich, industrialised nations, who meanwhile continue to restrict agricultural imports from the developing countries in order to protect their own agricultural sectors. Thus, instead of moving on to the GUPF at, say, Pareto optimal point *d* as the rhetoric surrounding such negotiations might suggest is the aim, the world economy not only stays below the efficiency frontier but moves towards point *b* favouring the industrialised nations.

Similarly, going back to the Stolper-Samuelson theorem, Figure 10.2 may be used to make clear how vested interests associated with a particular industry might put pressure on a government to introduce tariffs or other distortionary measures that shift the political economy equilibrium from point *b* to *a*, because they themselves will benefit, even though they are fully aware that *b* is Pareto efficient while *a* is not. Moreover, to recall the discussion of positive political economy and normative welfare economics in Chapter 2, this kind of analysis makes it clear why those vested interests may still behave this way even though, depending on their view of equity, they may in private agree that the outcome represents a fall in the overall welfare of society.

Turning next to the way in which the exercise of power may be used to influence the direction of economic growth in ways that benefit particular interest groups, Piketty has developed a simple model based on the rate of return on capital/wealth, *r*, and the rate of overall economic growth, *g*. When the rate of return on capital/wealth persistently and significantly exceeds the rate of overall economic growth, that is, $r > g$,

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as he shows it has in recent decades, the wealthy increase their share of the pie over time and inequality tends to increase (called "divergence" by Piketty). And when $r < g$, as in the period 1913–1948 for which Kuznets had data, inequality tends to decrease (i.e., "convergence"). The role power plays in determining whether an economy exhibits Piketty divergence or convergence as it grows can be easily illustrated using diagrams that show how political economy equilibria may shift over time as in Figures 10.3 and 10.4.

Similarly, investment in research and development (R&D) affects the direction of technological change. Induced innovation theory, which originated with Hicks (1932) and was substantially elaborated

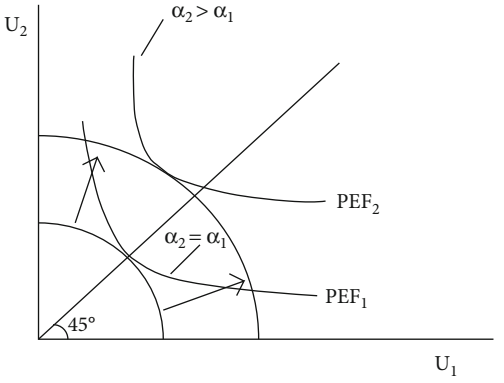

FIGURE 10.3 *Piketty "divergence" in a growing economy*

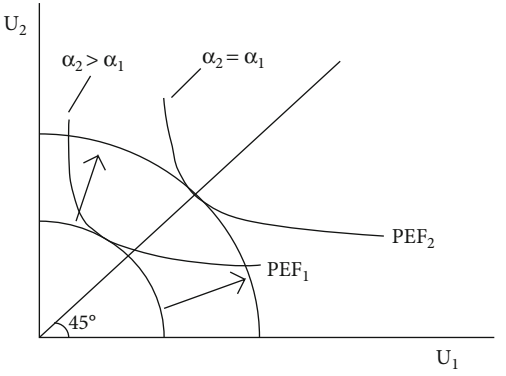

FIGURE 10.4 *Piketty "convergence" in a growing economy*

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upon in the context of agricultural development by Hayami and Ruttan (1971[1985]), explains the direction of technological change in terms of the relative scarcity of different factors of production as reflected in their relative prices. In other words, technological change is endogenous and can be explained in terms of market forces. For example, Hayami and Ruttan showed that in countries like Argentina and the United States, where land was abundant but labour was relatively scarce, technological innovations tended towards large-scale, labour-saving mechanisation; whereas in Japan and Korea, where land was scarce but because of high population densities farm labour was abundant and therefore, relatively cheap, the direction of technological change tended to be land-saving and labour-using, with intensive use of fertiliser and labour for planting and weeding rather than machinery. Thus, as well as allocating scarce resources in a static sense, market forces can be thought of as guiding economic growth along an efficient path over time by allocating scarce R&D resources in such a way as to save the more scarce factors of production.

