

# A Reflexive Sociological Case for Heterodox Economics

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## Abstract

Economists are often criticized for failing to foresee major events such as the 2007-2008 financial crash or the surge in immigration to the U.S. in the past decade. These events were, in fact, foreseeable. But mainstream economists were blinded by the limited perspectives of their models. Following the French sociologist Pierre Bourdieu, this paper presents a *sociology of economics* to explain the biases that, for example, blinded economists to the signs of financial instability and many other inconvenient economic truths.

Bourdieu provided a practical framework for analyzing culture, as well as key concepts of habitus, doxa, social capital, and symbolic violence, that reveal clearly why economic analysis has been biased by its culture. For example, the neoclassical economic framework used by mainstream economists fits the definition of habitus, “a system of acquired dispositions functioning on a practical level as categories of perception and assessment...as well as being the organizing principles of action.” The “beliefs and opinions” that make up the broader neoliberal paradigm, is the doxa that serves to justify the neoclassical models and the limited set of economic issues for which those models are employed. And, the power of the economics culture to induce economists to shun alternative perspectives exemplifies the role of cultural capital in generating symbolic violence. Specifically, the latter explains economists’ simplification of Keynes’ rich macroeconomics into a simplified model that ignored its most insightful contributions and facilitated the return of models compatible with orthodox neoclassical thought. Symbolic violence protects the dominance of neoclassical thinking. In academia, for example, exams and grading in economics courses, dissertation advice, selection criteria for research grants, rankings of economic journals, and promotion and tenure decisions actively and passively discourage heterodoxy.

In order to overcome cultural biases, this paper argues economists must embrace heterodoxy.

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*The composition of this book has been for the author a long struggle of escape, and so must the reading of it be for most readers if the author's assault upon them is to be successful,—a struggle of escape from habitual modes of thought and expression. The ideas which are here expressed so laboriously are extremely simple and should be obvious. The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those of us brought up as most of us have been, into every corner of our minds.*

--John Maynard Keynes, in the preface to his path-breaking *The General Theory of Employment, Interest, and Money*, 1936, p. viii

Economists are often criticized for failing to foresee the 2007-2008 financial crash and subsequent Great Recession. When most of the major economies of the developed world fell into recession, the entire world economy declined for the first time since World War II. This sudden economic decline was predicted by very few economists, although many of the imbalances and unsustainable trends were clear. Among the unsustainable trends that contributed to the 2008 *Great Recession* were bubbles in the housing markets in several countries, large government budget deficits and accumulated public debt in many countries, growing trade imbalances between the United States and China, very low interest rates in several economies, and the complete deregulation of financial industries. But somehow the overall culture of the field of economics suppressed concerns about these trends.

In the field of international economics, similar failures of economic thinking have occurred for over 200 years. The culture of international economics has been one of, among other things, free trade, deregulation of financial flows, and open immigration. Yet, there is actually no overwhelming historical evidence to support these ideas. Rather, economic thinking has been guided by economists' models that have not been consistently confronted with the historical evidence. Ricardo's principle of comparative advantage is accepted without question, not just as a result generated in a logical model under certain assumptions, but as a principle that applies under general conditions. As Erik Reinert (2007) describes, countries' policies have never consistently reflected respect for comparative advantage. But, because economists never wavered from the principle, policymakers and special interests could always draw on economists' support whenever comparative advantage fit their needs. Today, economists most often justify free trade using the Heckscher-Ohlin model's conclusion that all countries can reach

higher indifference curves by letting goods and services cross borders without restriction. Like the static concept of comparative advantage, the HO model and its very restrictive assumptions are not challenged by the prevailing culture of international economics.

Also lacking in international economics is a holistic perspective that can analyze the links between international trade, investment, finance, and migration. Instead, each subject of international economics has been investigated in isolation under the *ceteris paribus* assumption. The subject of immigration was, in fact, largely ignored altogether in international economics. Instead, immigration was left to labor economists, who of course analyzed immigration using labor market models that depicted immigrants as mere factors of production. Thus, when immigration from Mexico to the United States grew rapidly after the implementation of the North American Free Trade Area in 1994, economists seldom looked at that surge of people and NAFTA as related phenomena. As a result, the political debate on immigration focuses almost entirely on legal measures and the construction of border fences. Few mainstream economists bring up the fact that under NAFTA the efficient and subsidized U.S. grain farmers have flooded the Mexican market with cheap grain and driven at least 1.5 million farmers plus their families off the land and, often, across Mexico's northern border. Only a select few heterodox economists and sociologists grasp the absurdity of farmers in Nebraska complaining about the inflow of Mexican immigrants while they continue to lobby Washington to maintain high subsidies for their corn and soybeans.

What stands out from the "unexpected" Mexican immigration and the 2007-2008 financial crisis is that they were, in fact, foreseeable, if only economists would have looked outside the constricted perspective of their orthodox models. Policymakers might have been more compelled to change their policies had those economists who did occasionally look outside their boxes been willing to speak up more persistently. Admittedly, some economists speak up. David Bacon (2008) describes the connection between NAFTA and immigration in detail. A number of heterodox macroeconomists drew on the work of Hyman Minsky (1982), who had extended John Maynard Keynes' (1936, Chapter 12) insight on long-term expectations to predict financial crises exactly like the one we experienced in 2007-2008.

But, why did so few economists speak up, and why were those who did accurately anticipate the future not listened to by their peers or able to influence policy? That is the question addressed by this paper.

## 1. Reflexivity

This paper presents a “reflexive” sociological analysis of the field of economics. I follow the French sociologist Pierre Bourdieu, who called for sociologists to reflect on how their field’s *culture* biased their work. This paper effectively presents a *sociology of economics* to explain the biases that blinded economists to, for example, the signs of financial instability and the negative side effects of international trade.

### *The importance of culture*

Bourdieu’s main point is that intellectual fields develop a specific culture that restricts its perspective. But these cultures are often ignored because scientists cannot bring themselves to admit that they would develop anything other than a completely open analytical environment within their field. The truth is different, however. Culture causes “unscientific” behavior.

