

**SCHWARTZ CENTER FOR
ECONOMIC POLICY ANALYSIS
THE NEW SCHOOL**

SCEPA Working Paper 2006-2

The New Social Science Imperialism and the Problem
of Knowledge in Contemporary Economics.

William Milberg*

Forthcoming in S. Gudeman, editor, Economic Persuasions, Oxford: Berghan.

* United Nations Department of Economic and Social Affairs (DESA) and New School for Social Research. Research support from DESA and the Ford Foundation and suggestions by Jose Antonio Ocampo are gratefully acknowledged.

The New Social Science Imperialism and the Problem of Knowledge in Contemporary Economics.

William Milberg

1. Introduction

Many scholars have accepted the dominant role of economics in the social sciences because of the perceived power of its first fundamental welfare theorem: the social optimality of a fully decentralized (privately-owned) and competitive economy rooted in rational individual choice. In this chapter I argue that mainstream economics largely abandoned this theorem almost twenty years ago and has subsequently moved through two new methodological phases. The first phase was a “New Economics” that emerged in the late 1970s, in which somewhat *ad hoc* models of rational choice generated unorthodox, indeterminate and unrobust conclusions about a variety of relevant economic questions related to international trade, technological change, unemployment, economic growth and development. The unsatisfactory nature of the models’ conclusions subsequently pushed economists into a new, empirical mode, in which rational choice and microeconomic foundations were no longer the basis for new knowledge or even for the generation of new hypotheses. In this latest methodological phase, the questions economists pose for purposes of research start from a variety of sources and the distinction of the research rests on its careful statistical analysis.

While the recent empiricist phase has left open the possibility of new, organic, and even pragmatist approaches to the pursuit of knowledge of the economy, more than anything

it has led to a new source of imperialism of economics among the social sciences. In the earlier methodological phases the economics profession's tentacles reached across the social sciences due to the power of its notion of agency rooted in "rational economic man." Today economic research ventures onto the traditional terrain of the other social sciences because of an aggressive application of statistics applied to extensive sets of quantitative data. The new imperialism of economics in the social sciences leaves a theoretical void, and will likely be contested because of both old and new problems with empirically-based knowledge. Also, the theoretical void is rapidly being filled with a narrow, rational-choice based, conception of institutions. This may be the most contentious aspect of the new approach.

After describing these recent developments in economics, I focus on some problems with the new empiricism as it has unfolded in contemporary research. I conclude with a discussion of the nature of the new intellectual imperialism of economics and of the particular conception of institutions that is emerging as central to the future of social inquiry.

2. Imagined Economies

The notion that a fully decentralized and competitive private ownership system with self-interested and rational actors leads to a socially optimal economic outcome is disarmingly simple and has been articulated with great mathematical eloquence, in particular in the works of Arrow and Debreu (1954) and Arrow and Hahn (1971) who use standard techniques of calculus and by Debreu (1959) using concepts from topology. The idea is typically dated to Adam Smith's metaphor of the invisible hand, but it was not until the late 19th century, with the marriage of utilitarianism and differential calculus in economics, that

rational individual choice provided the foundations for the principle.¹ And it was not until mathematical economics took hold in the United States after World War II that the pursuit of new economic knowledge was driven by notions of marginalism and the possibilities of general equilibrium. Alfred Marshall's utilitarianism, which dominated economic thought and teaching between the 1890s and the 1930s, focused on partial equilibrium and was presented in the social and historical context of Victorian England. In his 890-page tome, The Principles of Economics, Marshall mentions general equilibrium and the work of the 1870 group only twice.

The shift that occurred in the U.S. around the time of World War II was not about methodological individualism *per se*, although this was certainly an important feature of the American models. In the 1840s, John Stuart Mill had already made the case for methodological individualism in economic inquiry. The shift in the 20th century was more about optimization. The key was the prominent role of scarcity. For Mill, economics was about the individual "desire for wealth" (Mill, 1874, p. 138) and for Marshall it was "the science of material welfare." (Hands, 2001, p. 35) Not until Lionel Robbins' 1932 piece, "An Essay on the Nature and Significance of Economic Science," did choice under conditions of scarcity become the defining condition of the economic. "Economics," he wrote, "is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." (Robbins, 1932, p. 16),

¹ The synchronicity in the development of this idea in various guises by Jevons, Menger, Walras, and Gossens around 1870 has never been fully explained.

The scientific goal of the marginalist project was the *generalization* of the logic of the beneficence of a purely competitive private enterprise system. Generalization was defined in the mathematical sense: if the same result could be generated with “weaker”, that is mathematically less restrictive, assumptions, then the model was termed more robust than the earlier model and constituted an advance in economic knowledge.² For example, if the current proof of the existence of general equilibrium relied on concave utility functions, then a proof that assumed preferences to be quasi-concave constituted progress in knowledge because it held under more general (less restrictive) conditions. The reliance on mathematics was seen by some as a weakness of economics, an effort to veil an ethical bias beneath scientific metaphor.³ However, the clarity of its criterion for the progress of knowledge was viewed as a great scientific strength.

The influence of the first fundamental theorem of welfare economics on the imagination of social scientists is evident in the vitriol from those who embraced it and those who rejected it. Mirowski (2002) gives a detailed history of how computer technology fed economists’ sense of the importance and modeling possibilities of rational individual choice in the outcome of markets and a variety of strategic games--principles promoted further by financial support from the US government during the Cold War. But many social sciences other than economics (political scientists most notably) have embraced the rational choice approach.

² McCloskey (1985, p. 71) puts it concisely: “Relaxation of assumptions is the essay-maker of modern economics.”

³ See, for example, Myrdal (1928).

