

# THE LONG TERM VIEW

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## How Economics is Changing

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# THE LONG TERM VIEW

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## How Economics is Changing

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# Introduction

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*Lawrence R. Velvel*

I attended the University of Michigan as an undergraduate, from 1956 to 1960. Most of the time I was a terrible student: once I cut classes for six consecutive weeks or so. The reasons for all this had to do with background, milieu, and psychology; they needn't be discussed here (but have been canvassed in the first volume of a slightly fictionalized memoir<sup>1</sup>).

There was one economics professor, however, for whom I invested significant effort. He was a wonderful older man, Professor Shorey Peterson, who retired in the mid or late '60s. Professor Peterson became interested in me because he was deeply interested in students, had high standards and demanded rigorous performance, hated to see ability wasted, and was deeply unhappy when he thought a student wasn't putting in effort. These traits came into play in my case because I had gotten As on all three tests in his first semester introductory economics course; got a B on the first test in his second semester introductory economics course; figured that I could get Bs without going to the small section classes given as a supplement to his lectures—especially since the small section I was in was taught by one of the pioneer foreign graduate students to do this, a woman who could barely speak English (truly: could barely speak it and thus did little in class except read the book to us—which I could do for myself); therefore quit going to class altogether; and subsequently got As on the second and third tests, which entitled me to an A in the course. Professor Peterson would not give me my grade. He was upset—even angry, I

think—that classes in his course were not attended by someone who could get an A without attending them, which he claimed few could do. He demanded that I do a special, reasonably extensive research project over the summer, if I wanted to get my grade. So that's what I did.

Is there any university professor today who would care enough about students to demand special work over the summer to try to “rescue” a student who was wasting ability? If there is such a professor, would a university let him demand that a student do a special summer research assignment, in order to get a grade already fully earned during the prior semester, if the student complained to the administration (which I did not—in those days it would have been useless)? I don't know the answers to these questions, but suspect they are in the negative, *almost* always if not always.

So this is why Professor Peterson took an interest in me and why I became a protégé of sorts. In one of his subsequent economics courses, I learned one of the two most valuable intellectual lessons ever to have been impressed upon me: that there is a structure of ideas in any field, and that each idea has its place within the structure. That lesson proved invaluable in law school, in practice, as an academic, and, in what inevitably is a form of business, helping to start and for 20 years running a law school.

I have written of Professor Peterson in my fictionalized memoir (using the name Professor Pedsen there), and feel that to a significant extent I owe my career to him. I owe

it to him because of his belief in me, his mentoring, the major intellectual lesson he imparted, and the fact that he recommended me to the Michigan and Chicago Law Schools. The people at the Michigan Law School knew very well about Professor Peterson, and knew that students who did well in his classes usually did well in law school too. Considering what an educational schmuck I had generally been as an undergraduate, it would be surprising if his recommendation had not counted for a great deal in the admissions process at Michigan. (After Michigan admitted me sufficiently early in the game, I never did submit an application to Chicago because I figured that, with my record, it would be a cold day in hell before it admitted me. Peterson's name would have meant little there. Also, in those days at least, Michigan was generally rated among the top five American law schools (which, if memory serves, were widely considered to be Harvard, Yale, Columbia, Michigan, and Chicago). So there was little point in trying to get into Chicago if one had gotten into Michigan. I *seem* to remember that Professor Peterson subsequently asked whether Chicago had admitted me—he was interested because he had sent a recommendation—and my memory is that he was all right with the fact that, once being admitted to Michigan, I did not apply to Chicago although he had already gone to the trouble of sending a recommendation. (I think he too accepted that in those days there was no point in applying to Chicago if one had already gotten into Michigan.) But I do remember quite clearly that, upon returning to law school in the fall of 1961 after receiving my first year law school grades over the summer, I went to see Peterson early on to tell him my grades. I was very pleased to be able to tell him I had done well, and I knew he would be delighted to have been proven right. I owed him an awful lot, and telling him the results in law school so that he could kvell (as it is said in Yiddish)

was the least I could do.