According to the economic historian Douglass North (2005), human knowledge about nature, society, and the economy is woefully incomplete. There are many inconsistencies between people’s objectives and society’s actual outcomes that are difficult to explain. Problems are difficult to solve because it is never clear what caused the problems or whether a change will actually improve matters. Complicating matters further is the fact that people instinctively favor the status quo to change. Whether we call this *territoriality* or *conservatism*, the resistance to changing ideas and ways of life proved to be a successful survival strategy in the past and thus evolved to where it is hard-wired into the human brain. In sum, people must get on with their lives with incredible lack of knowledge of their true situation. North (2005, pp. 15-16) writes:

Throughout human history there has always been a large residual that defied rational explanation—a residual to be explained partly by non-rational explanations embodied in witchcraft, magic, religions; but partly by more prosaic non-rational behavior characterized by dogmas, prejudices, “half-baked” theories. Indeed despite the...assertion by eminent theorists that it is not possible to theorize in the face of uncertainty, humans do it all the time; their efforts range from ad hoc assertions and loosely structured beliefs such as those encompassed in the labels “conservative” and “liberal” to elegant systematic ideologies such as Marxism or organized religions.

Sociologists would call these ad hoc assertions and loosely structured beliefs *culture*.

Culture is an important *informal institution*. Where formal institutions are those rules, regulations, laws, and government structures that are intentionally designed and imposed to guide human behavior, informal institutions are traditions, morals, norms, beliefs, accepted myths, mannerisms, and common social behaviors. The former can be changed as fast as the political system, the bureaucracies that manage the political system, and the other interests that influence society's social, political, and economic organizations are able to change them. Informal institutions, on the other hand, are part of a society's slowly evolving culture, the symbolic structures and "half-baked ideas that humans create to give their activities significance and importance.

Deepak Lal (1998) argues that culture inevitably lags behind the ever-changing realities of our natural and social environments. The fact that knowledge precedes, and often greatly outpaces, cultural change helps to explain the common clash between intellectuals and social conservatives and between universities and their surrounding communities. Culture also often lags behind formal laws, regulations, and procedures, which is why people often complain about their government's regulations and workers often resist new work procedures. Culture lags behind the accumulation of knowledge and the understanding of our economic, social, and natural systems.

The differences in the rates of change of real events, knowledge, formal institutions, culture, and human instinct almost guarantee that when humans' economic and social environments change rapidly, their culture falls farther behind. Unless humans accelerate their acquisition and application of knowledge, misjudgments and inaccurate predictions of economic outcomes become inevitable. That is, culture normally biases interpretations of the past, observations of the present, and expectations for the future.

### ***Understanding one's own biases***

Intellectual fields like economics are no different from other associations of people. In fact, social scientists may directly face more unknowns and greater uncertainty than the average person for the simple reason that scientists tend to ask more questions. Because, answers are scarce, intellectual fields are no less prone to building elaborate cultures, or what are often called paradigms. These cultures inevitably shape and influence research and analysis within these fields.

The influential sociologist Pierre Bourdieu ( urged his fellow sociologists to actively embrace *reflexivity*, which he described as a systematic and rigorous self-critical analysis of their own field. Bourdieu devoted his career to describing how societies developed cultures that perpetuated social structures that, from an objective perspective, were clearly not optimal for human development. He came to the conclusion that sociologists, who he argued should know better, were also biased by their cultures. Bourdieu (1990) thus prescribed a “sociology of sociology” that would reveal sociologists’ own tendency to let the social culture of their field bias their analysis. Wrote Bourdieu:

I believe that if the sociology I propose differs in any significant way from the other sociologies of the past and the present, it is above all in that it *continually turns back onto itself the scientific weapons it produces.*<sup>2</sup>

Bourdieu’s prescription is equally valid for all intellectual fields. Economics needs an objective *sociology of economics*.

The power of culture to shape human thinking is strong. In economics, the neo-liberal paradigm is strong in U.S. and European universities, and it is increasingly embraced by the intellectuals from other parts of the world who have been educated at Western universities. The assumptions that normally underlie neoclassical economic models, such as well-defined welfare functions, individual rationality, and efficient markets, are unquestioningly applied in economic analysis. So economists keep analyzing economic policies and their outcomes using the value of market production as their metric, while they ignore non-market outcomes, externalities, income distribution, social conflict and exclusion, and “the commons” because they are not easily analyzed with the current set of economic models that they are familiar with. Current macroeconomic trends are assumed to be the result of rational behavior and, therefore, sustainable. Reflexivity demands that economists confront existing economic hypotheses more energetically, and that new hypotheses be developed and tested. Are expectations really rational in the way John Muth (1961) suggested, or are they “a result of animal spirits” as Keynes (1936) suggested?

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<sup>2</sup> Quoted in Loïc J. D. Wacquant (1989), p. 55.

## **2. Bourdieu's Framework for Sociological Analysis of Culture**

Bourdieu is best known for providing a practical framework for analyzing culture. With the help of his concepts of habitus, doxa, social capital, and symbolic violence, it becomes more clear why economic analysis is biased by its culture. We briefly describe Bourdieu's framework in this section.

### ***Culture***

Informal institutions include most of the social norms, perspectives, myths, procedures, symbols, and social habits that we call *culture*. Culture is usually defined as the set of common patterns of human activity in a society and the symbolic structures that people value and identify themselves with. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO):

...culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions, and beliefs.<sup>3</sup>

Like all institutions, cultural traditions, myths, religions, norms of behavior, manners, artistic expressions, and symbols influence individual human behavior. Culture causes socially-inclined individuals to conform to others who embrace the same culture, which enhances social cohesion. To the extent that culture influences economic behavior, it serves to enable a complex economic system to operate.

In ranking the flexibility of the components of social change, we earlier argued that informal institutions, and thus culture, to be rather "sluggish" compared to economic outcomes, technology, or even the more formal government and organizational institutions like laws, regulations, and business procedures. This is not to say that culture does not change. In modern societies, where people are more often affected by the changes in economic outcomes, technology, and political structures, culture tends to change more rapidly. Increased international contacts among people have also accelerated the rate of cultural change.

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<sup>3</sup> UNESCO (2002), "Universal Declaration on Cultural Diversity." Alfred Kroeber and Clyde Kluckhohn (1952) compiled a list of 164 definitions of culture from a survey of the literature.

Nevertheless, economic outcomes, technological change, and formal institutions are often constrained by the slow adjustment of culture.

There are many categories of culture. People often refer to French culture, American culture, or Japanese culture, implicitly suggesting that culture is linked to nations or nationality. Many cultural symbols and traditions transcend nations, however. Think of Buddhist culture, seafaring culture, Caribbean culture, etc. On the other hand, many subcultures exist within a national society. For example, we routinely refer to a variety of subcultures such as corporate culture, academic culture, cowboy culture, and hip hop culture, among many, many others. An individual can participate in more than one culture. For example, with the increased specialization in our workforce, most people simultaneously embrace well-defined professional cultures as well as one or more social cultures. With immigration, people may embrace more than one national culture. Increasingly, societies must deal not only with the incompatibility of formal and informal institutions, but there are likely to be incompatibilities between informal institutions. Also, with multiple cultures, distinguishing the informal institutions that shape human behavior has become more complex.