Resistance to the model comes from resentment of its imperialism in social thought (the wrath against Gary Becker's theory of marriage and the division of labor is the most evident example), but also from those who prefer explanation over prediction, rich social and cultural description of production and consumption rather than parsimonious mathematical formulas. The price of strict hypothetico-deductivism—narrow, unrealistic assumptions about agency and social interaction and mathematically tractable assumptions on consumer preferences, technology and economic growth—is viewed by many social scientists as too high a price.

But from where does the persuasive power of the economics metaphor and its first fundamental theorem come? Briefly, there are three sources: methodological, ideological and sociological. The methodological strength is economics' individualism, axiomatic precision, deductive rigor, and tightly construed hypothetico-deductive approach that approximates, as many have noted, the methods from physics, which is so often viewed as the ultimate hard science.

The second source of power is ideological, in that the fundamental theorem gives scientific support for free market capitalism in its purest form, that is, as a system of private property with no role for government.

The sociological explanation is that it is the economists who are in positions of power, with an advisory role in the executive office of most countries (or, as in several Latin American countries, they *are* the executive), large government consulting contracts, and a dominant role in economic development policy in the IMF and World Bank.

If all this were not enough, economic thought of the immediate post World War II era functions at the psychological level, providing a sense of systemic order and benevolence in a world that often appears random, volatile and unjust. In a well-known passage from his Essays in Astronomy , published in 1758, Adam Smith wrote: [T]he repose and tranquility of the imagination is the ultimate end of philosophy...Philosophy, by representing the invisible chains which bind together all these disjointed objects, endeavours to introduce order into this chaos of jarring and discordant appearances, to allay this tumult of the imagination.” (Heilbroner, 1986, p. 16) The first fundamental theorem serves to allay the tumult, providing a logical picture of order and justice.⁴

3. The New Economics

Given its great sources of strength, the dominance of the competitive general equilibrium analysis was surprisingly short lived. One problem was technical, specifically the inability to prove the uniqueness and stability of the general equilibrium. Mark Blaug (2001, p. 160) sums up the frustration with these internal limitations of the competitive model:

[T]he most rigorous solution of the existence problem by Arrow and Debreu turns general equilibrium theory into a mathematical puzzle, applied to a virtual economy that can be imagined but could not possibly exist, while the extremely relevant “stability problem” has never been solved either rigorously or sloppily. General equilibrium theory is simply a research program that has run into the sands.

⁴ In Milberg (2002), I link this emotional dimension to the fantasy of ethnic assimilation in post-War U.S.

Another problem, hinted at by Blaug above, was the lack of compelling empirical validation of the model's implications. This brought into question the model's scientificity in a world dominated by Popperian concerns with theory falsification. It also brought uncertainty about the usefulness of the theory for policy formation. As Colander (2000) writes:

In the 1950s and 1960s, it was hoped that practical models would be guided by general equilibrium theory. Thus, when Arrow/Debreu proved the existence of a general equilibrium in 1957, there was hope that the pure science of economics would progress in tandem with the practical application of that science. By the 1970s economists recognized that the Arrow/Debreu general equilibrium work was not going to get to the promised land.

Ultimately these deficiencies were not the main causes of the internal revolt. It was the aridity, that is, the insulation from institutional and historical detail that brought a degree of self-questioning and rethinking. As early as 1975, Alan Coddington likened the contribution of general equilibrium theory to the understanding of actual economies as "the contribution of flatness to mountaineering." The limitations of its applicability to the world were already well recognized by economists, and around this time a small, internal response began. This move, what I will call the New Economics, did not abandon the primacy of rational economic man, but it did alter some of the fundamental assumptions of the previous framework. In the process, economists quietly abandoned the earlier methodology's powerful criterion for judging the progress of knowledge.

The New Economics arose in a series of sub-fields in the profession, including international economics, labor economics, industrial organization and macroeconomics. In the New Economics, general equilibrium was not the core, guiding principle. As Colander (1999) writes, the new generation of economic models “freed economists to deal with practical policy models that were inconsistent with general equilibrium theory.” At the same time, the robustness criterion for determining progress of knowledge was largely abandoned and an increasing reliance on inductivism entered into mainstream economics. Let’s consider some of the basic insights from the New Economics in the areas of international trade and economic growth.

Strategic Trade Policy

The field of international trade theory was long viewed (proudly by its practitioners) as the most direct and relevant application of the neoclassical general equilibrium model. The various theorems derived from the factor endowments approach to trade gave dramatic results regarding the effects and merits of free trade. Despite early empirical evidence rejecting the basic trade theorem (the Leontief paradox), neoclassical trade theory continued to thrive and dominate the scholarly journals and the trade policy debates.

But the theory simply could not explain some simple and regularly observed phenomena. For example, why did France and Germany export automobiles to each other (in violation of the principle of comparative advantage)? Why were Japanese and Korean subsidies and protectionism successfully boosting exports and growth in those countries (distortions were supposed to reduce welfare)? Why did industrialized countries’ state

subsidies to R&D seem to pay off in terms of private sector profits and export market growth (efficient capital markets were supposed to provide optimal financing of investment)? In some of these instances, the theory was not sufficiently open to allow even the posing of the question! A new approach was required if these relevant issues were to be addressed.