As an economist, Professor Peterson was steeped in Marshallian economics—his 807-page textbook, which I memorized over two semesters and still possess though the cover fell off decades ago, was Marshallian. He also was an expert in corporate economics; I can still remember him mentioning A. A. Berle in class. He had begun his career at Michigan shortly after the Great War I think, and, as far as I know, was not specially steeped in Keynesianism, which was not created until later, in the 1930s, and which did not, I believe, begin to make a large impact in America until the 1940s and 1950s—well after Peterson's career began. Keynesianism had, of course, become or was awfully close to being a huge deal by the time I took economics in the last half of the 1950s. A course dealing with Keynesian ideas was taught at Michigan in the late 1950s by Gardner Ackley, then Chair of Michigan's Economics Department and subsequently Chair of the Council of Economic Advisers in the 1960s (when the CEA meant something). At least I *think* Ackley's course dealt with Keynesianism, although I cannot presume to know with absolute confidence because, due to the materials' impenetrability and my horrid study habits (or non-study habits), I stopped going to class in about week two, tried fruitlessly to learn the material in about 18 hours of continuous reading immediately before the final exam, got an undeserved D on the final—undeserved because I should have gotten an F and, I'm confident, managed a D only because I had learned and wrote down some buzz words, some jargon, and Ackley probably wouldn't flunk anybody who dared take his enormously difficult course and at least knew a few words of the jargon.

As far as I know, Professor Peterson also wasn't specially steeped in the new mathematically-based economics which extensively appeared on the scene 30 years and more after

he began his career, had begun to conquer the world of economics by the end of the 1950s, and, in my opinion, ruined the field for the next 35 years or so by causing economics to become ever more divorced from reality. Personally, being one of those people who more readily understands English, even complex English, than economists' charts and graphs, I performed in mediocre fashion in the few economics courses I took that were to any significant extent taught in chartology or graphology instead of English. Professor Peterson, God love him, wrote and taught in English, so people like me could understand him.

Being expert in Marshallian economics and corporate economics, not being specially conversant (as far as I know) with Keynesianism or mathematically based economics, and caring deeply about students, Professor Peterson was a grand gentleman of the old school.

There was one thing that always bothered me about his economics, however. There are probably lots of people, generally conservatives who are against progress I would hazard, who believe that I am not overly burdened by a sense of reality. But even when I was a young student in Peterson's courses, it always seemed to me that the economics I was learning—Marshallian precepts—were in some ways wholly out of touch with reality, with the way people really conducted themselves. It always seemed to me that people didn't always focus solely on getting more money (i.e., weren't solely the rational *economic* men posited by economics), that people often didn't act in their own best purely *economic* interest, that economics' method of determining demand—or what I believe economists would call the demand curve—was deeply flawed because it ignored—it couldn't care less about—people who desperately need things—necessities—but are too poor to afford them. I once discussed some of this with Shorey, arguing to him that it was very

unsatisfactory that, in dealing with questions of demand, economics paid no attention to the fact that a man in America who had no suit needed one suit a lot more than a man with ten suits needed an eleventh. The only answer he could give me was that, to have demand, there must be both a desire for something *and* the ability to purchase it. That was an answer straight out of the old school of economics—yet I don't know that economics, with all of its mathematics of the last 60 years, has to this day come up with a different (and better?) answer than Shorey gave 50 years ago. (Has it? Am I simply ignorant of it? Is there now, because of the concern about poverty here and abroad since the days of Kennedy and Johnson, some sort of economic principles for assessing what demand for given items *would* be, especially what the demand for necessities (which are different in different countries) *would* be, if people had the money to pay for the items? Do institutions like the World Bank and the International Monetary Fund make such calculations—one would be shocked if they don't—and, if so, how do they do it?)