### ***Cultures and subcultures***

In general, the lines between cultures are not clear, nor can individuals be easily defined by any one culture or subculture. The early twentieth century sociologist Max Weber (1978) wrote that society cannot be analyzed in terms of specific and clear classes or ideologies because individual status in society often cuts across traditional concepts of “classes” or subcultures. This is increasingly the case as the co-existence of cultures and sub-cultures within internationally integrated societies. The French sociologist Pierre Bourdieu (1977, 2000) has suggested more detailed concepts to enable social scientists to better distinguish the cultures and subcultures that influence the behavior of an individual.

Bourdieu begins by defining a *field* as the social or intellectual arena within which people spend much of their working hours and within which they focus their efforts to advance their primary social interests. While people are usually consciously part of a broad national culture, as they go about their daily activities they pay attention only to their immediate social environment, or field. They thus strongly embrace the field’s particular culture. Often, a field is one’s work, which means that people embrace a culture that is identified with a particular job, industry, or



profession. For academics, the term “field” is especially appropriate, because so much of one’s life is spent within a well-defined “intellectual field.” Your author identifies himself as an economist, and, yes, I own a tweed sports coat with leather elbow patches! Bourdieu’s concept of field is more general than an academic field; he describes how young people tend to embrace the culture of their school environment, members of the military similarly adopt military culture, and frequent patrons of coffee shops embrace certain rules of behavior that are not found in either fast food restaurants or high-end restaurants. Bourdieu also refers to these cultures as fields.

Bourdieu develops two additional concepts in order to better define culture. First of all, when people embrace the culture that permeates a field they identify with, they adopt a certain set of dispositions, or what Bourdieu defines as *habitus*. Bourdieu borrows this concept from earlier social thinkers including Aristotle and Max Weber (1978). Specifically, habitus is a set of *subjective* but persistent perceptions, customs, conventions, norms, and forms of outward behavior and expression. The habitus determines both a person’s disposition and how (s)he is perceived within the field. A person develops these subjective dispositions of the habitus in response to the *objective* field (s)he participates in. A soldier whose field is the military is likely to adopt a habitus characterized by a willingness to engage in aggressive behavior, the unquestioned acceptance of rank and authority, and a strong affirmation of nationalism. A businessperson’s habitus is most likely characterized by an admiration for enterprising people, a distrust of government, and a focus on monetary rewards.

In order for a thinking person to psychologically deal with the combination of an *objective* field and a *subjective* habitus, the individual develops a complex conception of reality, or beliefs, which Bourdieu calls *doxa*. Doxa are the fundamental, deep-founded, mostly unproven set of beliefs that a person comes to rely on for survival within a particular field. These are the “half-baked ideas” that Douglass North referred in his quote above. Psychologically and neurologically, doxa are the patterns that people come to see as normal and that they use as reference by which to judge their circumstances. Bourdieu argues that doxa serve to rationalize, justify, and, therefore, legitimize the particular objective arrangement of the field and the subjective habitus of those who participate successfully in a field.

Bourdieu argues that the habitus, augmented by the doxa, give cultures their persistence and permanence. Habitus and doxa, and thus culture, change slowly even in the face of substantial

changes in actual economic outcomes, social shifts, or changes in the natural environment. Incompatibilities between reality and people's perceptions and beliefs are, therefore, common in rapidly changing economic, social, and natural environments. Accordingly, humans have difficulty dealing with changing circumstances. More broadly, human societies have difficulty in dealing with systemic shifts, especially when those shifts involve more than one sphere of human existence.

### ***Symbolic violence - The iron hand of culture***

Sociologists view culture, or what Bourdieu specified as the interactive combination of the field, habitus, and doxa, as having a great deal of power to shape human behavior. Many sociologists, in fact, argue that culture can be oppressive because it effectively enforces and perpetuates unjust hierarchical social structures. Using Bourdieu's terminology, doxa and habitus combine to justify, and thus strengthen, the existing social structure. The doxa and dominant habitus thus effectively perpetuates the privileges of those who dominate the social sphere by making their position of dominance a self-evident and universally accepted "fact of life" even by those at the lower rungs of the hierarchy.

To better understand the oppressive nature of culture, Bourdieu introduced another cultural concept: *cultural capital*. Cultural capital consists of acquired behavioral characteristics, material goods, and formal certifications that give a person status in a specific field or in society in general. First there is *inherited cultural capital*, which includes specific traditions and culture that can take considerable time to transfer and absorb, such as habits developed during upbringing, language and dialect, social mannerisms, and personal relationships. Cultural capital also includes objects, such as a musical instrument, a home, or an intellectual's library of books. Bourdieu calls this *objectified cultural capital*, and it is important for solidifying a person's status in a field or broader society. For example, the manager of a bank is obligated to drive a nice car to work because being seen getting off the bus at the corner of the block would undermine her status in the eyes of those below, equal to, and above her in the hierarchy. Finally, there is what Bourdieu calls *institutionalized cultural capital*, which are institutional recognitions of cultural capital held by individuals, such as diplomas, awards, certifications, and other official credentials. All of these forms of capital shape outcomes when people interact, exchange, bargain, cooperate, jointly perform tasks, or use public goods in the commons.

Cultural capital is a source of power, quite apart from a person's real economic, physical, or intellectual capabilities.

When a holder of cultural capital uses this power against someone who holds less cultural capital, and seeks to alter that person's actions or social position, they are said to exercise *symbolic violence*. Exploitation, oppression, and harassment often are overt forms of symbolic violence, but symbolic violence is often more implicit than explicit. For example, a frown or look of disapproval often suffices to make some employees come in to work unpaid on Saturday. Symbolic violence among adults is fundamental to the perpetuation of gender, ethnic, and age inequalities. Bourdieu (2001) shows that symbolic violence leads people to act against their own interest because the prevailing doxa establish cultural capital to be a legitimate determinant of the social hierarchy. The objects of symbolic violence are often complicit in their own subordination because they take their social order to be just, having adjusted their doxa to match the social field they inhabit. Symbolic violence is, in many ways, much more powerful than physical violence because it is embedded in the way individuals see themselves and their society. Symbolic violence is supported by people's vision of the legitimacy of the social order.