The most dogmatic free market interpretation of induced innovation theory is that it means there is no role for the state in promoting economic growth through identifying and developing new technologies; entrepreneurs and profit-maximising firms can be relied upon to respond to short- and long-term economic incentives and invest in the right kind of R&D projects that will generate the appropriate innovations. There are well-known problems with this overly simplistic view relating to the public good problem (see, e.g., Lesser and Lee, 1993; Alston and Pardey, 2001), but these need not detain us here. For this work, the key point of induced innovation is that, as Atkinson (2015) has recently pointed out, markets do not work on their own since firms can "*choose* the degree of bias in technological change" (ibid., p. 87), which has major implications for the wage rates of skilled and unskilled workers and, therefore, income distribution.

Atkinson's prescription for dealing with this problem turns partly on widening capital ownership, for example, through a minimum inheritance or capita endowment, and on rebuilding the collective bargaining power of trade unions: "I was rather shocked when I looked at the whole sequence of legislation that took place in the 1980s – it was one bill after another reducing the powers and putting obstacles in the path of trade unions. Even in the 1950s, J.K. Galbraith was talking about the need for 'countervailing' power. And it's even more needed now" (in Derbyshire,

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2015, p. 45). This suggests that technological change and the exercise of power are intertwined. However, this aspect of induced innovation is ignored in textbooks (if indeed it is still taught today) even more than the role power in determining income distribution in the Coase and Stolper-Samuelson theorems.

Good examples of what might be described, to recall the discussion of Acemoglu and Robinson (2012) in Chapter 5, as extractive and inclusive R&D institutions generating, respectively, sub-optimal and optimal technological change and economic growth can be found in the history of agricultural development from the colonial period to the present day.

In colonial times, ex-patriate landowners, planters and farmers (the "elite" in Acemoglu's terms) ensured that practically all agricultural R&D expenditure was devoted to the cash crops they grew for export back to their home countries rather than the staple food crops grown and consumed by the subsistence farmers and populations of the colonies they controlled. Thus, they were able to use their power to influence the direction of technological change in ways that benefited themselves by developing new seed varieties and labour-saving, capital-using technology rather than labour-using, capital-saving technology for use in cash crop production, which increased the productivity of their farms, and therefore their incomes, over time, while indigenous peasant farmers lacked the new technology required to raise their productivity and incomes (Hayami and Ruttan, 1985, pp. 357–358; Chambers, 1983, p. 77; Pardey et al., 1991, p. 237; Stevens and Jabara, 1988, p. 292).

However, in the 1960s, after independence had weakened the colonial powers and the ability of ex-pat farmers to influence public policy, this bias was at least partly reversed with the "Green Revolution". R&D efforts in two international research centres, the International Centre for the Improvement of Maize and Wheat (CIMMYT) in Mexico and the International Rice Research Institute (IRRI) in the Phillipines, which were initially funded by the Ford and Rockefeller Foundations and thereafter by a range of governments and multilateral agencies, created new, high-yielding varieties (HYVs) of wheat and rice. These HYVs were widely and rapidly adopted in many areas of the world and led to massive increases in food production: India, for example, went from relying on imports of food to self-sufficiency in food grains within a decade (Brown, 1970; Griffin, 1979; Hayami and Ruttan, 1985, pp. 336–345; Lipton and Longhurst, 1989).

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The Green Revolution has over the decades since its emergence been one of the most fascinatingly controversial topics in development economics. Views of its impact on poverty and inequality have shifted from unbounded optimism regarding its potential for eliminating world hunger (Brown, 1970) to criticisms that it favoured larger farmers and was leading to increased inequality, landlessness, unemployment and malnutrition (Griffin, 1979), which were subsequently countered by evidence that being scale neutral it benefited small farmers as well, though being more risk averse they tended to adopt HYVs later than large farmers, and that by stimulating rural economic growth it led to increased employment and incomes (Hayami, 1984; Pinstrup-Andersen and Hazell, 1987; Hazell and Ramasamy, 1991); to more recent concerns about the health dangers associated with and environmental impact and sustainability of new technologies (Leathers and Foster, 2004; Bourne, 2009).

Many of the debates about the impact of technological change in the agricultural sectors of less developed countries, in particular those relating to the impact of the Green Revolution on large and small farmers, turn upon the ability of different interest groups (ex-pat farmers and subsistence farming populations in colonial times, large and small peasant farmers in post-independence less developed countries) to influence the direction of technological change and take advantage of it.