Having learned Marshallian economics, having thought them out of touch with reality in certain important respects, especially because of their monistic focus on purely economic desires and, accordingly, on money, while ignoring both morality and non-monetary requirements for happiness, and having witnessed the divorce from reality becoming ever greater during the long reign of mathematical economics, in recent years I have been struck by reports and columns in newspapers and magazines about new kinds of economics. Especially striking have been discussions of the developing field of behavioral economics, which assesses how and the real reasons why people act, instead of assuming that everything is a matter of money alone. There is, relatedly, the field of behavioral finance, which shows that even in the arena of money people don't necessarily act in accordance

with ideas that the abstractions of classical economics would posit as being in their best monetary interest. There is a phenomenon that might be called happiness economics—which I would think is in its way another aspect of behavioral economics—which investigates such ideas as that, beyond a certain amount of money needed for a decent life, ever more money does not make people happier. What *does* make them happier, it is thought, is extensive contact with others—friends, relatives, and coworkers, work that they enjoy, being appreciated for the jobs they do. There is a field of economics that deals with poverty, including, one gathers, even experiments in the field—whereas economics used to be thought a discipline in which actual experiment was impossible. There are fields I had not heard of until I read an article in this issue of LTV, such as market design economics, neuroeconomics, capabilities economics. (And I haven't even mentioned "Freakonomics.")

The bottom line here is that economics is no longer the subject that Shorey Peterson knew or could even dream of, or that I learned to some extent in the 1950s. It is a field, rather, that is burgeoning into new areas, and in these ways is of practical consequence, just as it has been of practical consequence in some other ways for about 100 years. Given the new fields, it seemed to me that LTV should devote an issue to some of the new developments, and it has done so here. This issue will give you a chance to learn of some of the new subjects. It will also, by this Introduction, give you a chance to learn that in the mid-20th century, there was a wonderful man named Shorey Peterson in the Economics Department at Michigan, a man who, like 99.999999 percent or more of the human population is, sadly, lost to history. ♦

## Endnotes

<sup>1</sup> *Thine Alabaster Cities Glean*, Doukathsan Press, 2007.

# The Change in and State of Recent Economics

*By John B. Davis*

Economics has a number of contemporary images: the theory of supply-and-demand, Keynesian macroeconomics and national aggregate demand management, the science of self-interested behavior, rational choice theory, *laissez faire* and the idea that markets should be free and unregulated, mathematical formalism, and even the Washington consensus on globalization.

In addition, there are many unhappy things people perceive to be true about the economy that they believe fairly or unfairly economics have brought about: increasing competition throughout life, threats to the viability of families and communities, job losses due to rising imports, uncertain careers, financial market instability, declining personal security, discrimination, and so on. There fewer things people perceive about the economy in a positive way that they attribute to the influence of economics, but sometimes they credit economics with ensuring near full employment, maintaining economic growth, and making globalization possible.

Economists themselves share some of these opinions, but as insiders to economics, they are far more cautious about the link between economics and the economy. While a part of economics is indeed about designing policies based on economic theory, economists are rather skeptical from a professional perspec-

tive about policy effectiveness. That is, they recognize that policies can be changed in the process of implementation, that they can have unexpected consequences, and that they are based on limited knowledge about the economy. Where hesitation seems to have been lacking on the part of economists is in regard to the confidence they have about the accuracy and reliability of economic theory. Yet this now seems to be changing. This represents a fairly new development in postwar economics, and some reasons why this change seems to have come about will follow.

To begin, it helps to have some sense of the development of economics as a professional field. As a separate academic domain of investigation, economics was first established at Cambridge University in the last decades of the 19th century under the influence of Alfred Marshall, with parallel developments occurring around the same time or shortly thereafter in other industrializing countries. Of course the investigation of economic life long preceded Marshall's efforts, but the academic professionalization of economics served to re-characterize economics as a science and exclude many who lacked the requisite standardized training from effective participation in the discussion of economic issues.

A next important development for economics was the Great Depression, which led to a

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change in the public view of the prerogatives and responsibilities of economics and economists vis-à-vis the economy. The aggregate demand management economics of John Maynard Keynes—later called Keynesian economics—was generally accepted by economists and the public by mid-century as being successful in maintaining high levels of employment and production, and economists were thus expected to act on the policy front when economies suffered, and seen as legitimately qualified to do so.