Cultural capital can, for example, perpetuate and legitimize inequalities caused by the unequal distribution of economic capital such as wealth, ownership of resources, market power, or government connections. Therefore, working class children come to see the educational success of their upper- and middle-class peers as a legitimate reflection of their greater ability or their harder work. In truth, many diplomas are little more than institutionalized cultural capital that is a direct result of a class-based inequitable distribution of inherited cultural and economic capital. Similarly, in many societies males are perceived to hold more cultural capital than women, and the dominant doxa effectively empowers males to communicate their wishes or desires for women to alter their behavior in ways that may not be in their own best interest.

Therefore, economics graduates of lower-rated universities (say, the University of Nebraska) see the professional success of the graduates of higher-ranked universities (Harvard or MIT) as a legitimate reflection of the latter's greater ability or their harder work, even though in reality the institutionalized cultural capital (the diplomas) are seldom more than the result of class-based inherited cultural and economic capital.

There is today about as much inequality in the world as there was when Karl Marx predicted that increasing economic inequality would cause a social revolution. A recent article in *The*

*Guardian* article was entitled “Pay gap widening to Victorian levels.”<sup>4</sup> These unequal economic outcomes are the result of not only the unequal distributions of economic capital, but also the unequal distribution of cultural capital. Economic capital is clearly the result of a gradual process of wealth accumulation, which means that a change in the distribution of economic capital can be brought about in two ways: (1) a sudden redistribution of accumulated economic capital through taxation, government programs, or a revolution, or (2) a gradual shift in how economic capital is accumulated. The former is difficult because it invariably clashes with the distribution of cultural capital. Given that cultural capital is created through education, social experience, family upbringing, and tacit learning, it cannot easily be quickly redistributed. Thus, only the second option of a gradual shift in accumulated economic capital and accompanying differentiated accumulation of cultural capital is possible. This may explain why there have been so few class revolutions, and those that did occur largely failed. An economic revolution, to be successful, must be accompanied by a cultural revolution, which requires a sharp change in the doxa and the individual habitus’ developed in line with the doxa.

### **3. The Culture of Economics**

In general, culturally-induced intellectual bias takes several forms, among which are the bias in subject matter, bias in the selection of evidence, and bias in the interpretation of observations and experimental results. For example, economists tend to focus exclusively on market activities, use data generated by markets, and to interpret the observed results from a market perspective. Hence, most economic research analyzes activities included in measured GDP, uses market prices and quantities to quantify human economic activity, and judges outcomes in terms of market prices. There are relatively few economic studies of household activity, and economic outcomes seldom examine human happiness, social changes, or stresses on the ecosystem. One of the most egregious logical errors committed by economists is to justify these biases by claiming human happiness, species depletion, or social conflict are “non-economic” issues beyond the scope of economics.

The particular set of models that economists use determines their perspective they take on the subjects they seek to understand and analyze. It is common to call such a set of verbal,

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<sup>4</sup> Graham Snowdon (2011), “Pay gap widening to Victorian levels,” *The Guardian*, 16 May.

graphic, or mathematical models a paradigm, which is a conceptual framework for organizing thought. The neoclassical economic framework used by mainstream economists fits the definition of habitus, which Bourdieu (1990) defines as “a system of acquired dispositions functioning on a practical level as categories of perception and assessment...as well as being the organizing principles of action.” The “beliefs and opinions” that make up the broader *neoliberal paradigm*, with its belief in markets and free will as the driving forces in the economy, is the doxa that serves to justify the neoclassical models and the limited set of economic issues for which those models are employed. The symbolic violence of the economics culture induces economists to shun alternative perspectives.

### ***The tyranny of models and paradigms***

Students are misled by most textbooks to believe that there is just one paradigm in the field of international economics, namely the neoclassical paradigm, and that models that fit that paradigm can be used to analyze all economic issues. The fact is that there are actually many paradigms in economics. Conclusions about international trade, investment, finance, and migration differ substantially depending on which paradigm is used and, therefore, which simplifying assumptions underlie the models used to carry out economic analysis.

International economists usually ignore other paradigms that developed since the late nineteenth century. You will have trouble finding the various institutionalist paradigms, the dynamic Schumpetrian paradigm, the aggregate analysis of the Keynesian paradigm, the multi-disciplinary paradigm of Marx, and the innovative paradigms of the structuralist, dependency, and Austrian schools of economic thought in international economics textbooks.

The wholesale shift to mathematics as the preferred medium for representing economic models became part of the habitus of economics over the past century. This aspect of the economic culture has further limited the accuracy of economic analysis. The preference for comparative statics over the more dynamic and complex models suggested by reality is directly due to the orthodox culture of mathematical precision. The fact is that we simply do not have mathematical techniques for building realistic dynamic economic models. So we assume they are not necessary. Precision is preferable to accuracy in the mainstream economics culture.

Few economists question the inaccurate modeling strategies or the arbitrary empirical procedures and methods to support them. Affirmed by the doxa of neoliberal assumptions,

mainstream economists do not question their neoclassical models because within their field they are continually reassured by their neoliberal doxa and the habitus of every other economist they interact with that the neoclassical models are appropriate. In academia, exams and grading in economics courses, dissertation advice, selection criteria for research grants, rankings of economic journals, and promotion and tenure decisions actively and passively encourage students to embrace the dominant paradigm. In policy making, corporate-funded think tanks keep the neoliberal paradigm firmly entrenched in academia.

### ***A history of the neoclassical habitus of economics***

The neoclassical model that serves as the habitus of mainstream economics developed over a period of some 200 years. As we pointed out, culture moves slowly. The neoclassical school of economic thought is often associated with Léon Walras, Alfred Marshall, and other late nineteenth century economists. These economists implicitly accepted the strategy of *scientific reductionism* in order to focus their analytical attention on individual producers, consumers, and the markets. Scientific reductionism takes the approach that the economic system is the simple sum of its parts. Therefore, if the parts are understood, then the whole system can be understood. Or more directly, if all markets clear, then the whole economy is in an efficient equilibrium where prices and quantities maximize total output from society's available resources.<sup>5</sup>

Of special interest is the mathematical model of a complete economic system developed by Walras in the late nineteenth century. Walras' model represented the economy as a huge system of equations representing the markets in which transactions simultaneously occur. For example, consumers purchase a great variety of goods and services from producers, the government purchases goods and services from producers as well. And producers purchase capital goods from other producers. To complete the circle, producers purchase labor from individuals, they rent land from landowners, and they purchase other resources from resource owners.