Hayami and Ruttan's "meta-production" function analysis can readily be transposed into utility space to illustrate the role power relations play in these phenomena. In Figure 10.5, $GUPF_0$ represents the possible set of welfare outcomes with the initial technology available, while $GUPF_1$ and $GUPF_2$ represent two possible sets of welfare outcomes that are possible at a subsequent point in time after equal amounts of R&D expenditure have led to increases in productivity. In the case of $GUPF_2$, the R&D generates new technology that solely benefits U_2, for example, enhanced cash crop seeds, farming and processing techniques benefit colonial ex-pat producers of tea, tobacco, sugar, rubber and so on. In the case of $GUPF_1$, the same amount of R&D expenditure is instead directed at improving staple food crops that benefits U_1, for example, HYV wheat and rice seeds plus increased fertiliser use and improved irrigation lead to the Green Revolution providing widespread benefits to peasant farmers.

$GUPF_1$ and $GUPF_2$ are just two of many possible outcomes of economic growth generated by a given R&D expenditure, all of them Pareto

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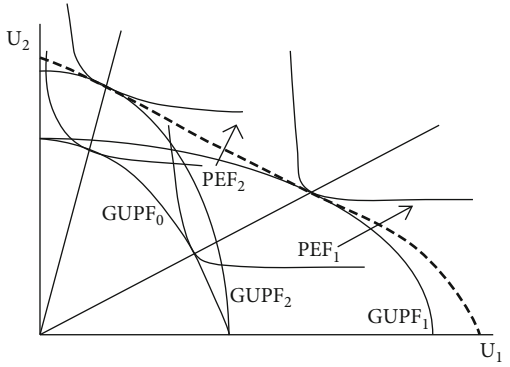

FIGURE 10.5 *Induced technical change with extractive and inclusive institutions*

efficient in static terms, the outer envelope of which are represented by the dashed "meta-GUPF". Which of these many GUPFs actually emerges is a matter of political economy. If the prevailing power relationships are represented by the political consensus curve PEF_2, ex-pat farmers get what they want; if they are represented by PEF_1, growth in staple food production benefits subsistence farmers. Recalling the discussion of Acemoglu's work on "extractive" and "inclusive" institutions and their impact on economic growth in Chapter 5, Figure 10.5 has been drawn deliberately to suggest that, because the benefits of growth arising from a political economy equilibrium between PEF_1 and $GUPF_1$ are more widespread than for the one between PEF_2 and $GUPF_2$, the pattern of economic growth associated with the latter is sub-optimal even though allocations at any given moment in time are Pareto efficient. In other words, the dominant ex-pat elites of colonial times were extractive institutions that led to sub-optimal technological change and economic growth, while the democratic systems that emerged after independence were inclusive institutions that generated the Green Revolution and (despite the criticisms and problems referred to earlier) optimal economic growth.

This example offers other insights. Although induced innovation theory was said to have endogenised technological change, it actually only helped explain the *direction* it took in terms of its being, for example, labour or capital saving; it did not explain differences in the *rate* of technological change beyond saying that more R&D would lead to faster growth. By combining the induced innovation theory of Hicks, Hayami

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and Ruttan with the distinctions Acemoglu and Robinson make between extractive and inclusive institutions and static Pareto efficiency and sub-optimal economic growth, it can be seen that we can use the Political Economy Function approach to say more about both the *direction* and *rate* of technological change/economic growth. Recalling the difference between personal and functional distributions of income discussed in Chapter 3, we can now explain the *direction* of technological change in terms of biases between people as well as between factors of production. And we can also show in a relatively simple way how power relationships corresponding to Acemoglu and Robinson's extractive and inclusive institutions influence the rate of economic growth.

As a final example, let us consider a paradox that is puzzling many people. Why have bankers and others working in finance benefited from massive bonuses and increases in salaries during the period of economic growth that followed the deregulation of financial markets in the United Kingdom, United States and elsewhere in the early 1980s *and* during the period of depression, anaemic growth and austerity that followed the global financial meltdown of 2008?

Much has been written about the causes of the Great Crash of 2008, about the sub-prime mortgage crisis in the United States and collapse of Lehman Brothers, AIG, Northern Rock, RBS and Lloyds Bank and so on, but that is not our concern here. What is of interest is an apparent asymmetry and contradiction. We might accept, despite the evidence provided by Piketty and others discussed in Chapter 4, that when a business is doing fantastically well, marginal productivity theory can explain the extraordinarily lucrative rewards received by the people working for it. However, why do those same people also continue to receive dream-like bonuses and salaries when the organisations they work for are obviously failing and receiving bail-outs – at enormous cost, it may be noted, to ordinary taxpayers who are themselves suffering from austerity? Surely, marginal productivity theory would suggest some kind of symmetry, with executives running businesses seeing the rewards they receive rise when they are successful and fall when they run them into the ground. But instead they seem to win under any circumstances.