Beginning in the late 1970s, a new generation of trade theorists introduced increasing returns to scale, monopolistic competition and strategic behavior by firms and governments into the model, seeking to provide a rational choice (although not perfect competition) basis for explaining the casually observed new tendencies in the world economy. By 1983, Paul Krugman, one of the pioneers in this area, was already summarizing the radical theoretical break of the “New International Economics” in an essay for the American Economic Review (Krugman, 1983). Krugman admitted that the new models provided an alternative to comparative advantage to explain the pattern of international trade. The policy implications also diverged from the free trade mantra underpinned by the traditional trade model. For example, the new theory showed that government intervention in the form of subsidy of R&D could promote technological progress by domestic firms that would lead to the capture of exports and profits that would otherwise be lost to other countries.⁵

Increasing Returns and Endogenous Economic Growth

Another major focus of the New Economics was on the theory of growth. Traditional mainstream economic growth theory, based on the papers by Robert Solow in 1956 and 1957, located economic growth in three basic factors: (1) technology, assumed to

⁵ This result and many others like it led to discomfort bordering on schizophrenia in the field, where proponents of the new models denied the policy relevance of their own models! For a discussion, see Milberg (2001).

be given to the model and characterized by constant returns to scale, (2) capital intensity, that is, the amount of capital per worker in the economy, (3) technological change, which was a catch-all for everything else not captured by (1) and (2). Solow's (1957) stunning empirical finding, based on evidence for the U.S. economy for the period 1909-1949, was that 85% of U.S. economic growth in this period was attributable to technological change. This was particularly striking because such technological change was considered by Solow to be exogenous, that is, *given*, to the economic model.

After a long reign of supremacy, and a sense within the profession that the question of economic growth had been solved, the Solow model came under scrutiny in the 1980s because of its prediction that over time all countries would converge to a common standard of living, as those countries with lower capital intensity would enjoy higher rates of economic growth than countries with high capital intensity. Cross-country evidence did not support convergence and a number of studies even showed divergence: Over long periods of time, the rate of economic growth of the industrialized countries rose, while in many poor countries it remained relatively stagnant. The response was a series of growth models which assumed increasing returns to scale. This rendered technology endogenous in the sense that a higher scale of production resulted in declining average production costs. The new models were consistent with the evidence of international growth rate divergence, but they did not have many of the nice properties of the Solow model. For example, many of the models gave numerous possible outcomes, otherwise known as “multiple equilibria”.

Creeping Inductivism and the Retreat from Robustness

These new approaches all sought greater relevance, and had some common features across sub-fields, including an emphasis on imperfect market competition (rather than perfect competition), on asymmetric information (rather than symmetric information), on increasing returns to scale technology (rather than constant returns to scale), or on strategic behavior by firms and governments (as opposed to optimization independent of rival behavior). The mathematical functions that represented technology and preferences reflected these assumptions. Consider the completely general functional form of the utility function assumed in the general equilibrium tradition:

$$U = U(x_1, x_2, x_3, \dots, x_n)$$

where U = utility

x_i = good i and $i = 1, \dots, n$

Now consider the utility function that dominated theory in the New International Economics, the so-called Dixit-Stiglitz utility function:

$$U = (\sum x_i^\theta)^{1/\theta},$$

where U and x_i are defined as above and θ is a parameter reflecting the elasticity of substitution, that is the consumer's willingness to substitute one good for another. The standard general equilibrium utility function was a general relation between utility and commodity consumption, while the new function assumed imperfect competition and multiple varieties of a good with equal cross-price elasticities for all varieties of goods.

The New Economics constituted an internally generated crack in the grand metanarrative in economics, that the general equilibrium (with all agents' preferences

satisfied at market clearing and given prices) exists, is unique, stable and Pareto optimal. Even the concern with Pareto optimality were often abandoned—too difficult to prove under the new assumptions—in favor of a “representative agent,” whose utility became the focus of welfare assessment. The results were certainly more varied, contingent, explosive and path dependent than those produced in the era of competitive general equilibrium. The New Economics shifted the focus away from competitive general equilibrium and toward the provision of a rational choice foundation to otherwise *ad hoc* hypotheses. Heilbroner and Milberg (1996) describe the changes in this period as an “inward turn.” The goal appeared to be to explain in rational choice terms a variety of casually observed phenomena. Such an explanation was important mainly to render these phenomena logical in the eyes of other economists.⁶

While these new sets of assumptions are typically identified as the chief characteristics of the New Economics, methodologically speaking the important shift was the move away from the strict hypothetico-deductivism of general equilibrium analysis and toward a vaguely construed inductivism. The New Economics did not cause an abandonment of rational choice mathematical modeling, and in the case of New Keynesianism actually increased its role. But the New Economics constituted the beginning of a reversal of the direction of the relation between observation and hypothesis, that is to say a shift in the accepted conventions for producing economic knowledge. In the New

⁶ In a telling anecdote, Warsh (2006, p. 318) reports that when Krugman discussed his New Economics insights related to economic geography with a “noneconomist friend” the reply was “Isn’t that all kind of obvious?”

Economics, theories were often derived in a way so as to give a particular result or they were constructed in a way that led to instability or path dependence. Results were not only not unique--multiple equilibria were now the norm rather than the exception--they were not robust, that is, the results were highly sensitive to the choice of assumptions, parameter values and functional forms.⁷

The least noticed, but perhaps most important aspect of this shift for our purposes, was the abandonment of the criterion for assessing the progress of knowledge. In the era of competitive general equilibrium analysis, as I noted above, an economic model was understood to generate new knowledge if it provided a proof of a known result, but required weaker, that is more general, assumptions than did existing proofs of that same result. The great strength of this methodology was the clarity of its criterion for establishing the progress of knowledge—increased mathematical generality, or robustness, of its proofs. In the era of New Economics, robustness was thus inadvertently abandoned as a methodological principle.