Specifically, there are  $m$  products,  $n$  productive services,  $m$  product prices,  $n$  productive services prices, and  $mn$  technical coefficients. The latter specify how many of each of the  $n$  productive services are used to produce each of the  $m$  products. There were thus  $2m + 2n + mn - 1$  unknowns, since according to Walras' law, one of the products serves as *numeraire*, the

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<sup>5</sup> Usually included among the Neoclassical thinkers of the late nineteenth century are, in addition to Walras, and Marshall, Stanley Jevons, Kurt Wicksell, J.B. Clark, and Stanley Fisher. The neoclassical model was more recently extended by Kenneth Arrow and Gerard Debreu.

measure in which all other variables are valued. In general, a system of equations can be solved if the number of unknowns equal the number of equations. And, indeed, there are  $m-1$  demand equations for products,  $m$  cost equations for products,  $n$  quantity equations and  $n$  supply equations for productive services, and  $mn$  technical coefficients.

In a sense, Walras' model is holistic because it shows every part of the economy related to every other part. However, Walras' elaborate simultaneous equations model probably discouraged a true holistic approach to analyzing economic issues and economic development. For practical reasons, Walras' mathematical model specified the system as a set of equations with fixed parameters that did not permit the relationships among the component parts to vary. Although he was never able to find a mathematical solution to his system, he intuitively reasoned that if all markets automatically tend to move toward their respective equilibria, then the entire system would also automatically move towards an overall stable equilibrium. The impossibility of actually solving the system of equations encouraged economists to focus on the system's individual markets and refrain from trying to analyze how the overall economic system performed. Walras' intuition that some solution must exist was accepted as obvious. Interestingly, it was only in the latter half of the twentieth century when topology was used to prove that a solution to Walras' rigid system even existed. In sum, the complexity and impossibility of actually solving the Walrasian model seems to have actually justified scientific reductionism and the focus on individual markets rather than the interconnections and the overall system.

Since neoclassical thought has dominated mainstream economic thought for the past several decades, it is important at this stage to clarify where it differs from the other schools of thought described above. The principal feature of neoclassical thinking is that it views the economy from the static perspective of a fixed set of resources, which implies that the economy's principal problem is to seek the optimal allocation of that set of scarce resources that maximizes consumers' welfare. The Neoclassicals have developed an elaborate modeling structure that supports Adam Smith's idea that the "invisible hand" operates through free markets to channel self-interest into an optimal level of human welfare. Neoclassical models largely ignore Smith's writing about the failures of markets and the potential breakdown of market competition.

Neoclassical analysis is not exclusively microeconomic in nature. In fact, neoclassical analysis followed in the footsteps of Walras by seeking a consistent model that systematically

links the economy's individual consumers, workers, producers, bankers, and investors to the economy's aggregate performance. Neoclassical economists spearheaded the search in macroeconomics for *microfoundations*, which are the logically consistent models of individual consumers and producers that explain how their actions brought about the observed macroeconomic outcomes. Just like Walras found more than 100 years ago, strong simplifying assumptions are necessary in order to build practical macroeconomic models that are logically compatible with simple models of individual and firm behavior. The quest for microfoundations resulted in unrealistic microeconomic models of individual behavior to match unrealistic macroeconomic models.

Labor markets were modeled as competitive markets where labor was paid its marginal product. Ignored were the presence of unions, the need for employers to motivate workers, the costs of hiring and firing workers, or the common presence of unemployed and underemployed workers in most economies. Even more inaccurate was the common neoclassical assumption that suppliers of products always face rising costs, which was necessary for economists' assumption of perfect competition and the absence of any tendency for production to become concentrated in oligopolies or monopolies. Given today's industrial concentration, this assumption could be described as delusional, surpassing any reasonable standard of simplification that is appropriate for economic modeling. Also notable is the widespread acceptance of the *Coase theorem*, due to Ronald Coase (1960). This theorem states that *externalities* will not, in general, cause markets to fail because people, firms, and governments are motivated to find ways to negotiate the mutually beneficial sharing of the external costs or benefits. In reality, market participants are seldom aware of the externalities they generate, the extent of the externalities they are aware of, or the externalities that others's actions impose on them. They are even less aware of how to negotiate ways to accurately account for externalities.

The related field of finance has come to accept as practical approximations of reality several other highly questionable models, such as Eugene Fama's (1970) model of efficient markets that assumed all available information was reflected in asset prices, Friedman's (1953) hypothesis that speculation always stabilizes financial markets, and Michael Jensen and William Meckling's (1976) management model that assumes managers of private firms act as faithful servants to the firm's stockholders. Financial markets were described as highly efficient in motivating people to save and financial firms to allocate those savings to the economy's most profitable projects.



This faith in the efficiency of financial markets trust was informally based on the work of Kenneth Arrow and Gerard Debreu (1954) and Debreu (1959), who constructed elaborate general equilibrium models reminiscent of Walras' model. In reality, financial markets often fail. But Arrow and Debreu ignored uncertainty by assuming financial markets only face risk defined by known probability distributions, and they then eliminated risk by assuming competitive markets in *contingent commodities*. These latter commodities are transactions and payments that produce products only when certain pre-specified conditions are met. Wrote Debreu: "This new definition of a commodity allows one to obtain a theory of uncertainty free from any probability concept and formally identical with the theory of certainty...."<sup>6</sup> Effectively, the assumption of a complete set of contingent markets implies that everyone can insure against all risks.

In sum, this collection of models dominate the habitus of economics. It is nearly impossible for an economist to have a successful career without being literate in neoclassical modeling. The methodology is based on the implicit acceptance of the assumptions behind the models, i.e. the doxa. The habitus works, at least in the sense of providing the tools and methods with which to perform the tasks accepted as "economics." To "think like an economist" thus means following the neoliberal doxa and using neoclassical models to address all economic issues.

### ***Assessing the neoclassical paradigm***

While a modern financial industry does indeed provide insurance against *contingencies* such as fire, theft, automobile accidents, and other predictable events, the 2008 financial crisis suggests that the financial sector has not created insurance instruments that cover the complex and unpredictable contingencies that arise in the real world. Arrow and Debreu's contingent markets are thus a theoretical fantasy that serves to hide the complexity of risk and uncertainty.

Keynes (1936, pp. 161-2) provides a more realistic assessment of long-term risk:

Most, probably, of our decisions to do something positive, the full consequences of which will be drawn out over many days to come, can only be taken as a result of animal spirits—of a spontaneous urge to action rather than inaction, and not as the outcome of a weighted average of quantitative benefits multiplied by quantitative probabilities.