And this paradox is not confined to financial services. A report from the High Pay Centre (2015) found that the average earnings of the CEOs of the FTSE 100 companies was £4.964 million in 2014, 183 times the average pay of £27,200 earned by workers in the United Kingdom, up from £4.129 million in 2010 when it was 160 times average UK pay – despite

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the fact that FTSE 100 share values contracted by 3% between 2010 and 2014.

None of this seems to make economic sense, at least not to non-economists, but does power play a role in this seeming paradox and can the Political Economy Function approach outlined in this book throw any light on it? The answer is that it does, but one has to understand that these phenomena occur because there are enormous inefficiencies in the system which can lead to unusual results. For, as Samuelson (1950) noted in a different context, uniform shifts of a GUPF need not produce similar uniform shifts in the corresponding UFF, but instead twist it in some places, and this may lead to the "paradoxical conclusion that a policy which seems to make possible greater production of all goods...may result in so great (and ethically undesirable) a change in...different individuals' incomes, that we may have to judge such a policy bad" (*op.cit.*, p. 90).

Figure 10.6 omits the GUPF for the sake of clarity but shows how an outward shift followed by an inward and twisting shift of an UFF can, together with the political consensus curves of the Political Economy Function, explain how bankers and finance industry executives, represented by U_2, are able to exert their power and achieve increased rewards during periods of both expansion and contraction in the economy, while the rest of society, represented by U_1, see their rewards rise but then fall. In other words, when the economy is growing everybody benefits, but when a recession hits those high up in the finance sector use their influence to ensure that (1) the companies they have mismanaged receive handsome bail-outs from the government and (2) their mutual-

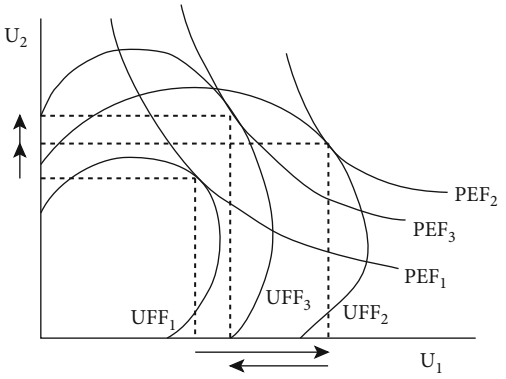

FIGURE 10.6 *Bankers' bonuses: a paradox of power*

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admiration remuneration committees continue to award each other large bonuses, while others have to tighten their belts.

Although many of the topics discussed earlier, such as the Coase, Stolper-Samuelson and induced innovation theories, can be found in textbooks, especially intermediate and graduate-level textbooks, they are generally presented as technical exercises and tend to ignore or downplay the distributional conflicts arising from them and the role power plays in resolving them. What is lacking is a means of representing, within a recognisable economic framework, why one particular class or interest group within a country or grouping of countries within the international trading arena is able to influence the outcome in their favour at the expense of other classes, interest groups or countries. The simple analysis presented here, which captures the essence of the way political economics and cooperative game theory explain the way in which political economy equilibria arise from the interaction of economic equilibria and political equilibria, achieves this and, thereby, could help fill the gaps in the teaching of economics identified in Chapters 3 and 4.

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11
Conclusion

Abstract: *It is argued that the approach outlined in this work, which re-envisions the social welfare function as a "political economy function", is simple and intuitive, requiring little if any advanced mathematics, and could therefore be taught in any undergraduate degree. It is further argued that, if it were adopted in economics teaching, it could radically change the way young economists are taught to think about their discipline, and thereby facilitate a "return to political economy".*

Ozanne, Adam. *Power and Neoclassical Economics: A Return to Political Economy in the Teaching of Economics*. Basingstoke: Palgrave Macmillan, 2016. DOI: 10.1057/9781137553737.0014.

An attempt has been made to recognise and address the "open secret" (Minogue, 2006) that power influences economic outcomes. A definition of power has been offered that goes against the grain of the behavioural approach that has dominated discussions of power over the past hundred years, but is more suited to the neoclassical focus on market equilibria, and a political economy function has been proposed as a conceptual approach for analysing power within the conventional general equilibrium framework of neoclassical economics.