A third important development was World War II and the postwar mathematization of economics. The war created massive materiel and personnel management problems that required new quantitative tools. Economists borrowed liberally from physics, engineering, and operations research to develop these tools, and then carried them forward in the postwar to the analysis of markets and economic systems. The postwar period also saw tremendous resources devoted to the development of university research faculties across the sciences—partly driven by the Cold War. This had the effect of multiplying the number of professional economists with mathematical training many times over, thus creating a large identifiable academic-governmental constituency with generally high public approval associated with the perceived performance of economics in the Depression and the War.

Moving toward the present, our current understanding of the world pivots on the fall of the Berlin Wall in 1989. A change in the status of economics seems to share this same date. One thing the Cold War did to economics (with the exception of the Vietnam period) was drive out difference of opinion about its subject matter. The technical assistance of economists in the war effort promoted mathematical modeling in economics after the war, which drove out more qualitative approaches, plus diversity in general. Economics standardized itself around neoclassical theory and sys-

tematically cleaned house by denying paths to professionalization to individuals interested in non-standard and heterodox approaches to the field. Minus the Wall, however, the standardization of economics seemed less compelling. At the same time, dramatic change in the world's economy associated with its increasing integration or globalization raised the question of economics' flexibility and comprehensiveness. What then has happened, then, to economics in the last quarter century?

Recent economics can be described as a traditional neoclassical core surrounded by two sets of approaches that challenge it: (a) heterodox research programs (many of them long-standing, others more recent) that have survived the standardization process, and (b) a collection of new research programs which largely derive from the influence of other sciences on economics. The former include institutional economics, Marxist economics, radical political economy, social economics, feminist economics, Post-Keynesian economics, and neo-Austrian economics. The latter include behavioral economics, game theory (in various forms), experimental economics, evolutionary economics, and complexity economics.

Neoclassical economists generally ignore both sets of approaches but are increasingly aware that the standard view of economics is under challenge from many directions. There is also criticism of economics by those who consider themselves neoclassical, led by a number of leading economists who are either dispositionally open to change in economics or who have their own complaints against neoclassicism. Thus the old confidence economists exhibited in the first two or three decades after the war about the state of economic theory now seems to be somewhat weakened. This is not to say that economists who follow standard theory anticipate its demise. Rather it is more a matter of an increasing concern that the challenges to the

standard approach in many instances go directly to its heart ... and may be right. Let me identify some of these challenges, as well as those who are responsible for them.

Most important of all is the critique of rationality and rational choice. Neoclassical economics has come to be seen by many as the theory of rational choice, whereby individuals make optimal choices for themselves based on the prices they face and their personal preferences. Other people's desires and the different circumstances in which choices are made are said to not influence the individual's decision. Prices create clear incentives for self-regarding individuals, and individual behavior maximizes individual utility, or makes the individual as well off as possible. That individuals choose rationally is also the foundation of the claim that markets work efficiently, that is, that left to operate freely they make everyone better off (putting aside a small number of cases generally agreed to represent exceptions).

But there is now considerable empirical evidence from psychology that individuals do not choose rationally. Economists have historically assumed that individuals choose rationally and marshal a variety of thought experiments to motivate this assumption. But psychologists since the 1970s, in an empirical subfield called behavioral decision research, have run actual experiments that consistently demonstrate that individuals do not behave rationally. In particular they show that individual decision-making is reference-dependent, meaning that the circumstances in which people make choices have anchoring effects on those choices. Thus how a question is posed influences the choice a person makes. Moreover, people seem to be rather poor at making certain kinds of choices in which considerable information processing is required, especially with respect to estimating probabilities as are associated with choices concerning future events. What psychologists have conse-

quently argued is that people use a variety of cognitive devices to help them frame their decisions. This has been articulated as the heuristics and biases program, associated with the influential research of Daniel Kahneman and Amos Tversky, and now an active field in economics called behavioral economics. Economists have not been able to avoid becoming acquainted with this research, since Kahneman received the Nobel Prize in Economics in 2002, despite not being an economist. (Tversky would likely have shared the Prize but was deceased.)