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<sup>6</sup> Gerard Debreu (1959), p. 98.

If we broaden financial transactions to include innovation, invention, research, and development activities, Keynes' description of investment as being driven by "animal spirits," that is emotion, rather than precise mathematical calculations of probable economic outcomes is more accurate. Arrow and Debreu's narrative and models seemed to suggest that the touted financial innovation that preceded the 2008 economic collapse must have created contingent markets that made the international financial system more stable and efficient. The near complete deregulation of financial markets and the abandonment of government oversight that also preceded the 2008 crisis suggests that neoclassical models really served to provide a very false intellectual justification for financial innovation that greatly increased profits in the financial industry. The innovations did not provide greater insurance against risk and uncertainty.

Finally, according to neoclassical analysis, the basic objective of the economy is assumed to be the production of final consumption goods that enter the welfare functions of the economy's members. The neoclassical welfare function simply relates goods and services consumed to individual welfare. Many other activities in the economy, such as the accumulation of capital and wealth, is effectively modeled as an incidental by-product of individuals' consumption decisions and producers' resource allocation decisions. Neoclassical models and their hypothesized competitive markets thus have trouble explaining capitalist profit and the growing inequality of wealth, something that the Classical economists and Marx were able to do in their models of competing economic sectors and economic classes, respectively. Nor could neoclassical analysis provide useful insight into economic instability, as Keynes' macroeconomic model from the Great Depression could. Until the Great Depression made mockery of the model, economists preferred to ignore the possibility of economic instability. Tragically, even though the Keynesian model allegedly became the standard macroeconomic model, hindsight now reveals that the dominant culture of the field of economics did not change. The neoclassical paradigm gradually reasserted itself.

The rise and fall of the Keynesian macroeconomic model, in fact, represents a clear example of the power of doxa and habitus. The well-established culture of economics and its symbolic violence almost immediately led to the simplification of Keynes' ideas. When Keynes' (1936) *General Theory of Employment, Interest, and Money* was reduced by John Hicks (1937) to the textbook IS-LM model, Keynes' most important ideas were not carried over. The IS-LM model is a comparative static model, the type of model mainstream economists were comfortable

with. The *General Theory*, on the other hand, was a very difficult book to read. Unlike the IS-LM graphic comparative static model, Keynes' presentation of his dynamic evolution of a macroeconomy using only words and no precise mathematical or graphic model meant few people really understood Keynes important ideas. Hicks (1980-1981) admitted that his model missed important points from the Keynesian theory, and he even called it just "a classroom gadget." But, it was Hicks' model that effectively became the Keynesian macroeconomic model as understood by mainstream economists. Few economists read Chapter 12 of the *General Theory*, even though it explains the 2008 financial crisis. The IS-LM model in fact caused Keynes' eventual banishment from the mainstream economics culture. The IS-LM model's incompatibility with the neoclassical framework of analysis, which Keynes never intended his model to conform to, convinced mainstream economists that the Keynesian model was not *logically sound*. Desperate for a logically sound model, mainstream macroeconomics was easily seduced by John Muth (1961), Milton Friedman (1962), and Robert Lucas (1972), and the other tenets of modern macroeconomics discussed above.

### ***The Culture of International Economics***

The Neoclassical paradigm has generated a strong pro-globalization culture in the field of international economics. The standard neoclassical assumptions are familiar to most students: individual consumers are welfare-maximizing, consumers shop in perfectly competitive markets for goods and services and earn their income in competitive factor markets, profit maximizing producers acquire factors of production in competitive factor markets and sell their goods and services in competitive product markets, money is a neutral medium of exchange, assets are used to store wealth, risk can be diversified away, and government is a benevolent regulator and arbiter. Models based on these assumptions inevitably predict that free trade, unrestricted international investment, unregulated international finance, and unrestricted immigration are welfare maximizing.

Orthodox neoclassical economic models have a lot to say about how trade, investment, finance, and immigration affect the distribution of income across countries and people within economies, how they shift production between countries and industries, and how they influence economic growth. That is, the neoclassical models are useful for dealing with many issues that

concern international economists. And, with some adjustments, the neoclassical models can be used to qualify and elaborate on many of their conclusions. But international economists seem to have become reluctant to extend the models and focus on broader issues, perhaps for fear of undermining the pro-international economic integration culture of the field. The field of international economics has created a culture that takes the neoclassical models conclusions as truth, to the point that mainstream international economics textbooks spend relatively little time on cases that contradict the main neoclassical conclusions.

Mainstream international economists often justify their exclusive reliance on the neoclassical paradigm by appealing to its “rigor” and its precise predictions. Indeed, by very precisely defining “human wants” in terms sets of goods and services with market prices, it becomes relatively straightforward to judge and evaluate economic policies and outcomes. Whether human well-being actually depends exclusively on the amount of stuff consumed is seldom seriously questioned in applied studies of economic phenomena.

Neoclassical economists also make economic analysis more rigorous by limiting the scope of their analysis. For example, note the following definition of international economics from a typical textbook that your author once used in an introductory international economics class:

International economics studies how a number of distinct economies interact with one another in the process of allocating scarce resources to satisfy human wants.<sup>7</sup>

This definition places the study of international economics solidly in the mainstream by embracing the idea that the essence of economics is the maximization of human consumption subject to limited resources. The leading international economics textbook offers this definition:

The study of international economics, like all branches of economics, concerns decision making with respect to the use of scarce resources to meet desired economic objectives.<sup>8</sup>

Note the use of the term “economic objectives” in the second definition above. By limiting the field of economics to a small subset of human activities, and effectively avoiding those

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<sup>7</sup> Chacholiades, Miltiades (1990), *International Economics*, New York: McGraw-Hill, p. 2.

<sup>8</sup> Appleyard, Dennis, Alfred Field, and Steven Cobb (2010), *International Economics*, New York: McGraw-Hill/Irwin, p. 2. .

determinants of human well-being that are more difficult to observe and quantify, the (reduced) economic problem becomes easier to solve.

The acceptance of the Heckscher-Ohlin model of trade as the main tool for determining the gains and losses from international trade shows how far from reality mainstream economics has ventured. But a more thorough analysis of the HO model reveals that its conclusions are based on a set of very strong assumptions that clearly do not reflect reality. Among the HO model's many assumptions are:

- All industries have increasing costs, and markets are perfectly competitive.
- There are no increasing returns to scale.
- There are no externalities that cause prices to differ from opportunity costs.
- Preferences do not shift when production and consumption shift.
- The economy is always at full employment.
- There are no transition costs when resources are shifted between industries.
- Shifts in resources between industries are instantaneous and complete.
- Technology remains constant.
- Supplies of productive inputs like labor and capital are fixed in quantity.
- Trade is always balanced, and the value of exports always equals imports.