4. The Empirical Turn

If the lack of robustness posed a problem for identifying progress of knowledge, it was also an obstacle for those interested in drawing policy recommendations based on the theory. There was a feeling that the models were *ad hoc* and could be used to model *any* pre-determined outcome. Moreover, the models were difficult to operationalize and thus to assess with traditional tools of empirical analysis.

⁷ The lack of robustness identified early on in the development of this paradigm, and was used to downplay the significance of its policy implications. See, for example, Grossman (1986).

The response to the weaknesses of the New Economics in the late 1990s has been an empirical turn, a further distancing of economics from the hypothetico-deductivism of the competitive general equilibrium era. In this era, hypotheses are often rooted in simple economic logic, intuition, or even as a response to current events, and emphasis is no longer placed on the deductive model but instead on the sophistication of the measurement of variables and correlations among them. Some examples are Rodrick's (1998) study of the relation between wages and democracy, Krueger and Whitmore's (2000) analysis of the relation between class size and student performance, Krueger and Card's (2000) study of the employment effects of a minimum wage increase, and Edmonds and Pavcnik's (2005) study of the effect of trade liberalization on child labor. None of these papers contains a formal mathematical model and thus they do not depend in a significant way on the assumption of utility or profit maximization.

Consider Edmonds and Pavcnik's (2005) study.⁸ The paper begins with a verbal argument for why liberalization of rice exports raises the price of these exports. Two effects of this price increase are possible: If the trade liberalization raises the income of rice farmers sufficiently it can induce higher rates of school attendance by Vietnamese children, who are no longer needed on the farm to generate basic family revenue. It could also lead families to demand more child labor if the attainment of higher production for higher income required it. The relation between trade liberalization and child labor is thus "an empirical question." And the authors adopt fairly standard econometric practice to draw a conclusion.

⁸ For a more detailed review of other examples, see Milberg (2004).

The central result is reprinted in Table 1 below. At first glance the table is unremarkable. It is based on a simple econometric model (six independent variables plus a constant term) that includes price, income (price times quantity) and controls for other variables that might be important, mostly demographics on household composition, season, age and gender. Most of the coefficients are labeled as “significant at 5%,” implying a relatively low degree of chance that the “real” coefficients are zero. The R-squared, measuring the percentage of variation in the dependent variable explained by the model, is at acceptable levels for panel studies of between 0.54 and 0.61, and the small range across models is reassuring.

Table 1
Child Labor Participation, Rice Prices, and Net Production
 Children 6-15 in rural panel households

	(1) Child Labor	(2) Child Labor	(3) Work in
--	-----------------	-----------------	-------------

			Agriculture	
Ln(Rice Price)	-0.291	- 0.234	0.07	
	[0.085]**	[0.087]	[0.083]*	
Ln(Rice Price)*Net Production		-0.054	-0.035	
		[0.015]**	[0.009]**	
Time = 1998	-0.175	-0.174	-0.134	
	[0.025]**	[0.026]*	[0.031]**	
Household Fixed Effects	Yes	Yes	Yes	
Season Effects	Yes	Yes	Yes	
Age*Gender Series	Yes	Yes	Yes	
Observations	9027	9027	9027	
R-squared	0.61	0.61	0.58	

Notes: All regressions also include a constant. Robust standard errors, corrected for community/year clustering, in brackets. * significant at 10%; ** significant at 5%. 6 children that participate in agricultural work have missing data on work in household production and are omitted from column 4.

Source: Edmonds, E. and Pavcnik, N. (2005) "The Effect of Trade Liberalization on Child Labor," Journal of International Economics V. 65, No. 2, March, pp. 401-419.

At second look, however, the table reflects many of the trends we have identified in contemporary economics, including the abandonment of both the old general equilibrium economics and the New Economics and instead the move to careful empiricism. For starters, the article is published in the Journal of International Economics, the leading mainstream journal in the field, and traditionally a journal of theory and certainly of mathematical rigor. But times have changed. This study gets a clear result without an explicit rational choice premise. The paper contains no general equilibrium model and no utility or production functions. There is not even a deductive model of international trade, much less one of labor supply or of time allocation in the household.

The larger point here is that the old and the New Economics would have had difficulty even considering the issue of child labor. Moreover, the results of the study as

presented in the table confirm the free market version of the “theory”, specifically, that trade liberalization is associated with a lower incidence of child labor and even of child work in household production. Would the paper have been published if the estimated coefficients on the rice price variable had been positive (indicating a higher price is associated with higher child labor supply) or insignificant? This is hard to know. Note that sometimes the new empiricism provides an effective challenge to conventional wisdom, for example the Card and Krueger (1995) study refuting the negative employment effects of a minimum wage increase.

The gradual erosion of the narrow deductivist criterion for the generation of hypotheses has created a broadening of the acceptable criteria for hypothesis generation in mainstream economics. There is a longstanding tension between deduction (“pure theory”) and induction (“applied analysis”) in economics, but in past epochs it was the deductivists who won out, in both the classical and the neoclassical epochs. In the present case, not only does it appear that inductivists may win out, it is also the case that many of the same economists involved with the New Economics have switched over to the New Empiricism.

Figure 1 depicts the three methodologies applied to the study of international trade in mainstream American economics beginning with competitive general equilibrium analysis from the early part of the 20th century. General equilibrium trade theory was built on axioms which generate hypotheses about the direction and welfare effects of trade with liberalization. The New International Economics began by positing a phenomenon to be explained and proceeded to establish the functional forms and assumptions on agency that,

with rational behavior, produced the posited outcome. In the new empiricism there is even less stringency over the choice of hypotheses and the emphasis is on the empirical test of the hypothesis. In sum, a creeping inductivism replaced the strict hypothetico-deductivism of competitive general equilibrium analysis. What constitutes the proper scope of the field of economics, that is, what questions mainstream economists should appropriately pursue, is no longer self-evident today as it had been under previous methodologies.