Thus a key foundation of neoclassical economics, rational choice, has been strongly challenged. Further, it has been challenged not simply as a scientific tenet, but also at the level of its methodological foundations. John Stuart Mill, a half century before Alfred Marshall, argued that economics is primarily a deductive science or a special kind of logic. Until the rise of econometrics after World War II, economics' credentials as an empirical science have been thin at best, while econometrics—the statistical analysis of equations representing economic relationships—has never really tested the economic behavior underlying those relationships. Thus it was something of a shock to the economics profession when Kahneman and Tversky and their colleagues not only demonstrated that one empirically could test individual choice behavior, but that the experiments in which this was done could be extensively replicated. Economists had always argued that experiments could not be done in economics on the grounds that one could not isolate and scientifically control a piece of the economy and run experiments on it. But the psychologists had a long tradition of isolating individuals in laboratories and testing their behavior. For them it was a minor development of their science; for economics it was a significant development, and, moreover, one disruptive of long-established thinking.

A second key challenge to neoclassical economics was to the concept of equilibrium. The idea of an equilibrium state is the idea of the economy, or a part of it, settling into a condition in which there are no forces acting to produce change. It is also the idea that the economy tends to settle to natural resting places in which the different plans and behavior of countless different individuals is harmonized. The classic example is the balance of supply and demand. As a price rises, supply rises and demand falls; as a price falls, demand rises and supply falls. Economists argue that prices will fluctuate until the amount demanders want is exactly equal to the amount suppliers offer, and the market clears. The doctrine underlies the *laissez faire* prescription economists see as their default policy position and is the basis for the idea that economists generally favor free trade in markets.

The situation with the equilibrium concept in economics is a little more complicated than the situation with the rationality concept. A set of very technical results in the 1970s in the theory of the economy as a general equilibrium of markets—known as the Sonnenschein-Mantel-Debreu results—demonstrated that two of the main properties universally agreed to be part of the concept of an equilibrium, namely, that it is unique and stable, were impossible on the standard foundations. By most accounts, this led to economics' general abandonment of the notion that the economy could be represented as one large general equilibrium of markets, and the substitution of an entirely new approach developed in mathematics called game theory.

Game theory was created explicitly for economics in the 1940s by John von Neumann and Oskar Morgenstern. So in trouble on a foundational concept, economics turned to mathematicians. Indeed they soon substituted a new concept of equilibrium for use in game theory that came from another mathematician, John Nash (also later a Nobel Prize winner in

economics). Unfortunately, it was soon determined that equilibrium in this new game theory framework suffered one of the same failures as general equilibrium theory: it could not be shown to be unique. Thus economics found itself with the idea of the economy settling to some equilibrium state of affairs but could not determine which state of affairs it was!

In the economics of the last quarter century, then, two new initiatives have come forward as proposals regarding how this situation might be sorted out. Again, both come from outside of economics, one from evolutionary biology and the other from physics. Evolutionary biology came into economics when a small group of economists remodeled games as contests between different types of players in evolutionary settings. The population frequencies of these different types of players were considered equilibrium outcomes, and these outcomes could be shown to have a number of desirable, expected properties associated with equilibria. However, since the players in these evolutionary games were now types of individuals—or species in effect—the price at which this re-elaboration of the equilibrium concept was achieved was the removal of particular individuals from economic analysis. In evolution, individuals do not survive; species do. It may well be of course that economics in the long run is about the survival of kinds of economic agents rather than about individuals as economic agents. But this means it has little to tell us about ordinary day-to-day decision-making in economies in the short run. Presumably most people expect economics to have something to say about this too.

