EDUCATIONAL POLICYMAKING AND THE METHODOLOGY OF POSITIVE ECONOMICS: A THEORETICAL CRITIQUE

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Abstract. By critically interrogating the methodological foundations of orthodox economic theory, Tal Gilead challenges the growing conviction in educational policymaking quarters that, being more scientific than other forms of educational investigation, inquiries grounded in orthodox economics should provide the basis for educational policymaking. He argues that the main methodological problem with accepting orthodox economic theory as a guide to educational policymaking is not, as commonly claimed, its alleged reliance on a materialistic and egoistic conception of human nature, but rather its embrace of a value-free conception of science and the hypothetico-deductive model of prediction. These, Gilead maintains, prevent economics-based investigations from adequately dealing with questions of human agency and ethics, which are central to education. Orthodox economic thinking, he concludes, should not be accorded a dominant role in educational policymaking, but rather should only be viewed as providing one additional source of insight that has limited applicability.

Introduction

Over the last few decades, economic thinking has come to play an increasingly prominent role in setting educational policy.¹ On an international level, supranational organizations with clear economic goals, such as the World Bank, the OECD, UNESCO, and the European Union, have greatly expanded their involvement in education. By actively participating in worldwide educational policymaking and by generating and shaping the global discourse on the subject, these organizations have brought the use of economic thinking in educational policymaking to the fore.² In addition, on a national level, politicians and educational policymakers have increasingly relied on orthodox economic thinking, and especially on human capital theory, in drafting and advancing national education policy documents in many corners of the world.³

¹. Economic thinking currently plays an important role in both policy formation and policy analysis. This article deals exclusively with the role of economic thinking in the former.


³. Following David Colander, Richard Holt, and Barkley Rosser, I use the phrase “orthodox economic theory” to refer to “the most recently dominant school of thought” within economics, which remains neoclassical economics. Identifying the key ideas that constitute neoclassical economics is not an easy task, but neoclassical economics has some common features, including a reliance on deductive reasoning, the use of mathematical modeling, and a commitment to methodological individualism. In addition, neoclassical economics is also often closely associated with the notions of market equilibrium and rational utility maximization, and with the idea that preferences provide the key for assessing behavior. For more on the issue, see David Colander, Richard P. F. Holt, and J. Barkley Rosser Jr., “Introduction,” in The Changing Face of Economics: Conversation with Cutting Edge Economists, eds. David Colander, Richard P. F. Holt, and J. Barkley Rosser Jr. (Ann Arbor: University of Michigan Press, 2006).
Underpinning the growing impact of economic thinking on education are complex social, political, and ideological factors that have been widely discussed in the literature. The expanding influence of orthodox economic thinking on educational policy, however, also has a theoretical basis. Over the last few decades, economists have vastly expanded their field of inquiry. Following what has been termed (by both supporters and critics) “economics imperialism,” they not only have dug deeper into standard economic concepts, but also, and more importantly, have crossed disciplinary boundaries and applied theories and methods developed within orthodox economics to other fields. At first, orthodox economic methods and theories were incorporated into the study of education with the aim of improving the functioning of the economy. Most significantly, as a result of the development of human capital theory in 1960s, the potential economic effect of education was established and quickly modeled in orthodox economic theory. Consequently, a much tighter link between education and economic thinking was forged as educational policy was increasingly seen as an essential ingredient of economic policy.

In the last few decades, however, the use of theories and methods developed within orthodox economics in the educational domain has been extended much further. Orthodox economic methods and theories are now employed to study issues that are related loosely and indirectly, if at all, to the workings of the economic system. For example, many economists currently examine questions that pertain to educational improvement using economic methods and make far-reaching claims regarding teaching methods, curriculum, teacher training, and many other aspects of education that have nothing to do with pecuniary matters. In addition, supranational organizations increasingly rely on economic techniques, such as cost-benefit analysis, cost-utility analysis, and cost-efficiency analysis, in forming their educational policy. Perceived as objective, rigorous, practical,

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and forward-looking, educational inquiries based on orthodox economic methods, ideas, theories, and assumptions are increasingly regarded today as superior to traditional forms of educational investigation. Economic inquiries are therefore viewed as capable of not only supplementing the more traditional forms of educational research but also supplanting them. Moreover, enjoying an aura of scientificity, impartiality, and reliability, economic methods and theories seem to be perfectly suited to the current public and political demand to make educational policymaking evidence-based — namely, guided, or at least informed, by sound, and preferably quantitative, research.9

Although there is already a vast literature examining the influence of orthodox economic thinking on educational policy from economic, sociological, and philosophical perspectives, its theoretical foundations have remained underexplored. While much has been written about the process and consequences of applying economic thinking and methods to education, the question of whether educational policymaking should rely on the theoretical foundations of orthodox economic theory has not been sufficiently addressed. In this article, therefore, I take a step back to examine critically the philosophical basis of orthodox economic thinking and its suitability for setting educational policy, with my main emphasis being on the philosophical foundations of orthodox economic methodology. Although today there are clear signs that at its frontiers economic thinking is gradually moving away from the neoclassical paradigm, my inquiry still centers on the theoretical and methodological foundations of neoclassical economics because it is this stream of economic thinking that still dominates the field and is used almost exclusively in the educational context.10 My central focus here is on the commitment of neoclassical economics to deductive reasoning, its most important unifying feature. The main purpose of this article is to challenge the growing conviction in educational policymaking quarters that, being more scientific than other forms of educational investigation, inquiries grounded in orthodox economics should provide the basis for setting educational policy.