The adoption of a particular functional form to represent an economic entity – whether it be a production technology, consumer preferences, SWF or PEF – always carries with it implied restrictions and therefore drawbacks. Criticism can therefore be expected of both the general proposition embodied in the PEF and any function used to represent it. For example, George (2007, footnote 10) has expressed disapproval of the reductionism implied by the use of a simple parameter, such as α, to represent power in bargaining models and would no doubt dislike its use here. However, it should be remembered that the aim of this work is not to analyse the origins of power and the myriad complex ways power manifests itself – which can be left to sociologists and political scientists – but, in the model-building tradition of economics, to find a simple, intuitively appealing way of introducing power considerations into conventional neoclassical theory.

It has been argued that such an approach is necessary in order to entertain the possibility of providing a complete answer to the economic problem – in particular, the For Whom portion of the economic problem – by which neoclassical economists have defined their discipline since Robbins first formulated the scarcity definition of economics.

Neoclassical economists work hard to maintain the dual fiction that their discipline is a value-free science and that, in a perfectly competitive market economy, economic outcomes are all about harmony and efficiency rather than conflict and the exercise of power. Adam Smith, with his famous line about the benevolence and self-interest of the butcher, the brewer and the baker, is the genesis of the view that an invisible hand guides a market economy to an efficient allocation of resources that benefits every member of society. There is nothing necessarily wrong with this view, except that it is but one half of the story. For, just as human beings are two-handed, so we can think of two invisible hands guiding economic outcomes: one hand, Smith's, guides the market towards a set of mutually beneficial Pareto optimal outcomes; the other, which rests on

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(to use an awful cliche) the levers of power, chooses one particular Pareto outcome from that set. The first invisible hand promotes efficiency and mutually beneficial outcomes, the second works through conflict and division to promote particular outcomes that benefit some more than others. Thus, extreme levels of poverty and deprivation may persist or deepen while a powerful (and perhaps lucky and hard-working) few – such as today's bankers and hedge fund managers – receive excessive rewards and bonuses.

This does not mean that inequality is to be explained entirely in terms of power relations, nor that poverty and deprivation in the world are to be blamed entirely on the rich and powerful. However, if the suggested approach is accepted, the persistent belief that "it is the fault of the poor themselves if they are poor" (Samuelson, 1976, p. 801) is undermined. No longer can it be said that if some are rich and some are poor it is purely the result of "historical accident or divine providence" (Winch, 1971, p. 96). Marginal productivity theory still provides a valid explanation of factor rewards and the functional distribution of income. However, if the argument presented here is accepted, we now have the means for conducting that "later study", as Cairncross called it, required to explain the personal distribution of income and complete our answer to the For Whom part of the economic problem.

Criticism of this work, much of which justified, is expected. Most economists are in denial about the relevance of power to economics and their own ability to fully address, let alone answer, the For Whom question so long as they neglect power. This is reflected in the textbooks they write and the teaching they offer students, and has not changed even though the sub-prime and eurozone crises of recent years provide clear evidence of the failure of many of their models, in particular dynamic stochastic general equilibrium (DSGE) models. It is not always clear why self-interest and an unspoken ideological bias presumably play some part in it, but there are grounds for believing that students and the wider public are increasingly disenchanted by what is on offer.

While it is important to distinguish between normative and positive issues in order to maintain a degree of scientific objectivity, it is not at all clear why this should imply the omission of politics and considerations of power – which can be analysed in positive terms – from economic analysis. It needs to be acknowledged at the outset, that is, in the teaching and training of students in how to think as economists, that power is intrinsic to any attempt at the solution of the For Whom part

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of the economic problem by which economists commonly define their discipline.

For it is difficult to think of a single really important question regarding the economic problems facing individuals, communities, countries and humanity generally, the answer to which will not in one way or another be influenced by power relationships. This book seeks to show how mainstream economics already contains the tools needed to address the role power plays in determining economic outcomes. It may not have the right answer, but if economists continue to ignore power, as they largely have done for over a century, they will render themselves and their discipline irrelevant to the real world. Power in economics is like the deep magic of Narnia, except that in Narnia only the White Witch and Aslan knew about the deep magic, whereas in our world everyone but economists knows about power.

Rather than omitting power from economic theorising, it would be better – more defensible intellectually – to treat it like the weather, not explained by economic models but incorporated as an exogenous variable. That way, power could be included in economic analyses, while detailed explanation of how power emerges, grows, develops, declines, could be left to others – political scientists and philosophers, sociologists and anthropologists – in much the same way that economists look to climatologists and meteorologists to explain changes in climate and weather systems, which they can then insert into economic models of food and agricultural production. By adopting this approach, the effect of power on economic outcomes might become part of the accepted curriculum of economics again. In other words, there might be a "return to political economy".

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