Physics (or rather physics, a number of other physical sciences, some of the computational sciences, and a number of other fields) has also had an impact on thinking about equilibrium in recent economics in influencing economists to think about the economy as a

complex adaptive system. In general, the emergence of complexity theory in recent years is due to advances in computing power that have made it possible to simulate large complex systems of different relationships with multiple confounding feedback patterns that cannot be solved with traditional analytical methods. Simulations run over many periods and may exhibit phase transitions and emergence in which formerly undetectable aggregate phenomena suddenly become manifest.

In economics, complexity thinking begins with the idea of collections of heterogeneous individuals or agents who directly interact with one another. An important subject of investigation is network effects, or how concentrations of interrelated individuals display shared characteristics that have varying impacts on their individual behavior. Many of these new models are quite interesting, but they often have some very untraditional results for standard economics. One is that equilibria may either not exist or be transitory. An economy may move through a number of only temporary resting points that are unstable. Thus economics' long attachment to the equilibrium concept may ultimately go by the wayside.

This also has implications for that standard concept of the individual. If the economy never really settles into one state or another, it may not make sense to say that individuals ever maximize anything. They might rather be seen as continually sorting through a variety of different strategies as appropriate to the changing circumstances they encounter, never achieving anything that might be termed a best state of affairs.

Thus both rationality and equilibrium, mainstays of postwar standard neoclassical economics, have an uncertain future in economics. This is not to predict that economics will undergo significant change in the future or that these concepts will disappear. But they

no longer have the same unchallenged position in the field they had in the three decades after the War. We might say, then, that economics is becoming more pluralistic, and per-

**There is now an entire field of investigation in economics called experimental economics.**

haps more decentralized with a larger number of research strategies being pursued, not all neatly covered by one large umbrella view of economics. In addition to the developments discussed above, five more deserve mention, three of which were also associated with individuals awarded Nobel Prizes in Economics.

First, there is now an entire field of investigation in economics called experimental economics. Having long denied experiments could be carried out in economics, now a significant number of researchers in the field are carrying them out. Many deny that individuals must always be seen as rational. For example, Vernon Smith (also an Economics Nobel in 2002) allows that individuals may act for a variety of reasons, but sees the market process as ultimately driving individuals to efficient market behavior. He thus decouples the standard neoclassical view that rationality and efficient markets in equilibrium go hand in hand, in order to preserve the idea that markets tend to produce efficient equilibrium outcomes. Further, his conclusions are the result of numerous market experiments run by him and his colleagues. Whereas economists previously argued in deductive fashion that markets settle to equilibrium, Smith succeeded in showing this to be an empirical result.

Second, as the 2007 Nobel Prize shows, there is an active new field in economics called market design. Market design economics investigates the institutional structure and pricing mechanisms of efficient markets and then develops strategies for reforming exist-

ing markets that are inefficient and creating markets that would be efficient where they do not exist. An example of reforming an inefficient market is the design of applicant-vacancy matching algorithms or procedures for medical residents. An example of a created market was the design of auctions for the U.S. Federal Communications Commission granting of access rights to the electromagnetic wave length spectrum.

One remarkable thing about market design economics is that it abandons the traditional assumption in economics that markets are naturally competitive and should be left free and unregulated. In market design economics, in contrast, the idea is that markets often need to be constructed in order to work freely. Another thing that is interesting about market design economics is its recourse to experimental research in the laboratory. Possible institutional arrangements for markets are first tested in the lab before being tried in the real world, so again deductive investigation is not enough.

A third new area of investigation in economics is neuroeconomics. Neuroeconomists use brain-scanning techniques from neuroscience to investigate how the mind functions when individuals engage in economic behavior in laboratory situations. For example, in some experiments, individuals play a game involving bargaining, and researchers then examine their brain activity to determine which centers of the brain are active. The standard view is that decision making involves the prefrontal cortex or the “thinking” part of the brain. But there is considerable evidence showing that areas of the brain associated with emotional response, or affect, play important roles when individuals find themselves in bargaining situations. This raises general questions about human ability in decision making. If people do not always make decisions rationally, they may not always make decisions that are in their best

interest, as for example when they decide how much to contribute to voluntary pension savings plans. There may then be an argument for public policy initiatives that set default options for such programs that would be in individuals’ best interests.