First, I argue that since policy advice based on economic theory cannot remain value-free and since orthodox economic theory relies on unrealistic assumptions, its contribution to educational policymaking must stem from its ability to provide useful predictions that can serve as a basis for educational improvement. However, I then maintain that the methodological foundations of orthodox economic thinking impose serious constraints on economic predictions, which, at best, render them an insufficient guide for determining educational policy and, at worst, could lead educational policy astray. More specifically, I argue that the economic model of prediction is ill-equipped to deal with questions relating to individual


change, agency, ethics, and human improvement, which are all central for setting educational policy. This, I maintain, raises serious concerns regarding the role that orthodox economic thinking currently plays in determining educational policy. My conclusion is that when the limits of the methodology underlying orthodox economics are brought to the fore, it becomes clear that educational policy should not be based solely, or in most cases even primarily, on orthodox economic thinking. It is essential, I maintain, that policy advice rooted in orthodox economic thinking should only be regarded as potentially supplementing that derived from more traditional forms of educational investigation.

The remainder of the article is divided into five sections. The first provides a broad critique of the common belief that orthodox economic theory can serve as a value-free and impartial guide to policymaking. It also explains why, when used to guide educational policy, orthodox economic thinking is bound to have a substantive normative aspect. In the second section, the question of the function of economic thinking is taken up. It is shown that given its methodological foundations, the central aim of orthodox economic thinking is to provide scientific predictions. The third section critically examines how beneficial economic predictions are in setting educational policy. The fourth section discusses the role that orthodox economic thinking should play in educational policy formation. The fifth and final section suggests that it is possible to transcend the boundaries of neoclassical economics and to, thereby, enhance the role that economic investigations should play in educational policymaking.

The Inevitable Normative Aspect of Economic Advice in Education

The idea that normative aspects of economics should be separated from scientific ones has a long history. In the first half of the nineteenth century, John Stuart Mill argued that a science of economics that embraces the model guiding the natural sciences must be distinguished from the art of economy, whose aim is to prescribe. Another significant phase in the evolution of this idea took place in first half of the twentieth century. Following the works of Lionel Robbins, John Hicks, Paul Samuelson and others, a sharp distinction was drawn between positive and normative economics, where in the quest to render the former fully scientific, an attempt was made not only to purge positive economics of norms and values but also to divorce it from psychology. Believing that this mission had been successfully accomplished, Milton Friedman in his seminal The Methodology of Positive Economics wrote, “Positive economics is in principle independent of any particular ethical position or normative judgments ... [it] can be, an ‘objective’ science, in precisely the same sense as any of the physical sciences.” To date, Friedman’s view of positive economics still dominates, and,


as Richard McKenzie notes, “many economists and policymakers firmly believe that economics provides a largely (if not totally) mechanical, nonnormative, impersonal, and independent means of seeking social improvements.” In fact, it is this conception of economics that propelled the expansion of economic inquiries into new fields and supported the rise to prominence of economic theories, methods, and techniques. Moreover, as already suggested, this conception of economics is one of the key reasons why economic inquiry is so highly esteemed in educational policymaking quarters, which seem nearly obsessed with lending educational policy a scientific basis.

The idea that positive economics can rid itself of normative judgments, however, was never universally accepted. Far from it, it always had its critiques, which over the last few decades have gained considerable currency, especially among economic philosophers. To begin with, the work of philosophers of science (such as Pierre Duhem, W. V. O. Quine, and Thomas Kuhn) has served to challenge the view that any science can be value-free. In economics, it has been argued that the professional norms embraced by economists, the topics they focus on, the questions they ask, and the terminology they use are all value-laden. These criticisms have done much to undermine the idea of a value-free economics, but a possible avenue of defense has been opened by Ernest Nagel. In his influential The Structure of Science, Nagel argues that a distinction can be drawn between “characterizing value judgments” — namely, judgments that are principally methodological, such as the determination of research questions or the criteria for assessing validity — and “appraising value judgments,” which are essentially ethical evaluations. He writes, “although, characterizing judgments are necessarily entailed by many appraising judgments, making appraising judgments is not a necessary condition for making characterizing ones.” According to Nagel, while characterizing judgment may very well be inevitable in the social sciences, ethical judgment should and can be avoided in the name of scientificity. Following the path suggested by Nagel, economists are able to defend the idea that orthodox economics is scientific.