The recent best-seller Freakonomics (Levitt and Dubner, 2005) is a popular version of the new empiricism. The book contains two types of essays. One is the very loose application of rational choice thinking to spin implausible hypotheses on causality. This is exemplified by the infamous hypothesis that Roe vs. Wade led to reduced crime rates some years later.⁹ The second is the focus on aberrant behavior (cheating teachers, drug dealers) to show how even cheaters and criminals can be understood as behaving rationally (that is, if the expected utility of crime is greater than zero) In Freakonomics, the methodology can be described as a very loose use of rational choice logic and very clever use of data and statistics. The title of the book reflects the effort to glorify the randomness of its “context of discovery”. The lack of a clear criterion for the progress of this type of knowledge makes its sustainability in scholarly circles problematic.¹⁰ But Freakonomics is a popular reflection of the broad paradigm shift in the field of economics generally.

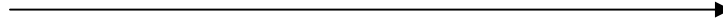
⁹ I say infamous because the work has come under much critical scrutiny for the construction of some of the variables. See, for example, Foote (2006).

¹⁰ The inevitable spinoffs of Freakonomics have begun, and not surprisingly for the male-dominated field of economics, the subject is professional sports. See Berri et al. (2006).

Figure 1

A. General Equilibrium Trade

1. Axioms

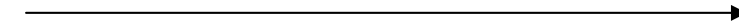


utility maximization
profit maximization
free trade

comparative advantage
interindustry trade
factor price equalization

B. New International Economics

intra-industry trade



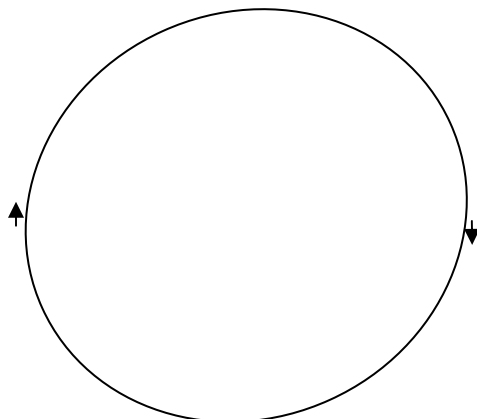
assumptions:
imperfect competition
product variety
increasing returns



utility maximization
profit maximization
strategic trade policy
game theory

C. New Empiricism

Trade liberalization
reduces child labor



1. data set
with controls;
econometric
model
estimation

5. Knowing Econometrically

The re-emergence of the centrality of induction in economics circumvented the problem of *ad hocery* that characterized the New Economics. It also established a new type of beachhead for economic research across the social sciences, no longer rooted in rational choice, but rather in statistics and econometrics. But the move to full-fledged inductivism is problematic. The first issue is the problem of induction itself. The second is the theoretical void left by the move away from rational choice. I deal briefly with the first issue in this section and take up the second in the next, and concluding, section.

If deduction can never overcome its “sausage problem” (that no *new* knowledge can be generated deductively since any result from mathematical reasoning is already contained in the initial formulation of the problem itself), induction will never surmount its “swan issue” (that just because all observed swans are white it is not possible to rule out that the next swan observed may be black). This is the nagging Humean “problem of induction” that empirical observation can never provide universal or general knowledge since it is always based on a particular, non-universal sample.

An aspect of the problem of induction more specific to social phenomena is the near-impossibility of performing repeated experiments. This issue was addressed in economics with the adoption of Neyman-Pearson techniques of statistical inference, beginning in the 1920s. While the multivariate regression model does not constitute repeat experiments (other than replication), it involves the next best thing: isolating the relation between two

variables while “controlling” for variation in other variables deemed relevant to influencing variation in the dependent variable. Such near-experimental conditions also allow for (in fact assume) a certain amount of random movement around the real relations among variables, which further justifies the use of “noisy”, real-world observations to test otherwise deterministic models of economic interaction.¹¹

Econometrics is used to answer two types of questions. The first is about the validity of a particular refutable hypothesis. For example, are wages higher in countries with more democratic political arrangements? The second type of question is about the size of a particular relation between variables. For example, what is the magnitude of the effect on wages of a payroll tax increase? There are difficulties with each of these empirical exercises, some surmountable, others not.

The “con” in Econometrics

Since scholarly journals generally publish only positive results—that is, results that support rather than reject the hypothesis—economists, who have strong professional incentives to publish in these journals, will alter the model specification until the best possible result is attained. Leamer (1983) labeled this the “con” in econometrics. His concern was that this bias had greatly diminished the legitimacy and credibility of published econometric studies:

There is a growing cynicism among economists towards empirical work. Regression equations are regarded by many as mere stylistic devices, not unlike footnotes referencing obscure scholarly papers...The econometric art...involves fitting many,

¹¹ Mirowski (1988) shows that it was precisely this application of stochastic concepts to economics that saved economics at the time from the criticism of the limited applicability of its determinate models to explain (noisy) social outcomes.

perhaps thousands, of statistical models. One or several that the researcher finds pleasing are selected for reporting purpose....The concepts of unbiasedness, consistency, efficiency, maximum-likelihood estimation, in fact all the concepts of traditional theory, utterly lose their meaning by the time an applied researcher pulls from the bramble of computer output the one thorn of a model he likes best, the one he portrays as a rose. The consuming public is hardly fooled by this chicanery. (Leamer, 1983, pp. 36-37)

Mayer (2000) surveyed 278 economists on their belief in published econometric studies and found that about 30 percent were either quite skeptical or distrustful of most or all econometric results. Leamer suggested that journals publish *all* the model estimations for each final estimation cited in an article. He noted that with increasing computing power and falling computing costs the number of runs was only rising and could be in the thousands for a given article.