These assumptions are the starting point from which the HO model logically arrives at its conclusions. But these assumptions are not remotely realistic. Of course, if all functions are smooth, there are no externalities, markets are competitive, consumers and producers are rational welfare maximizers in terms of profit and income that is used only to buy goods and services produced in the market economy, then good outcomes can be generated by the model. Hence, the model's conclusions mean little for the real world we inhabit, but economists unhesitatingly use the model to claim "free trade is the best policy." Only culture can explain this blatant violation of the scientific method.

### ***Sociology of international economics***

In the spirit of Bourdieu, a sociological examination of the culture of the field of international economics reveals many reasons for the failure of international economics to provide relevant

and convincing analyses of our internationally integrated economy. An example of bias in subject matter is the tendency for economists to focus exclusively on market activities, use data generated by markets, and interpret the observed results as if all economic activity occurred in well-defined competitive markets. Hence, most economic research analyzes activities included in measured GDP, uses market prices and quantities to quantify human economic activity, and judges outcomes in terms of market generated incomes and quantities. There are relatively few economic studies of household activity, and those are the work of a dedicated group of heterodox feminist economists. In international economics, there are few studies that look at the social and ecological consequences of international economic activity. An example of this limited vision is the unexpected impact of NAFTA described earlier: liberalized trade resulted in the devastation of rural society in Mexico and sharply increased immigration to the United States. But economists had only calculated immediate gains from increased imports and exports according to the comparative advantage as determined by a simple neoclassical model. The broader societal effects from the decline of rural communities and the immigration that it induced had been detailed in sociological studies but were ignored in the economics literature where such “non-economic” issues were generally deemed to be outside the scope of economics. Interdisciplinary study in U.S. academia is still shunned. Despite claims to the contrary by university administrators, the professional journals where interdisciplinary research is published are still considered to be “second” or “third tier” journals.

The most egregious logical error committed by mainstream international economists, and perpetuated in the field’s most popular textbooks, is the defense of the limited perspective of their field with the claim that non-economic issues such as human psychological happiness, environmental problems, and non-market household activities are “beyond the scope of economics.”

#### **4. Heterodoxy!**

Not everything is dismal in the state of economics. There are economists who are aware of the biases of orthodox economics. Jerry Ravetz (1995, p. 165) uses the term “elite folk science” to describe how the neoclassical framework “can have functions other than those of the increase of positive knowledge.” He accuses neoclassical economics of providing “reassurance for a general

worldview.” The well-known economic historian Robert Heilbroner was more to the point: “The best kept secret in economics is that economics is about the study of capitalism.”<sup>9</sup> The field of behavioral economics, which has brought together psychologists and economists, has grown substantially, and several of its members have been awarded Nobel prizes for their heterodox contributions. Behavioral economics, and its closely related field of experimental economics, has addressed economic issues using much more realistic models of human behavior and much broader measures of human welfare. Ecologists, natural scientists, and environmental economists are filling the huge gaps left by mainstream economics’ failure to incorporate the natural environment into economic models. Political scientists have provided valuable insights and models that enable economists to better understand the making of, and the failures of, economic policies. Note, however, that these economists who recognize bias and have looked outside their cultural box are usually heterodox economists.

The likelihood of bias within an intellectual field provides a clear case for heterodoxy. Heterodoxy calls for a multi-disciplinary approach to analyzing economic phenomena. By looking at issues from the perspective of more than one field, social scientists are less likely to be blinded by their own field’s imposed habitus and its supporting doxa. Whether heterodoxy indeed does permit us to overcome the biases in the neoclassical models used in mainstream international economics will be for you to judge. We do argue that heterodox economics is less likely to give you a biased perspective of international economic integration.

Heterodoxy is a potential solution to the closed mindset of orthodox economics provided it defines itself as a *multi-paradigmatic approach*. You could say that heterodoxy is a form of economic multiculturalism. Heterodox economists do not reject neoclassical models, but they do diminish them to the status of one of the many alternative approaches that must be considered in addressing the complexity of human economic, social, and natural existence. Heterodox economists firmly reject the idea that economic phenomena can be accurately understood and analyzed entirely from within the neoclassical paradigm, or any single paradigm for that matter.

There is a compelling logic to heterodoxy that goes well beyond merely rejecting the generality of the neoclassical paradigm. Heterodoxy accepts complexity, and, through its willingness to analyze a situation from multiple perspectives embraces *holism*. Heterodoxy recognizes that economic activity takes place within different interrelated spheres of existence,

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<sup>9</sup> Quoted in Palley (1998), p. 15.

including economic, social, and natural spheres. There are no purely “economic” and “non-economic” activities. Therefore models from different fields and intellectual specializations must be employed to analyze human behavior in any one sphere. Heterodox economists reject any reliance on just one set of related models generated under one uniform paradigm or restricted to analyzing activity within just one sphere.

Of course, heterodoxy’s broader perspective makes it more difficult to arrive at precise and clear conclusions. The complexity of economic development implies that economists often operate in an uncertain environment. Development economists generally lack full knowledge and understanding of circumstances, options, and potential outcomes of policies. The orthodox Neoclassical approach in economics normally assumes away uncertainty and imposes an artificial framework of analysis that translates specific decisions into firm outcomes. But reality is full of uncertainty, especially the reality of the dynamic complex process of economic development. Heterodoxy accepts complexity and the uncertainty that accompanies it. Accordingly, heterodoxy often seeks economic strategies that minimize damage rather those that simply maximize income gains. Also, heterodox economists prefer policies that expect things will not work out exactly as planned, and they plan on making revisions, adjustments, and corrections to their suggested policies.

Heterodox economists also recognize the dynamic nature of not only economies and societies, but the growth of knowledge. New ideas and knowledge do not appear as sudden bolt of lightning out of the blue. Knowledge grows because humans actively seek answers to life’s questions, they exert considerable effort to find those answers, and they take care to preserve their new knowledge so that others can build on it. The creation of knowledge is a costly, dynamic, and cumulative process in which new ideas are derived by building on combinations of existing ideas. They are thus more likely to understand how the dynamic process can be distorted or restricted by culture.