15. Lazear, “Economic Imperialism.”
18. See Ernest Nagel, The Structure of Science: Problems in the Logic of Scientific Explanation (New York: Harcourt, 1961). What Nagel offers here is close to a more familiar distinction between epistemic values, on the one hand, and moral and political values, on the other. While there are differences between the distinction between epistemic values and political values and the distinction Nagel draws, the underlying idea is similar. Both try to distinguish between moral, ethical, and political values and those directly embedded in the process of scientific inquiry.
19. Ibid., 493.
They claim that, although orthodox economics may involve some characterizing value judgments, it does not engage in appraising value judgments. This view of economics as ethically, morally, and politically neutral is still the dominant one among economists. For example, Eric Hanushek, a leading figure in the economics of education, has argued that the reliance on normative conceptions severely hinders the development of the field and should be avoided.

Yet, even if the idea that economic thinking can be free of ethical values is accepted, when we move into the realm of policy, the question of ethical neutrality becomes more complex and problematic. In the first half of the nineteenth century, Nassau Senior, one of the most prominent economists of the time, argued that in order to keep economics scientific, economists must refrain from giving policy advice. Policy advice, it seems, requires a move from explanations to prescriptions, which, in turn, involves a move from the realm of “is” to that of “ought.” Where policy is concerned, it appears the only way that economists can avoid making ethical judgments is to limit their role to that of technocrats. According to this view, policymakers or politicians provide the policy objectives, while the task of economists is, as Mark Blaug writes, “to delineate the ‘possibility function’” — namely, to highlight the “costs and benefits of alternative allocation of scarce means” — and then to leave the decision as to which path to take in the hands of policymakers. This way, it is held, economists can avoid making value judgments. The conception of the economist’s role just presented, it is important to note, relies on a detachment of means from ends. Under the current realities of educational policymaking, however, the view that economists retain, or even could retain, the role of technocrats is hard to defend.

First, as noted previously, since education is viewed as playing a crucial role in securing the proper function and development of the economy, economic thinking is used not only to adjust means to ends but also to determine educational ends. What best testifies to this, I think, is the formidable transformation of human capital from an economic concept, initially designed to better explain economic growth, into a key focus of educational policymaking around the world. Indeed,
the economists of the OECD, World Bank, UNESCO, the European Union, and countless other organizations, as well as those participating in national committees on education, place the development of human capital as a primary, if not the primary, aim of educational policy. Moreover, the role of economists in determining educational aims expands beyond questions directly related to the economy. For example, economic research on school productivity has led economists to offer reforms that set grade improvement as a central educational aim. In the two preceding examples, it is economists’ own interests and concerns that lead them to define improvement of grades and economic growth as key educational aims. It follows, then, that by participating in the determination of educational policy’s ends, economists lose their claim to objectivity and become interested actors like many others.

Moreover, as Fritz Machlup argues, when policy objectives are not fully and clearly specified, economists are placed in a position where they must judge what is in the best interest of the public or the client. In such situations, the economist’s personal values and judgments inevitably come into play, and economic advice stops being wholly positive and takes on a normative aspect. Since in the educational domain aims are rarely specified in a way that does not leave room for interpretation, economists are often led by the situation to take an active part in shaping aims even if it is not their intention to do so.

Second, the difficulty encountered by economists in providing objective policy advice does not merely stem from their growing involvement in setting educational aims. The view of the economist as technocrat, as we have noted, is based on a sharp distinction between means, which are considered value-free, and ends, which are inescapably value-loaded. Although there may be some cases in which the means–ends distinction is more easily defensible, such as in questions relating to resource allocation for bridge construction, in the world of educational policy it is not. In the long chain of educational objectives the means–ends distinction collapses. For example, teaching citizenship may be a means of enhancing social solidarity for the politician but an end for a teacher in the classroom, while passing the citizenship exam may be a means for the teacher but an end for the student. In addition, as argued by Gert Biesta, because education is a moral practice, means and ends are internally and constitutively connected, and the former cannot be seen as neutral in regard to the latter. In education, the choice of means has an inevitable influence on the ends pursued.


Last, and significantly for the present discussion, neoclassical economic thinking relies on specific notions of rationality and well-being to explain human behavior, but the neoclassical commitment to these notions, as Daniel Hausman and Michael McPherson observe, is normative and has ethical implications. For example, one of the constitutive ideas of human capital theory is that people choose the best way to invest in education from a self-serving perspective. In human capital theory, however, this not only describes how people act but also sets a standard for how they should act.30

We can, I think, conclude from this discussion that, notwithstanding its current image, orthodox economic inquiry does not and cannot provide objective and scientific recommendations for educational policymaking because ethical and normative judgments are unavoidably entailed in it. At first, this may seem to have only a philosophical importance, but in practice it has significant political ramifications. To begin with, in order to make informed decisions, educational policymakers must understand that economic advice is not free of ethical and educational values and should be aware of the degree and direction in which values influence it. This should also help educational policymakers determine to what extent they choose to embrace economic thinking and guidance. In fact, the realization that the policy advice provided by orthodox economists cannot be objective should alter the criterion for assessing it. As long as economic advice is regarded as objective and scientific, it will tend to be accepted based on its ostensible truth value. When, however, it is seen as entailing normative and ethical aspects, it must be assessed on the basis of its practical benefits or usefulness rather than its truth value, which cannot be objectively determined. The role assigned to orthodox economic thinking in setting educational policy, then, must reflect its ability to contribute to the advancement of education. It is to this issue that we turn now.