Economic Constants?

Economics has resisted the Humean curse by seeking to establish the existence of certain stable relations among economic variables and between economic change and social welfare. An example is the quantity theory of money relating changes in the price level to changes in the supply of money. The presumed stability of this relation has led many to support a rule for a constant and low rate of growth of the money supply. But Mirowski (1994) found the establishment of empirical constants to be particularly problematic in economics. He calculates the birge ratio (a measure of variation across a sample) in estimates of particular economic relations. This measure has been used in similar meta-analysis done in other fields, including the natural sciences and public health. Mirowski found that estimates of such concepts as the US interest rate elasticity of money demand, the US import

price elasticity, and the US output elasticity of employment varied widely across samples, model specifications and estimation techniques. The problem of wide variation in the estimate of theoretically stable parameters, while not often acknowledged among practitioners, has no doubt contributed to the difficulty of resolving economic debates using empirical observation. There is no clear criterion for establishing whose constant is the right one.

The Kletzer Effect

But what if there is no debate over model specification or choice of sample? Then the con of econometrics and the problem of high variation across estimates disappears...almost. It turns out that a given result can support various theories or be given radically different interpretations. I call this the “Kletzer effect” after a recent debate in the interpretation of a study by University of California-Santa Cruz economist Lori Kletzer (2001). Kletzer’s study is used to support both sides in the debate over the effects of rising international outsourcing by U.S. firms, one side that claims international trade benefits US workers, the other arguing that it is harmful to the interests of American workers.

Kletzer (2005) summarized her results as follows: “Import competition is associated with low reemployment rates (on the order of 63 percent for the period 1979-2001)...Two-thirds of reemployed workers earn less on their new job than they did on their old job, and one-quarter experience earnings losses in excess of 30 percent. The average earnings loss is more modest, but still sizable at 13 percent. The distribution of earnings losses is very similar to that found for all workers displaced from manufacturing jobs for other reasons.

(Kletzer, 2005, p. 43)

No one debates the quality of Kletzer's empirical work and it is published with a well-respected research institute, the Institute for International Economics. Also, her results are eminently plausible: not too high and not too low. People on both sides of the issue are comfortable using Kletzer's results in support of their views. Consider some recent examples. Agrawal and Farrell (2003) cite the Kletzer study and conclude that the results "substantiate very high expectations of redeployment for the economy as a whole...[T]hese levels of reemployment and recapture translate into an additional 45 to 47 cents of value recapture for the economy...What has made this possible is the flexibility in the job market and the mobility of workers across the country." (p. 11) Amiti and Wei (2005) write that "The McKinsey report [by Agrawal and Farrel] indicated that more than 69% of workers who lost jobs due to imports in the United States between 1979 and 1999 were re-employed ...Of course, this means that 31% were not re-employed, highlighting that there may be some rigidities in the labor market". Apparently, one's person's flexible market is another's rigid market. Bhagwati et al. (2004), in their defense of the general benefits of U.S. offshoring, claim that the findings of the Kletzer study show that there are no special labor market effects of outsourcing as separate from technological change. They write that "the rate of reemployment and wage changes for workers that Kletzer characterizes as trade displaced are quite similar to those for other workers. In other words, a common factor, most likely technological change, is behind the displacement in all categories." (Bhagwati et al., 2004, pp. 111-112). Levy (2005), who is skeptical of the beneficial effects of U.S. services offshoring,

writes that “the [Kletzer] data are mixed at best...The fact that this study [the Kletzer study] was cited by Agrawal and Farrel in support of their claims about worker mobility again suggests the ideological nature of these beliefs.” (Levy, 2005, p. 687)¹²

At the heart of the Kletzer effect is the issue of the problem of establishing conventions for assessing the merits of an empirically-based argument. Even when such conventions exist, there is nothing objective about them. Why does a ten percent probability of error constitute a significant result, and not 15 percent or .01 percent? And of course there is no reason why such conventions shouldn't change over time (as they have with the introduction of cointegration analysis into time series econometrics over the past 20 years). The presumption of an objective standard has given enhanced status to the statistical definition of significance. McCloskey calls this the “abuse of significance”, whereby economists substitute the statistical concept of significance-- rooted in probability theory-- for broader notions of significance for economy or society (McCloskey, 1983, 1996, McCloskey and Zjiliac, 2000). As Blaug (1980, p. 22) has written, “Whenever the predictions of a theory are probabilistic in nature (and what predictions are not...) the notion of assessing evidence without invoking normative methodological principles is an absurdity.” The Kletzer effect arises when norms are indeterminate to the point where the same empirical finding gets marshaled by opposing sides of a debate.

7. Conclusion

¹² Given the diversity of interpretations of Kletzer's work among scholars, it is not surprising that a similar divide occurs in popular discussion of the impact of international trade on American workers. Friedman (2005) cites the study as providing reassurance that adjustment to expanded international trade is relatively smooth. Dobbs (2004) writes with alarm that those who lose jobs to outsourcing, are “finding new jobs that pay only about 80 percent of their original wages.” (p. 104)

Economist Jack Hirshleifer wrote in 1985 that, “There is only one social science...What gives economics its imperialist invasive power is that our analytical categories—scarcity, cost, preferences, opportunities, etc.—are truly universal in applicability...Thus economics really does constitute the universal grammar of social science.” (Hershleifer, 1985, p. 53) Today the move by economists into non-traditional areas of study that are normally the focus of political science, anthropology and sociology has been furthered precisely by the abandonment of its “universal grammar.” I have argued that it is econometrics and induction, not rational individual choice analysis and its hypothetico-deductivism, that provides the new tools for imperialism of economics in the social sciences. This is ironic since it was the rational choice paradigm that was said to be the source of this intellectual imperialism.