Steven Mark Cohn (2007) argues that neoclassical economists are a bit like native English speakers; because their language is so prominent and so many others speak the same language, they are not pushed to learn other languages. Because learning a new paradigm is always a major investment, most neoclassical economists do not learn about other paradigms. Cohn observes: “In contrast, because of the dominance of the neoclassical paradigm in contemporary economics, all heterodox economists must take the time to become fluent in its language. This



gives heterodox thinkers a bilingual perspective that can leave them more open to new ideas than neoclassical economists.”<sup>10</sup> As economists we must admit that the culture, or language, of the field of economics has seriously hampered economists search for new ideas that could reduce the current cultural bias of mainstream economic analysis.

We can take some inspiration from John Maynard Keynes, who in effect rebelled against the prevailing economic culture when he wrote *The General Theory of Employment, Interest, and Money* as a response to the Great Depression in the 1930s. Keynes’ words from his quote at the start of this paper are relevant: “The difficulty lies, not in the new ideas, but in escaping from the old ones, which ramify, for those of us brought up as most of us have been, into every corner of our minds.”<sup>11</sup> Unfortunately, Keynes was not followed by very many more economists seeking to escape the neoclassical culture. Today the culture of mainstream economics is still firmly neoclassical. The last three decades’ return to unfettered financial markets and the elimination of restrictions on international investment and financial transactions caused the largest decline in economic activity since the Great Depression in 2008-2009. In the middle of 2011, there are few signs of a paradigm shift.

We urgently need a paradigm shift. That must come from outside the dominant neoclassical paradigm. That means it must come from heterodox economists.

## **References**

- Arrow and Debreu (1954), “Existence of an Equilibrium for a Competitive Economy, *Econometrica* 22:265-290.
- Bacon, David (2008), *Illegal People: How Globalization Creates Migration and Criminalizes Immigrants*, Boston: Beacon Press.
- Boulding, Kenneth (1956), “General Systems Theory, The Skeleton of Science,” *Management Science* 2,3:197-208.
- Axelrod, Robert (1984), *The Evolution of Cooperation*, New York: Basic Books.
- Bourdieu, Pierre (1977), *Outline of a Theory of Practice*, Cambridge: Cambridge University Press.
- Bourdieu, Pierre (1988), *Homo Academicus*, Cambridge: Polity Press.
- Bourdieu, Pierre (1990), *In Other Words: Essays toward a Reflexive Sociology*, Stanford University Press.
- Bourdieu, Pierre (2000), *Pascallian Meditations*, Cambridge: Cambridge University Press.
- Bourdieu, Pierre (2001), *Masculine Domination*, Cambridge: Polity Press.

<sup>10</sup> Steven Mark Cohn (2007), *Reintroducing Macroeconomics: A Critical Approach*, Armonk, NY: ME Sharpe, p.

14

<sup>11</sup> John Maynard Keynes (1936), p. viii.

- Bourdieu, Pierre (2005), *Science of Science and Reflexivity*, Chicago: University of Chicago Press.
- Bourdieu, Pierre, and Loïc J. D. Wacquant (1992), *An Invitation to Reflexive Sociology*, Chicago: University of Chicago Press.
- Coase, Robert (1960), "The Problem of Social Costs," *The Journal of Law and Economics* 3(1):1-44.
- Cohn, Steven Mark Cohn (2007), *Reintroducing Macroeconomics: A Critical Approach*, Armonk, NY: ME Sharpe,
- Debreu, Gerard (1959), *Theory of Value*, New Haven: Yale University Press.
- Fama, Eugene (1970), "Efficient Capital Markets: A Review of Theory and Empirical Work," *Journal of Finance* 25(3):383-417.
- Friedman, Milton (1953), "The Case for Flexible Exchange Rates," *Essays on Positive Economics*, Milton Friedman (ed.), pp. 157-203, Chicago: University of Chicago Press.
- Friedman, Milton (1963), *A Monetary History of the United States, 1867-1960*. Princeton University Press.
- Hicks, John R. (1937), "Mr. Keynes and the Classics - A Suggested Interpretation", *Econometrica* 5(2): 147-159.
- Hicks, John (1980-1981), "IS-LM: An Explanation", *Journal of Post Keynesian Economics* 3:139-155
- Jensen, Michael C., and William H. Meckling (1976)," *Journal of Financial Economics* 3(4):305-360.
- Keynes, John Maynard (1936[1964]), *The General Theory of Employment, Interest, and Money*, New York: Harcourt Brace Jovanovich.
- Kroeber, Alfred, and Clyde Kluckhohn (1952), *Culture: A Critical Review of Concepts and Definitions*,
- Kuhn, Thomas (1962), *The Structure of Scientific Revolutions*, Chicago: University of Chicago Press.
- Lal, Deepak (1998), *Unintended Consequences: The Impact of Factor Endowments, Culture, and Politics on Long-Run Economic Development*, Cambridge, MA: MIT Press.
- Lucas, Robert (1972), "Expectations and the Neutrality of Money," *Journal of Economic Theory* 4(2):103-124.
- Minsky, Hyman P. (1982), *Can "It" Happen Again?*, Armonk, NY: M. E. Sharpe, Inc.
- Muth, John F. (1961), "Rational Expectations and the Theory of Price Movements," *Econometrica* 29:315-335.
- North, Douglass C. (1987), "Institutions, Transactions Costs and Economic Growth," *Economic Inquiry* 25:419-420.
- North, Douglass C. (2005), *Understanding the Process of Economic Change*, Princeton, NJ: Princeton University Press.
- Ostrom, Elinor (2005), *Understanding Institutional Diversity*, Princeton, NJ: Princeton University Press.
- Ostrom, Elinor (2009), "A General Framework for Analyzing Sustainability of Social-Ecological Systems," *Science* 325(5939):419-422.
- Ravetz, Jerry (1995), "Economics as an Elite Folk Science: The Suppression of Uncertainty," *Journal of Post Keynesian Economics* 17(2):165-84.
- Reinert, Erik (2007), *How Rich Countries Got Rich...And Why Poor Countries Stay Poor*, New York: Public Affairs, Persus Books Group.
- Romer, Paul M. (1998), "Economic Growth," from David R. Henderson (ed.), *The Fortune Encyclopedia of Economics*, New York: Warner Books, as provided on Romer's Stanford University website on 4-30-1998.
- Seabright, Paul (2004), *The Company of Strangers, A Natural History of Human Life*, Princeton, NJ: Princeton University Press.
- Smith, Adam (1776 [1976]), *An Inquiry into the Nature and Causes of the Wealth of Nations*, Chicago: University of Chicago Press.
- Weber, Max (1978), *Economy and Society*, Berkeley: University of California Press.