The Function of Economic Inquiry

The use of orthodox economic thinking in education has introduced new techniques into the field and has greatly contributed to the present understanding of many important aspects of education, particularly those concerned with educational investment.31 The value of this thinking is, therefore, indisputable. The question of whether orthodox economic thinking should serve to guide educational policymaking, however, is more controversial because of its inevitably normative aspects. Economists have taken divergent stances on the issue. According to one position, economists should avoid giving policy advice and refrain, as much as possible, from making value judgments in order to keep their research objective and scientific. On the other hand, there are those who believe that economists need not


shy away from policy recommendations or value judgments.\textsuperscript{32} Yew-Kwang Ng, for example, has argued that since economists are better qualified than others to make subjective judgments on questions related to their field, they are warranted to do so.\textsuperscript{33} The current prevalence of the latter stance among educational economists is clearly reflected in the growing involvement of economists and economic organizations in setting educational policy.\textsuperscript{34}

Although the growing influence of economic thinking on educational policymaking has been welcomed by many — especially politicians — it has also been severely challenged on political, factual, methodological, and philosophical grounds. Criticisms range from arguing that economic thinking serves to advance a neoliberal agenda to maintaining that it misconceives the true role of education in the economy.\textsuperscript{35} In terms of the methodological foundations of orthodox economic thinking, which are our main concern here, the application of neoclassical economic theory to educational policymaking has so far primarily been attacked on the basis of neoclassical economics’ alleged commitment to a materialistic and egoistic conception of human nature. In a highly cited article, which conveys well the main line of existing criticisms, Ingrid Robeyns argues that human capital theory, following neoclassical economics, views people as acting out of economic motives alone, thereby reducing education to an instrument for achieving pecuniary aims.\textsuperscript{36} In a similar vein, Ian Baptiste maintains that human capital theory portrays humans as egoistic and self-interested and conceives of education as nothing more than a means to answer individuals’ most basic and immediate material needs.\textsuperscript{37} While, as will be made clearer later in the article, I share the concern that reliance on orthodox economic theory may result in an impoverished conception of education, I find the main line of existing criticisms, represented here by Baptiste and Robeyns, to be based on an incomplete understanding of neoclassical economics and therefore inaccurate.

Contrary to the prevailing view just discussed, human capital theory and orthodox economic thinking neither necessarily rely on the supposition that people are selfish and materialistic, nor do they inevitably reduce education to an

\begin{thebibliography}{9}
\bibitem{Mongin} Mongin, “Value Judgment and Value Neutrality in Economics.”
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instrument for achieving materialistic aims. Gary Becker, among the founders of human capital theory, clearly states that this theory “starts with the assumption that individuals decide on their education … by weighing the benefits and costs,” where “benefits include cultural and other nonmonetary gains along with improvement in earnings and occupations.” He adds that orthodox economics and human capital theory do “not assume that individuals are motivated solely by selfishness or material gain”; people, they acknowledge, can be “selfish, altruistic, loyal, spiteful, or masochistic.” Moreover, in accordance with Becker’s broader view of economic theory, the OECD has recently defined human capital as “the knowledge, skills, competencies and attributes in individuals that facilitate the creation of personal, social and economic well-being.” It follows that since neoclassical economics is not necessarily committed to a materialistic or egoistic conception of human nature, the criticisms offered by Baptiste and Robeyns do not actually point to a fundamental methodological flaw in using orthodox economic theory to guide educational policymaking.

There is, however, another key methodological concern with neoclassical economics that has been widely debated in the economic and philosophical literature, but that has received only limited attention in educational circles. It is clearly acknowledged by both supporters and critics of neoclassical economics that it is based on a set of unrealistic assumptions. For example, although empirical research has disproved the idea that people necessarily act as rational agents, Becker clearly states that, following neoclassical economics, human capital theory assumes that “all persons are rational.” This reliance of orthodox economics on unrealistic assumptions has recently been the subject of heated controversies. It has served not only to challenge the growing influence of economics on policy, but also to cast doubt on the scientific value of the discipline itself. Many questions have been raised regarding the potential contribution of a research program whose most basic assumptions have been refuted time and time again by empirical research.