In the absence of such foundations, the important debate will be over how research questions will be selected—that is, what will be the likely trajectory of this new intellectual imperialism? If recent scholarly research is any indication, the organizing principle will revolve around the role of “institutions.” Institutions will provide the shell within which the new imperialism of economic proceeds. It is through institutional models that economics in its newest methodological phase can explore outcomes outside the traditional purview of economics. And it is with institutions as the category of analysis that empirical regularities can continue to dominate over rigorous rational choice deductivism in the explanation of outcomes.

The argument becomes more complicated when we see the type of institutions on which economists have begun to focus. The important institutions for the new empirical economists appear to be those that establish and protect property rights, having to do with land ownership regulation, transparency of taxes, subsidies and regulations, the likelihood of property expropriation and generally related to the private appropriability of revenue from economic activity. This research is driven by the insights of the new institutionalism (for example, North, 1990) which sees social organizations (e.g. firms) as the result of the inefficiency of markets, often rooted in inadequate property rights regulation. With this guiding principle, economists have sought to explain issues such as child labor (Edmonds and Pavcnick, 2005), civil war (Collier), technological innovation (Mokyr, 2004), political formation (Acemoglu and Robinson, 2004) and the failure of international aid to developing countries (Easterly, 2006). Recent research along these lines captures culture (Guiso et al., 2006), religion (McLeary and Barro, 2006), politics (Rodrik et al., 2002), and the sociology of business (Langlois, 2003). Working against the imperialistic tendency is that in their work on institutions, these economists are also drawing on research in other social sciences and even engaging in interdisciplinary research projects.¹³

In sum, there has been a demotion of *homo economicus* and a promotion of the role for institutions in the explanation of social outcomes. The gaping void left by the atheoretical nature of the new economics has been filled by efforts to understand the role of institutions. Temporarily kicked out of the house, *homo economicus* in the guise of the new

¹³ Examples are the joint research by Feenstra and Hamilton (2006), by Benhabib and Przeworski (2004) and the friendly citations of anthropological research in Easterly (2006).

institutionalism is slipping in through the back door. The battle for control of the terrain in generating new knowledge about society will not be fought over the acceptable level for statistical significance of an estimated regression coefficient. The debate will be over how institutions are theorized and contextualized in a broader conception of society. The challenge to social scientists who value other approaches to knowledge and who are suspicious of the ideological bias of the economists, is to build a more compelling theory of institutions and institutional change, to widen the scope of our understanding of institutions beyond the rather focus on their role in property rights enforcement and into a more broad conception of regulatory regimes and social groupings that give meaning to economic life.

References

- Acemoglu, D. and J. Robinson (2004) Economic origins of dictatorship and democracy, New York: Cambridge University Press.
- Agrawal, V. and D. Farrel (2003) "Offshoring: Is It a Win-Win Game?" McKinsey Global Institute, August 2003.
- Amiti, M. and S-J Wei (2005) "Fear of service outsourcing: Is it justified?" Economic Policy, April, pp. 307-347.
- Arrow, K. and G. Debreu (1954) "Existence of an Equilibrium for a Competitive Economy," Econometrica 22: 265-90.
- Arrow, K. and F. Hahn (1971) General Competitive Analysis, San Francisco: Holden-Day.
- Benhabib, J. and A. Przeworski (2004) "Economic Growth under Political Accountability," Working Paper, Department of Economics and Department of Politics, New York University.
- Berri, D. et al. (2006) The wages of wins: taking measure of the many myths in modern sports, Stanford, CA: Stanford Business Books.
- Bhagwati, J. et al. (2004) "The Muddles Over Outsourcing," Journal of Economic Perspectives, Vol. 18, No. 4, Fall, pp. 93-114.
- Blaug, M. (1980) The Methodology of Economics, or How Economists Explain, New York: Cambridge University Press.
- Blaug, M. (2001) "No History of Ideas, Please, We're Economists," Journal of Economic Perspectives, V. 15, No. 1, Winter, pp. 145-164.
- Card, D. and A. Krueger (1995) Myth and Measurement: The New Economics of the Minimum Wage, Princeton: Princeton University Press.
- Coddington, A. (1975) "The Rationale of General Equilibrium Theory," Economic Inquiry, V. 13, pp. 539-558.
- Colander, D. (1999) "New Millenium Economics: How Did It Get This Way and What Way is It?" Journal of Economic Perspectives, V. 14, No. 1.

----- (2000) "The Death of Neoclassical Economics," Journal of the History of Economic Thought, April.

Collier, P. and A. Hoeffler (2004) "Greed and Grievance in Civil War," Oxford Economic Papers, V. 56, No. 4, Oct., pp. 563-595.

Debreu, G. (1959) The Theory of Value: An Axiomatic Approach to Economic Equilibrium, New Haven; Cowles Foundation Monograph. Feenstra (1998)

Dixit, A. and J. Stiglitz (1977) "Monopolistic Competition and Optimum Product Diversity," American Economic Review, V. 67, No. 3, June, pp. 297-308.

Dobbs, L. (2004) Exporting America: Why Corporate Greed is Shipping American Jobs Overseas, New York: Warner Business Books.

Easterly, W. (2006) The White Man's Burden: Why the West's Efforts to Aid the Rest have Done so Much Ill and So Little Good, New York: The Penguin Press.

