

The Evolution of Economics: Where We Are and How We Got Here

By Peter J. Boettke, Peter T. Leeson, and Daniel J. Smith

This paper suggests that contemporary economics is characterized by three key features. First, it is focused on “big questions” in political economy and is willing to look outside economics to search for these questions and their answers. Second, contemporary economics is empirically focused. “Grand theory” has taken a back seat to empirical explorations of institutions in particular. Third, modern economics has been dramatically influenced by “freakonomics”—the application of economic principles to unusual and unorthodox topics—and is increasingly directed at a popular lay audience. We argue that these particular areas of modern economics’ evolution are not unrelated. The development of each key feature is connected to the others.

In the last decade or so, economics has undergone an impressive evolution. Economic principles haven’t changed. But economists’ applications of these principles have. There are three key features of contemporary economics:

First, economics has refocused its energies on the “big questions” of political economy and, closely related, is increasingly turning to insights from other social sciences to search for these questions and their answers.

Second, economics has largely abandoned “grand theorizing” for more empirically-minded projects. Although formalism is still prominent in economics, increasingly this formalism manifests itself via empirical techniques as opposed to novel theory. In particular, the empirical focus of contemporary economics is driven by the renewed importance attached to understanding institutions.

Finally, the face of modern economics has

been dramatically altered by the rise of “freakonomics”—the application of economic principles to unusual and unorthodox issues. Freakonomics is characterized not only by its provocative applications of economic concepts, but also by the fact that it is consumable by a popular, lay audience, which is increasingly exposed to the economic way of thinking.

These three trends are not separate and independent evolutions within economics. Rather, they are interrelated in several respects. These changes are positive ones for economic science.

Economics and the Hourglass

In his excellent paper on the state of economics in 1997, David Kreps draws on Paul Romer’s hourglass analogy to explain the evolution of economics from Adam Smith to the

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present.¹ See Figure 1.

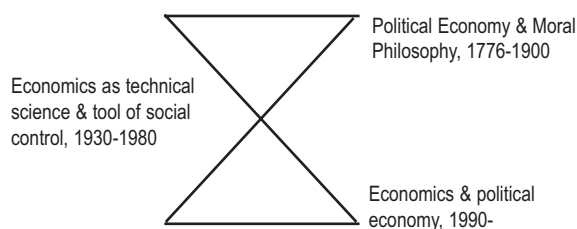


Figure 1: The Hourglass Shape of Economics

In Adam Smith’s day, “economics” was part of a much broader social science inquiry that included and drew heavily upon sister disciplines such as history, politics, philosophy, and sociology. This is the top of the hourglass, which is wide, representing the interdisciplinary nature of economic study and the “big picture”-type questions that this study asked, most famously, why are some nations rich while others are poor?

Nowhere is this broad approach more evident than in the work of Smith himself.² Like his fellow Scottish moral philosophers, Smith was fundamentally concerned with the connections and relationships between morality and the market. Even in his *Wealth of Nations*, which endeavored to answer a specifically “economic” question, Smith could not explore this question without thoroughly understanding the foundational animating forces of human beings, historically and in his own time. Those who built in the Smithean tradition, such as J.S. Mill, David Hume, and others, also applied this fundamentally interdisciplinary approach to economic inquiry.

Indeed, it is safe to say that “economics” in the narrow sense that is used to describe economic study in the mid-20th century did not exist for these thinkers. Moreover, when Smith, Hume, or even Mill was writing, the “marginal revolution” had not yet taken place in economics. A discipline of sterile rational choice, in which ends and constraints are taken as given, and perfectly informed (or

even “boundedly rational”) agents respond deterministically to relative price changes to optimize consumption or production decisions, had not yet taken form. Instead of “economics,” there was “political economy,” in which history, morality, and psychology—in a word, “humanity”—was at the center of analysis.

Unlike “economics,” “political economy” cannot do without these essential, if often intractable, features of the world. To go along with imperfect and socially-embedded man, classical political economy emphasized the importance of institutions, coping mechanisms that emerge to facilitate the ability of imperfect actors to coordinate their activities. In creating the “rules of the game” that govern interaction, institutions were central for those studying political economy because they not only shaped social outcomes, but also because they reflected—i.e., were shaped by—social outcomes. The classical political economists were thus first and foremost concerned with these institutions and the features of man’s reality that give rise to them.