39. Ibid., 2.
40. Ibid., 3.
Yet, most practicing economists do not seem overly concerned about the issue, and one of the key reasons for this can be found in Milton Friedman’s classic 1953 essay “The Methodology of Positive Economics,” the most influential methodological piece in twentieth-century economics. In this essay, Friedman concludes that the use of unrealistic assumptions in orthodox economics is warranted and even desirable, a stance that the vast majority of contemporary economists have come to embrace either explicitly or tacitly. According to Friedman, positive economics is a predictive science, and as such its “ultimate goal ... is the development of a ‘theory’ or ‘hypothesis’ that yields valid and meaningful [i.e., not truistic] predictions about phenomena not yet observed.” The upshot of this conception of orthodox economic theory’s objectives is that the assumptions employed are to be judged on the basis of their ability to yield accurate predictions rather than their being descriptively realistic. As long as these assumptions lead to reliable predictions, the compatibility they have with the real world, or their lack of it, is beyond the point. Friedman even argues that good assumptions must be descriptively false because “a hypothesis is important if it ‘explains’ much by little, that is, if it abstracts the common and crucial elements from the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone.” Friedman’s defense of orthodox economics against one of the major criticisms leveled against it leads, then, to the conclusion that prediction is the most important function of orthodox economics, if not the sole one.

In order to make predictions, orthodox economists rely mainly on what is known as the hypothetico-deductive model of science, which is also implicitly advocated in Friedman’s “The Methodology of Positive Economics.” Science is commonly perceived by the public as inductive in essence, that is, as beginning with observations from which a set of universal laws are extracted, which in turn are tested against reality. In practice, however, this view of science lost its prominence over the second half of the twentieth century and was replaced by a more deductive model, which has become the new orthodoxy. According to

44. Ibid.
47. Ibid., 31. The idea that false assumptions can yield accurate predictions is not self-evident. To illustrate this point, Friedman argues, among other things, that excellent predictions of the shots made by an expert billiard player can be made if we assume that he knew “the mathematical formulas that would give the optimum direction of travel.” Friedman contends that while this assumption is in most cases clearly false, it can still yield accurate predictions. For a critical discussion of Friedman’s position, see Jack Meltiz, “Friedman and Machlup on the Significance of Testing Economic Assumptions,” Journal of Political Economy 73, no. 1 (1965): 37–60.
the latter model, scientific predictions are derived from a set of relevant initial conditions and at least one universal law that is hypothesized by the researcher. By combining the two we should be able to predict what will happen. How this works can be easily illustrated through the following example. Let us assume that we know the initial conditions to be the following: [a] Dan believes that getting a good job will contribute to his well-being or enhance his utility; [b] he knows that going to college will enable him to get a good job; and [c] there is nothing that prevents him from doing so. Now, when we add to these conditions human capital theory’s underlying hypothesis that people always act as utility maximizers, which represents a general law, we can predict that he will indeed go to college. In the real world, Dan can, of course, either go to college or not. If he does go, then the hypothesis has been confirmed and can be tested again until it is disproved. If Dan does not go to college, then there can be assumed to be a problem with the hypothesis or with the phrasing or reading of the initial conditions. If the latter is the case, the conditions must be revised, while the same hypothesis can be reasserted. If, however, it has been proven that there was nothing wrong or lacking in the description of the initial conditions (and how and whether this could be proved is a complex matter that goes beyond the scope of this article), then the hypothesis has been proven false and must be replaced by a better one. This model of prediction, which gives a central place to deduction, is supposed to be applicable to all the sciences, and is part and parcel of orthodox economics in general and human capital theory in particular. In fact, it is this model of prediction that is at the heart of the view of economics as a predictive science.

While the debate surrounding the ultimate objective of economics is far from being settled, in the realm of educational policy, the view of economics as a predictive science seems to have gained a secure foothold. Predictions stemming from human capital theory, and many other forms of economic inquiry, are used to provide policy recommendations regarding how much should be invested in education, in whom it should be invested, and even what should be taught in schools and how. One possible reason for the prevalence of the idea that economics is a predictive science in educational circles is that many of the founders of the economics of education, such as Theodore Schultz and Gary Becker, were, like Friedman, Chicago School economists who shared his intellectual tradition. Another, more significant reason is the affinity between the idea that


52. Blaug, The Methodology of Economics; and Hollis and Nell, Rational Economic Man.

economics is a predictive science and current trends in educational policy. In recent decades, educational policy, with its emphasis on accountability, testing, and enhancing outcomes, has aimed at educational improvement through measures of control.\(^{54}\) When this approach is embraced, prediction immediately assumes a central function in educational research, which is viewed as instrumental for educational improvement.\(^{55}\) Moreover, since economic aims, and particularly economic progress, are now a key objective in educational policy, the conception of economics as a predictive science illuminating how these could be achieved has an even greater appeal for educational policymakers.\(^{56}\)

**Economic Predictions and Education**

The last two sections have led to the conclusion that, because normative aspects are inevitably involved in policy prescription, and because economic thinking is based on unrealistic assumptions, the value of economic research for educational policy must be assessed based on its practical usefulness rather than its ability to convey unquestionable truths. More specifically, the significance of orthodox economic thinking for educational policy must lie in its ability to supply predictions that can prove to be instrumental in improving education. The question, then, is to what extent economic predictions meet such criteria.