Edmonds, E. and N. Pavcnik (2005) "The Effects of Trade Liberalization on Child Labor," Journal of International Economics, March.

Feenstra, R. and G. Hamilton (2006) Emergent Economies, Divergent Paths: Economic Organization and International Trade in South Korea and Taiwan, New York: Cambridge University Press.

Friedman, T. (2005) The World is Flat: A Brief History of the 21st Century, New York: Farrar, Straus and Giroux.

Guiso, L. et al. (2006) "Does Culture Affect Economic Outcomes," Journal of Economic Perspectives, Spring, Vol; 20, No. 2, pp. 23-48.

Grossman, G (1986) in Krugman, P., editor, Strategic Trade Policy and the New International Economics, Cambridge: MIT Press.

Hands, D. W. (2001) Reflection Without Rules: Economic Methodology and Contemporary Science Theory, New York: Cambridge University Press

Harcourt, G. (1978) The Social Science Imperialists and Other Essays, London: Routledge and Kegan Paul.

Heilbroner, R., editor (1986) The Essential Adam Smith, New York: W.W. Norton.

Heilbroner, R. and W. Milberg (1995) The Crisis of Vision in Modern Economics, New York: Cambridge University Press.

Hirshleifer, J. (1985) "The Expanding Domain of Economics," American Economic Review, V. 75, No. 6, pp. 53-68.

Kletzer, L. (2001) "Job Loss from Imports: Measuring the Costs," Washington, D.C., Institute for International Economics.

_____ (2005) "Globalization and job loss, from manufacturing to services," Economic Perspectives, 2Q, 2005, pp. 38-46.

Krueger, A. (1999) "Experimental Estimates of Educational Production Functions," Quarterly Journal of Economics, V. 114, No. 2, pp. 497-532.

----- and D. Whitmore (2000) "the Effects of attending a small class in the early grades on college-test taking and middle school test results: Evidence from Project Star," Working Paper 7656, National Bureau of Economic Research, April, <http://www.nber.org/papers/w7656>.

Krugman, P. (1983), "New Theories of International Trade" American Economic Review, V. 73, pp. 343-348, May.

Langlois, R. (2003) "The vanishing hand: the changing dynamics of industrial capitalism," Industrial and Corporate Change, V. 12, No. 2, pp. 351-385.

Leamer (1983) "Let's Take the Con out of Econometrics," American Economic Review, V. 73, pp. 31-43.

Levitt, S. and S. Dubner (2005) Freakonomics: A Rogue Economist Explores the Hidden Side of Everything, New York: William Morrow.

Levy, D. (2005) "Offshoring in the New Global Political Economy," Journal of Management Studies, Vol. 42, No. 3, May, pp. 685-691.

Mayer, T. (1995) Doing economic research: essays on the applied methodology of economics, Brookfield, VT: Edward Elgar.

McCloskey, D. (1983) The Rhetoric of Economics, Madison: University of Wisconsin Press.

_____ (1985) "A Conversation with Donald McCloskey about Rhetoric," Eastern Economic Journal, V. 11, No. 4, Oct.-Dec., pp. 293-296.

_____ (1996) The vices of economists--The virtues of the bourgeoisie, Amsterdam: Amsterdam University Press.

_____ and S. Ziliak (1996) "The Standard Error of Regressions," Journal of Economic Literature, V. 34, No. 1, March, pp. 97-114.

McLeary, R. and R. Barro (2006) "Religion and Economy," Journal of Economic Perspectives, Spring, Vol; 20, No. 2, pp. 49-72.

Milberg, W. (1996) "The Rhetoric of Policy Relevance in International Economics," Journal of Economic Methodology, Vol. 3, No. 2, 1996.

_____ (2001) "Decentering the Market Metaphor in International Economics," in Postmodernism, Knowledge and Economics, S. Cullenberg, D. Ruccio and J. Amariglio, editors, Routledge.

_____ (2002) "Allegories of Ethnic Assimilation in American Economic Thought," mimeo, New School for Social Research.

_____ (2004) "After the "New Economics"—Pragmatist Turn?" in E. Khalil, editor, Dewey, Pragmatism and Economic Methodology, London, Routledge.

_____ (2006) "The Shifting and Allegorical Rhetoric of "Neoclassical" Economics," Review of Social Economics, Summer.

Mill, J.S. (1874) "On the Definition of Political Economy; and on the Method of investigation Proper to it," in Essays on Some Unsettled Questions of Political Economy, 2nd ed., London: Longmans, Green, Reader & Dyer. (Reprinted by Augustus M. Kelley).

Mirowski, P. (1989) "The Probabalistic Counter Revolution," Oxford Economic Papers, V. 41, pp. 217-235.

----- and S. Sklivas (1992) "Why Econometricians Don't Replicate (Although They Do Reproduce)," Review of Political Economy, V. 3, pp. 146-163.

----- (2002) Machine Dreams: How Economics Became a Cyborg Science, New York: Cambridge University Press.

Mokyr, J. (200) The gifts of Athena: historical origins of the knowledge economy, Princeton: Princeton University Press.

North, D. (1990) Institutions, institutional change, and economic performance, New York: Cambridge University Press.

Robbins, L. (1932) An Essay on the Nature & Significance of Economic Science, London: Macmillan.

Rodrik, D. (1999) "Democracy Pays Higher Wages," Quarterly Journal of Economics, V. 114, No. 3, August.

----- et al. (2002) "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development, mimeo.

Solow, R. (1957) "Technical Change and the Aggregate Production Function," Review of Economics and Statistics, V. 39, pp. 312-320.

Warsh, D. (2006) Knowledge and the Wealth of Nations, New York: W.W. Norton.