F. A. Hayek provides perhaps the best summary of this tradition and its motivations. As he put it:

Smith’s chief concern was not so much with what man might occasionally achieve when he was at his best but that he should have as little opportunity as possible to do harm when he was at his worst. It would scarcely be too much to claim that the main merit of the individualism which he and his contemporaries advocated is that it is a system under which bad men can do least harm. It is a social system which does not depend for its functioning on our finding good men for running it, or on all men becoming better than they now are, but which makes use of men in all their given variety and complex-

ity, sometimes good and sometimes bad, sometimes intelligent and more often stupid. Their aim was a system under which it should be possible to grant freedom to all, instead of restricting it, as their French contemporaries wished, to “the good and the wise.” The chief concern of the great individualist writers was indeed to find a set of institutions by which men could be induced, by their own choice and from motives which determined his ordinary conduct, to contribute as much as possible to the need of all others; and their discovery was that the system of private property did provide such inducements to a much greater extent than had yet been understood.³

Hayek’s interpretation of classical political economy shows a concern with choosing man, but one with foibles and fears, who, precisely because of his imperfections, requires institutional restraints and filters to steer his activity in a direction to achieve economic cooperation and realize the gains from trade with his fellow man.

Following WWII, the narrowing of economics greatly accelerated, fueled in no small part by mathematical advances that soon defined what it meant to do “economics” versus other social sciences, which economists increasingly viewed with disdain.

This picture of the intellectual project of classical political economy was transformed into the science of “economics” only as we entered into the 20th century. The marginal revolution solved the “diamond/water paradox” that had so troubled the classical political economists, and later, equilibrium models presented the logic of competitive economic forces in a rigorous manner. But in the process

of doing so, the neoclassical presentation of the logic of choice and the logic of the market also established the use of formal methods—mathematics in particular—as the only way of analyzing economic problems scientifically. Questions of man’s foibles, fears, and stumbling in his quest to better his condition and exchange with his brethren, let alone the variety of informal and formal institutions that defined his environment of choice and interaction, simply had to be put aside for reasons of mathematical tractability.

At the same time, the marginal revolution operated to sever “economics” from “political economy” to a certain extent, or, perhaps more accurately, to carve out of this social science mish-mash the peculiarly “economic” elements, allowing them to be distinguished from the historical, philosophical, or psychological elements that were not readily disposed to analysis using marginal utility theory. In this way economics began to pull away from other social sciences, something that was reinforced by the growing methodological difference between “scientific economics,” which required formal testable propositions, and increasingly actually testing these propositions, in contrast to the historical or

philosophical dimensions of political economy that were not readily amenable to the application of such methods. Thus, from the marginal revolution onward, while ostensibly more “scientific,” economics also became narrower, analogous to the narrowing of the hourglass.

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defined what it meant to do “economics” versus other social sciences, which economists increasingly viewed with disdain. The substitution for Smith’s method of inquiry in 1776, and indeed of the big questions he posed, by models of general competitive equilibrium on the one hand, and technical growth models on the other, had reached completion by the late 1980s when the hourglass was at its narrowest. We had elegant presentations, but somehow they failed to capture the essential point about the “invisible hand” and the “division of labor” that Smith saw as the power of the market driving the wealth of nations.

But the decade of the 1990s saw a transformation of the discipline. The collapse of communism and the lingering problems of underdevelopment, in combination with the obvious fact that excessive formalism had ill prepared the best and brightest in the discipline to understand these two major empirical anomalies, led to a push to bring into economics questions of institutional environment (e.g., law and politics) and even cultural factors (e.g., ideology, beliefs, social pressures, etc.). The hourglass was beginning to widen at its base again.

In 2000 and 2001, Daron Acemoglu, Simon Johnson, and James Robinson published two seminal papers that signaled a return to Adam Smith’s “big questions,” using some of Smith’s modes of answering these questions. Harkening back to Smith’s argument in 1776, Acemoglu, Johnson, and Robinson’s work argued that the institution of private property rights was a critical determination of wealth and poverty. To tell their story, these authors also looked to history. In particular, they argued that the disease climate in Europe’s ex-colonies shaped the institutions that colonizers created in them, which in turn led to economic progress or stagnation many years later. Whether one agrees with this argument or not, it was central to putting history, institutions, and Smith’s big-questions approach

back at the center of economic study. The success of these authors is at least partly responsible for making it fashionable again to engage in more broad-ranging work, closer to classical political economy.