In general, economic predictions are notorious for being unreliable.\(^{57}\) According to Amartya Sen, economic predictions tend to be inaccurate because, first, unlike in the case of the natural sciences, no two economic events are exactly the same; second, they are made with respect to human beings whose behavior is often irregular; and third, they involve complicated interactions between numerous elements.\(^{58}\) Gregor Betz adds that since economic predictions can, by their mere existence, alter the behavior of agents who are aware of them, they become even more uncertain.\(^{59}\) Moreover, once we enter the domain of education, the difficulties raised by Sen and Betz do not seem to vanish; on the contrary, they become more acute. The educational system is by nature dynamic, complex, adaptive, and


\(^{56}\) For more on this point, see Ball, “Labour, Learning, and the Economy”; Levin, “The Lessons of International Education Reform”; and O’Neill, “Introduction.”


\(^{58}\) Sen, “Prediction and Economic Theory.”

\(^{59}\) Betz, *Prediction or Prophecy*.
subject to a wide range of variables, including many human influences. It is also situated in a diversity of ever-changing external environments that affect it and are affected by it in countless and unforeseen ways. The accuracy of economic predictions in the educational context, it follows, is bound to be questionable.

These difficulties involved in economic prediction have led many, including several leading economists, to challenge the view that economics should be regarded as a predictive science. It is sometimes argued that economics should be restricted to explanations and should not attempt to make predictions. Equally, it can be claimed that economic thinking should be used to shed light on the functioning of the educational system rather than to make predictions. Dispensing with predictions is, however, problematic for at least two reasons. First, although at times no prediction at all may be preferable to an unreliable one, in other instances, it is more advantageous to have predictions that are partly reliable than none at all. Even in the complex realm of education, some economic predictions, such as those concerning individual returns on economic investment, have proven to be extremely insightful for policy. In practice, excluding the use of predictions in educational policy means sacrificing one of the key instruments of educational improvement. Second, the fact that economic predictions have been unreliable so far does not mean they will continue to be so in the future. An increasing number of economists, psychologists, and philosophers attribute the failure of economic predictions to the use of unrealistic or underinformed hypotheses. They claim that if economic predictions were based on an understanding of human behavior grounded in psychological research and neuroscience, they would be more accurate and provide a better basis for policy.

What is suggested here is that the hypothetico-deductive model of economic predictions should be preserved, but that the hypotheses used to make predictions should be based on different forms of innovative research. Transferring this line of reasoning into the realm of education, it is also suggested that if economics were to rely on this type of hypothesis, it could provide an improved platform for setting educational policy.

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60. Radford, “Prediction, Control, and the Challenge to Complexity.”


62. For more on this issue, see Gonzalez, “On the Theoretical Basis of Prediction in Economics.”

63. Morrison, “Educational Philosophy and the Challenge of Complexity Theory.”


Most of the current debate over the use of economic predictions in educational policy revolves, as we have seen, around their reliability. The more they are believed to be reliable, or at least capable of being made reliable, the greater the willingness to use them. I want to argue, however, that in the realm of education the use of currently accepted methods of making economic predictions also spawns difficulties that are independent of their predictive power. More specifically, I claim that the ambition of orthodox economic theory to provide purely scientific predictions based on the hypothetico-deductive model places methodological constraints on these predictions that render them ill-suited to serve as a sole basis for determining educational policy. Let me explain.

First, economic predictions based on the hypothetico-deductive model, regardless of whether they accept the rationality assumption or are informed by psychological research, must assume that there is a stable law (or set of laws) that underlie human behavior and can serve as the basis for further predictions. As we have seen, what is supposed to lead, according to this model, to different predictions are changes in initial conditions and not in the universal law (or laws) of behavior. For example, neoclassical economics assumes that people are rational utility maximizers, while psychologically informed economic models might assume that people have a preference for immediate results; when using the hypothetico-deductive model, however, both are committed to a stable view of behavior on the basis of which predictions should be made. According to the hypothetico-deductive model, if there is no law proved to be stable, the very basis of prediction is lost. Economic predictions, it follows, must presuppose that the laws underlying human behavior are essentially fixed. From an educational perspective, however, this is a highly constraining assumption. When educationalists debate educational aims and objectives, they tend to assume that human behavior is malleable. The difference between the educational and economic approach can be illustrated through the words of Israel Scheffler and R. S. Peters, two of the preeminent educational philosophers of the twentieth century. There is, Scheffler notes, a general consensus that the aim of education is to fulfill human potential and this, he argues, must include making fundamental changes in the agent’s powers, attainments, beliefs, and behaviors.67 Peters, for his part, in his seminal analysis of the essence of education, argues that “an educated person ... is one whose whole range of actions, reactions, and activities is gradually transformed by the deepening and widening of his understanding and sensitivity.”68 Educationalists, we can see, take as their point of departure the idea that a good education should shape the general laws
that underlie human conduct and not just lead to changes that stem from varying initial conditions. Accepting economic predictions as the basis for setting the objectives of educational policy results, then, in the exclusion of the educational possibilities emanating from the belief that human conduct could be fundamentally changed. These possibilities, however, ought to be an essential ingredient of setting any educational aims.

Second, economic policy, as we have seen, cannot remain wholly positive, but in attempting to be so economists refrain from incorporating into their predictions a conception of how human beings ought to behave. Education, however, is essentially a normative endeavor, and the importance of knowing and understanding what is mainly stems from its adherence to an ideal of what should be. Educationalists, for example, will be interested to know the constitution of our basic behavioral tendencies in order to predict not only how people will react in different situations or conditions, but also how our behavioral tendencies can be improved. Yet predictions that contain a strong normative element are seen as falling outside the scope of orthodox economics and are therefore overlooked. How this comes into play when economic predictions are embraced as the basis for setting the objectives of educational policy can be easily illustrated. In principle, economists could have combined a view of human behavior as malleable with the use of the hypothetico-deductive model by using the model to make predictions regarding how people will behave once the rules guiding their behavior have been altered in a desired direction by education. Yet, since this demands embracing a normative model of human conduct, economists refrain from making such predictions. Instead, orthodox economists are led by their commitment to a value-free conception of science to accept the laws of human behavior not only as fixed but also as given. It is, in fact, the joint constraints imposed by a value-free conception of science and the use of the hypothetico-deductive model that render the use of economic predictions in educational policymaking so problematic. In embracing these constraints, human behavior is accepted as is and educational policy is set accordingly. This, however, leads to important educational possibilities being disregarded for methodological reasons and to a neglect of the full potential of both human beings and education.

Finally, the hypothetico-deductive model of economic prediction fails to reserve a place for human choice and human agency in setting educational policy. Human conduct, according to this model, is simply the outcome of fixed laws of behavior and changing conditions and nothing more. Since these laws, like the laws of nature, are presumed to be absolute, no room is left for choice or agency.


70. Lawson, *Economics and Reality*.

71. It can, of course, be claimed that the orthodox economic view is the correct one and that choice and agency do not really exist. As argued by Lawson, however, if this were the case, then economists should be able to provide us with much more accurate predictions than they do. For a persuasive argument
If the possibility that people can decide how to act exists, then the view of these laws as absolute can no longer be maintained because it leads to a contradiction in terms. The predictive power of the hypothetico-deductive model, then, is dependent on a passive conception of the agent in which he or she is viewed as a programmed system responding automatically to varying external conditions. Excluding choice and agency from educational discourse is, of course, highly problematic and leaves us with a deterministic conception of education, which is clearly impoverished and some might even claim pernicious. Moreover, since for many present-day philosophers and educationalists the primary role of education is to expand human choice, develop human agency, and promote personal autonomy, the inability of economic predictions based on the hypothetico-deductive model to accommodate these can be viewed as severely limiting their relevance in dealing with some of the most profound and challenging educational questions.

In sum, there are difficulties with the current use of educational predictions that transcend the question of reliability. The use of economic predictions that restrict themselves to a scientific positivist framework, and thereby assume fixed laws of behavior and exclude normative notions, excludes important educational possibilities. Moreover, basing educational policy on a model of prediction that assumes that human behavior is given and fixed, and that allows no room for human agency, can easily lead education astray. Serious doubts, therefore, are raised regarding the extensive and ever-increasing reliance on economic thinking as a guide for setting educational policy.

**ON THE RESTRICTED ROLE OF ECONOMIC THINKING IN EDUCATIONAL POLICY**

The vast majority of educational economists are either unaware of or simply disregard the difficulties raised in this article and base their policy advice on positivist and supposedly value-free conceptions of research and theory. More importantly, oblivious to the limitations of neoclassical predictions, decision makers assign economic predictions and prescriptions a central place in determining educational policy. This practice has far-reaching educational consequences. First, educational policy based solely on economic advice is bound to be educationally impoverished because orthodox economic theory deliberately excludes aspects that are extremely important for educational policy, such as human improvement, human agency, and normative considerations. Second, the embrace of orthodox economic thinking leads those offering economic consultation to provide guidance on issues they are not normally trained, qualified, or expected to deal with. Moreover, instead of being guided by values and normative judgments that

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have been consciously and willingly chosen by authorities, these enter unwittingly through the back door.