Another critically-important figure in enabling this broadening out is Andrei Shleifer, whose path-breaking research on legal origins, along with several colleagues, reintroduced the legal element of political economy in discussions of wealth and poverty.⁴ This important research suggests that the identity of colonizers mattered greatly for colonies because it critically shaped what kind of legal institutions they received through colonization. British colonies received the common law tradition. French colonies, in contrast, received civil law institutions. Thus, in Shleifer’s framework, as in Smith’s, history plays a vital role—through its impact on institutions—in shaping nations’ ability to prosper.

Like the work considered above, Shleifer’s marks a crucial movement toward the widening of the hourglass and points to a path for furthering this re-broadened political economic approach that tackles big questions and is not afraid to appeal to disciplines outside of economics to help find their answers.

Let’s Get Empirical

The big questions focus of much of contemporary economics necessitated returning to questions about institutions initiated by Smith, as reflected in the work of the authors discussed above. Institutional analysis in turn required focus on the empirical reality of the economic world. Institutions are important because of real-world “imperfections” that generate problems requiring solution. In fact, it is precisely these real-world imperfections that give rise to institutions in the first place. In a world in which individuals’ plans are already perfectly reconciled—such as the the-

oretical world of Walrasian equilibrium discussed below—there is no need for institutions, and, as such, a central element of reality is absent.

The empirical turn in economics is not solely the outcome of returned attention to institutions that attended the renewed focus on big questions in political economy. To be sure, economics was becoming increasingly empirical in its approach for many years leading up to 1990s. However, the focus on big questions in political economy and thus institutions demanded an empirical approach to economic science in ways that earlier 20th-century economics, unconcerned with such questions, did not. The reason for this is straightforward. Institutional questions are necessarily questions about how individuals who face problems in the real world cope with those problems. In particular, they are necessarily historical questions about the emergence of such coping mechanisms in the past and their persistence to today.

G.L.S. Shackle dubbed the 1930s “The Years of High Theory” in economics.⁵ However accurate his designation is ultimately judged, there can be little doubt that the period between 1950 and 1980 also saw an impressive ascendance of mathematical representation of economic theory. In fact, by the 1970s, individuals who communicated economic arguments in natural language were no longer considered theorists. The mathematical advances of the 1960s and 1970s, embedded in the Arrow-Hahn-Debreu model of general competitive equilibrium, were the starting point of all economic analysis and advanced economic training.

The competitive equilibrium model was intellectually elegant, but its formal rigor was purchased at a high cost in terms of realistic understanding of the functioning of the economic system. The Walrasian general equilibrium model substituted the pre-reconciliation of economic plans for the haggling and bar-

gaining of economic actors in the Smithian depiction of plan coordination through the market process. As noted above, exchange behavior and the institutions within which exchange takes place formed the core of the subject matter for Smith and the classical political economists. To Smith, a central mystery of the discipline was to explain the coordination of the vast division of labor that produces the daily product we take for granted without any central direction, and guided only by self-interest and profit seeking. The institution of private property and the legal framework that supports it generate the incentives, market prices, and profit and loss accounting that direct economic actors to specialize in production activities and realize gains from trade not only domestically but also internationally. For Smith, the economic system constituted a complex web of interconnected relations between dispersed economic actors. Social cooperation under the division of labor produced not only the common woolen coat on the back of the day laborer, but also the material progress that was responsible for lifting masses of humanity from abject misery and poverty.

The formalist rendering of these economic propositions under the auspices of economic theory had to simplify the problem for reasons of mathematical tractability. Rather than explain the reconciliation process, where disequilibrium prices and quantities set in motion self-correcting adjustments, the mathematical treatment of the problem required that the Walrasian auctioneer posted only the unique price vector that would solve the system of simultaneous equations. One aspect of the vast interconnectedness of the economic system was captured in the model, but not the processes of adjustment that coordinated the interconnectedness—a process that is necessarily facilitated by the institutions discussed by Adam Smith and his successors.