Two brief examples, I think, can help to illustrate how the aforementioned shortcomings of having economic thinking serve as the sole or primary guide for setting educational policy come into practice. First, in an attempt to keep the investigation scientific, economic research on school productivity tends to focus on standardized test scores because they are perceived as objective indicators of educational outcomes. In an important article discussing the economic perspective on school productivity, Hanushek explains that while standardized test scores might not be the best or most important sort of educational outcome, the economic focus on them is warranted because they are valued by parents, students, and teachers, and, more importantly, because they are increasingly employed to select students for further education.73 Hanushek, then, justifies the use of standardized test scores without taking a normative stance on their educational value. The use of standardized test scores, accordingly, seems to be consistent with the view of economics as a positive science. At the same time, however, the economic emphasis on standardized test scores advances a tacit normative judgment that enhancing them should be a central educational aim. And indeed, most policy reforms based on economic investigations aim at the improvement of standardized test scores. The problem here is not that the emphasis is placed on improving standardized test scores, which may or may not be a worthy educational aim, but that this emphasis stems from methodological considerations and from the economist’s aspiration to remain scientific, not from normative judgments that affirm the high educational value of standardized test scores.

Second, in a highly influential article on school productivity, Edward Lazear, a prominent American economist, uses economic models and methods to examine how educational outputs can be maximized. His goal, he writes, “is to attempt to provide as many testable predictions as possible by” examining the question of disruptive behavior.74 The basic assumption underlying Lazear’s work is that a pupil’s tendency to disrupt is fixed and that it can only be manipulated by external factors such as the quality of the teachers, the pupil’s peers, and the level of discipline in the classroom. Based on this assumption, Lazear makes some claims that have far-reaching implications for educational policy. He argues that “better students are optimally placed in larger classes,” that “discipline is a [possible] substitute for class size,” and that “under most circumstances, segregating students by academic ability maximizes total educational output.”75 Lazear, however, does not even consider the possibility that students’ disruptive tendencies are not fixed and that with proper education such tendencies can

75. Ibid., 798–799.
be fundamentally altered, and not just externally manipulated. He also fails to acknowledge the possibility that pupils, of their own device, can decide to act differently. Ignoring these possibilities is precisely what enables Lazear to provide predictions, but it also results in a highly impoverished understanding of educational possibilities and priorities.

In conclusion, when the objectives, complications, and shortcomings of the methodology underlying orthodox economic thinking are brought to the fore, it becomes clear that orthodox economic thinking should be assigned a modest place in shaping policy. Orthodox economic thinking must not be taken as the sole or even the primary guide for setting educational policy because, due to its failure to deal with central aspects of human behavior and education, it can lead to the development of an unbalanced and even pernicious conception of educational possibilities. I am not, to be clear, claiming that economic thinking has no role to play in educational policymaking. Orthodox economic theory and especially economic research have proven to be extremely useful in explaining what works and how. And yet, the role of orthodox economic thinking and economic prediction in setting educational policy should not go beyond that of supplementing more traditional forms of educational research and investigation that can better deal with the most fundamental educational questions relating to human improvement, human agency, and ethics. Orthodox economic thinking and research based on it should not be taken as a sole or even central basis for educational policy formation but should serve only to provide additional information whose limitations must be acknowledged.

**Final Remarks**

Before bringing this article to a close, I would like to suggest that the place of economic theory in educational policymaking could be greatly enhanced by adopting alternative conceptions of economic theory that go beyond orthodox economics and are better suited to the educational domain. Such a conception can be found, for example, in the work of the prominent late nineteenth-century economist Alfred Marshall. He argued that the chief aim of economic theory and research is “to obtain practical guidance in the practical conduct of life, and especially of social life.”  


one of the greatest economic methodologists, suggested a tripartite division of
economics. In his classic work *The Scope and Method of Political Economy*,
Keynes distinguishes between “a positive science [of economics that] may be
defined as a body of systematized knowledge concerning what is; a normative or
regulative science [of economics that is] ... a systematized knowledge relating to
criteria of what ought to be ...; [and] an art [of economics that is] a system of
rules for the attainment of a given end.” He adds that the function of the art of
economics is “to enquire how nearly the ideal is capable of being attained, and by
what means.”

In the twentieth century, however, Marshall’s view of economics
as a tool for solving practical problems and Keynes’s idea that economics is also
an art, which seem more suitable to educational realities, have been suppressed, for
technical, professional, and ideological reasons, by a conception of economics as a
positivist, value-free science.

The methodological investigation conducted in this article, however, suggests
that the reintroduction of the view of economics as an art or a problem-solving
endeavor, which does not categorically exclude normative discussions and goes
beyond the hypothetico-deductive model of prediction, can enhance the role that
economic thinking should play in educational policy formation. In fact, there are
indications today that economic theory may actually be moving in this direction.
For example, the development of complexity economics and certain branches of
behavioral economics are steering economic thinking away from deductivism and
redrawing the frontiers of economics in a way that assigns a greater place to
human agency.

Yet, so far the effects of these developments on the world of
educational policy have been limited, and economic thinking in the educational
context remains largely entrenched in the neoclassical methodological foundation
examined in this article. As long as this is the case, economic thinking should
not be accorded a dominant role in educational policymaking, but should only be
viewed as providing one additional source of insight that has limited applicability.

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