In the heyday of “grand theory,” then, insti-

tutions were jettisoned from the discussion by construction. The mathematics employed to solve the problem of optimality was not capable of explaining adjustment paths, which institutions emerge to facilitate. Indeed, as Joan Robinson had pointed out, in this framework, the only way to ensure an equilibrium solution was to begin in equilibrium.⁶

These heterodox criticisms of general competitive equilibrium had little impact on the orthodoxy. But theorists from Kenneth Arrow⁷ to Franklin Fisher⁸ started to admit that unless they could provide a plausible story about disequilibrium adjustment paths leading to equilibrium solutions, the entire enterprise of general competitive equilibrium possessed limited relevance. These efforts at developing a formal theory of disequilibrium adjustments to equilibrium resolution proved to be more intellectually cumbersome than desired. Theory as it was understood between 1950 and 1980 started to lose some of its luster.

Economics as a discipline was confronted with a choice: return to an older style of reasoning within economics to recognize once again a variety of behavioral motivations, cognitively limited actors, institutional contingencies, and historical contexts; or develop alternative formal representations that were intellectually more comfortable with non-Walrasian settings. While heterodox schools of thought, such as Post-Keynesianism and Old Institutionalism, and more traditional schools of thought, such as New Institutionalism, Law and Economics, and Public Choice, emerged in the 1970s and 1980s to more prominently argue within the economics profession for the older style of reasoning, that choice path was ultimately rejected.

Instead, formalism was redirected in a manner more consistent with discussions about the evolution of various equilibria and the institutions that facilitate this evolution using the tools of game theory. Unlike agents in the

Walrasian world, agents in game theoretic models can actually “interact” with one another. Their decisions impact the decisions of others, and agents’ self-interest can lead them to try to benefit at others’ expense. In response to the prospect of such opportunism, institutions emerge to convert situations of potential conflict into situations of agent cooperation.

The use of game theory for analyzing such situations had two important outcomes, both of which encouraged increasingly-empirical work in economics. First, with game theory came the problem of multiple equilibria, between which economic theory offered no satisfactory way of adjudicating. Only by appealing to empirical reality was it possible in these cases to make the case for one equilibrium over another. Second, in permitting some scope for institutions as coping mechanisms, game theory encouraged a focus on the specific empirical factors that gave rise to particular institutions.

This movement in theory coincided with a massive decrease in the cost of computing over time. Mainframe computers were replaced with desktop computers capable of advanced data analysis. In addition to looking to qualitative evidence in history, economists could address their theoretical inconclusiveness by turning to statistical analysis, which was becoming easier to perform.

A third factor encouraging economists to reconsider the importance of institutions, and thus to become more empirically oriented, was the collapse of communism in the late 1980s and early 1990s. In the 1930s, the Polish economist Oskar Lange had engaged in a debate with the Austrian economists, Ludwig von Mises and F.A. Hayek, over the possibility of socialist economic planning. Lange’s proposal for market socialism, rooted in the Walrasian framework, was seen at the time, and for many years to follow, as having won the theoretical argument for socialism. Although doubts were raised about the effec-

tiveness of socialism during the debate on the grounds of incentive problems that real-world socialism was likely to confront, the informational bankruptcy of socialism suggested by Mises and Hayek, which they argued was rooted in deeper institutional problems of socialism, was largely rejected.

The subsequent failure of socialism, predicted by Mises and Hayek before WWII, resurrected the deep institutional arguments against socialism the Austrians pointed to and demanded that economists reconsider the

ing and teaching to the test, and the impact of children's names on their future earnings. These topics fall under the rubric of "freakonomics," named after the important work of Steven Levitt and his coauthor Stephen Dubner.¹⁰

The incredible success of Levitt and Dubner's book has led to a series of others written by economists for the general public that attempt to demonstrate the applicability of economic reasoning to interesting and unusual problems. Economists Robert Frank,

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empirical reality of socialism relative to its theoretical promise, as well as reexamine the institutional critique of the Austrians during the socialist calculation debate that took place decades before. It became obvious, in other words, that the institutionally-antiseptic theory of the 1950s-1960s had to be replaced by an approach that could account for, and engage in, comparative institutional analysis.

Freakonomics and the Rising Popularity of Economics

Undergraduate majors in economics have dramatically increased since the mid-1990s.⁹ Some students have been drawn by the higher salaries in the field relative to alternative social science disciplines. But they have also been drawn to economics by the rise of popular works from this discipline that stretch the insights of economics to unusual topics that students are interested in learning about. This includes, for example, the relationship between abortion and crime, cheating among Japanese sumo wrestlers, standards of learn-

Tim Harford, Steve Landsburg, and Tyler Cowen have all added to this burgeoning movement in contemporary economics by providing economic twists on the stuff that makes up our everyday lives. Freakonomics-type work is not only fun and insightful—it is also digestible and in fact is often explicitly directed at a popular audience of non-economists.

This important trend in contemporary economics is highly desirable for several reasons. First, and most obvious, it has allowed the principles of economic reasoning to reach the minds of many more people than traditional academic economic research could achieve. Your uncle will be interested to learn about the financial organization of criminal gangs and how most drug dealers barely earn minimum wage. Unless he is an economist, however, he will not be so inclined to learn about details of the gravity model of bilateral exchange. If one takes the core principles of economics—incentives, opportunity cost, unintended consequences, and so on—to be

the most important aspects of the discipline, the freakonomics phenomenon is extremely important not only because it is interesting, but also because it familiarizes non-economists with the most significant concepts in economic science.

Second, and closely related, because freakonomics-type research often targets the public, it depends crucially upon conveying economic ideas using natural language as opposed to mathematics. It is too early to say, but the increasing popularity of freakonomics may have some effect in pushing economists back toward the style of reasoning and analysis the classical political economists employed. We do not expect natural language to totally supplant the use of formal language in the same way that formal language more-or-less totally supplanted the use of natural language in economics in the 20th century. However, the freakonomics phenomenon may at least make it possible to put natural language-style reasoning back on the table as one of several legitimate modes of scientific economic discourse.

If in fact such a movement takes place, economics may open up yet further to explore additional aspects of the big questions in political economy, which, while critically important, are not amenable to formal modeling or traditional econometrics, but instead demand a combination of philosophical and historical reasoning of the kind that economics began with in Adam Smith's work.

Concluding Remarks

Modern economics has followed an hour-glass-shaped path over the past century. Originally a branch of moral philosophy, political economy up through the 19th century was a broad-ranging discipline that touched upon issues in history, politics, sociology, and philosophy. Political economy asked "big questions," and many political economists

offered "big answers" in response. But during the 20th century, the penchant for big questions was replaced with a striving for formal rigor and precision. The idea was seductive. Ambiguity in thought, it was argued, results from using the same words to mean different things, or using different words to mean the same thing. We can overcome this ambiguity by moving decisively away from natural language and instead substituting mathematical representations. Mathematical modeling compels us to explicitly state the assumptions employed in our constructions.

Unfortunately, in the name of mathematical tractability, economists increasingly narrowed the analysis. Not only did the field of economics stop asking the big questions in social theory, it artificially narrowed its scope to such an extent that the discipline became more and more precise about less and less. The situation was unsustainable, and in the past 15 or so years, the discipline of economics opened itself back up to tackle the questions that had defined the field of political economics since its founding with Adam Smith.

As we ended the 20th century and the 21st began, the technical discipline of economics was once again transformed into political economy. Spurred in part by the renewed emphasis on the importance of institutions in analyzing the big questions of political economy, in part by the indeterminacy of equilibria with the growth of game theory, and in part by the growing ease of quantitative empirical work, economics also witnessed a movement in which "grand theory" took a back seat to more empirically-oriented projects that examine the institutional features of the world that underlie the rules governing social, political, and economic interactions.

Most recent, as a result of "freakonomics," there has been a dramatic rise in the popularity of economics as a major on college and university campuses across the U.S. and a tremendous growth in the public appreciation

of the discipline. Hopefully, this transformation will be accompanied by a return to natural language-based analysis in economics, which would allow us to understand in greater detail the array of factors that combine to create social cooperation and progress. ♦

Endnotes

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⁸ Fisher, Franklin M. (1983). *Disequilibrium Foundations of Equilibrium Economics*. New York: Cambridge University Press.

⁹ See, http://online.wsj.com/public/article/SB112052978616277054-vbmCp8DGminE3fKhMa5zouOt0R4_20060705.html?mod=blogs.

¹¹ Levitt, Steven D., and Stephen J. Dubner (2005). *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*. New York: William Morrow.