A fourth new development in economics is capabilities research, inspired by the work of Amartya Sen, also a Nobel Prize winner in economics. Capabilities are freedoms to exercise various capacities or functionings we have. Thinking of individuals in these terms is a departure from the standard view that individuals are utility maximizers, where this is usually understood in terms of preference fulfillment. Preferences are always given on the standard view, but the exercise of capabilities involves the development of individual capacities or functionings. This leads to an entirely different view of individual well-being and has resulted in the construction of a number of new types of indices to measure progress in developing individual capabilities. For example, the United Nations Human Development Programme uses the Human Development Index to determine different countries’ progress in promoting the achievement of higher levels of basic human capabilities. This has important implications for public policy in developing countries and indeed for policy in developed countries as well. The capabilities concept’s adoption by economists was largely inspired by philosophical influences on economics.

Fifth, a new view of the concept of individual preference is called the social preferences approach. Much experimental work in economics investigates individual behavior in game theory settings. The standard neoclassical prediction is that people would generally act in a self-regarding way in these experiments. But one result of game theory experiments is that people are also motivated by social preferences—altruism, fairness, and reciprocity—and that these motives may

dominate self-interest. The most famous experiment is the ultimatum game in which one player is given a sum of money and may decide to give some of it to a second player. If the second player accepts, the distribution is made, but if the second rejects the offer, neither get anything. Self-interest predicts that the first player offers the smallest possible amount, and the second player accepts this. But the evidence consistently shows that larger amounts are offered, and very small amounts are rejected. Thus people have social preferences, or preferences concerning their relations to others, and the traditional *Homo economicus* view of the individual seems limited in what it can explain.

Thus, despite the fact that economics is still largely identified with standard neoclassical economics, there is considerable change in the field, particularly on the research frontier. Much of this change, moreover, is inspired by influences of other sciences on economics. Sciences, of course, are distinguished by their subject matters, but they also typically have different practices of investigation and methodologies of explanation. Thus as new concepts and ideas come into economics from other fields, they often import along with them new ways of conceptualizing investigation in economics. Game theory and experimentalism are two prime examples of this. Neither methodology existed in economics until the postwar period, and together they have created a range of new strategies for explaining markets and economic behavior. From the point of view of non-economists, no doubt many of these kinds of changes appear esoteric and unrelated to everyday concerns regarding the functioning of markets and entire economies. Moreover, societies seem most concerned with economics as regards economists' policy recommendations. Policy targets changes in the ways economies work, but it need not be accompanied by theoretical explanation. Debates over economic policy

concern impact, and rarely do non-economists debate impact in terms of theoretical distinctions. That they leave to the economists, so that change in the foundations of economic policy generally occurs, as it were, behind the scenes.

In addition, economics as a science is in an unusual position with respect to the nature of its policy prescriptions as compared to many other sciences. A science's policies can be looked at in two ways: how great their impact is, and how precisely they are able to target their object. For economics, impact is often high since many people's lives can be affected by economic policies in significant degree. But, as noted at the outset here, economists are aware that economic policy may not achieve its objectives, because policies can be changed in the process of implementation, they can have unexpected consequences, and they are based on limited knowledge about the economy. Thus the general situation for economics is that things can go wrong, and sometimes in a serious way. This by itself is enough to make economists cautious about the claims of economics in explaining the economy. But the change in recent economics has added another reason for caution. No longer does it seem that economics as a science is complete and mature, as many believed in the first three decades after World War II. Now it is increasingly recognized that there is on-going change, debate, and key theoretical challenges afoot, reducing confidence regarding how secure economic theory should be thought to be. Perhaps the response to this will be to keep debates in-house. Then, should a new consensus emerge in the future about the nature of economic science, economics may re-appear as a unified science. ♦

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

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

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

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

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

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

Finally, the face of modern economics has

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

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

## **Economics and the Hourglass**

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

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present.<sup>1</sup> See Figure 1.

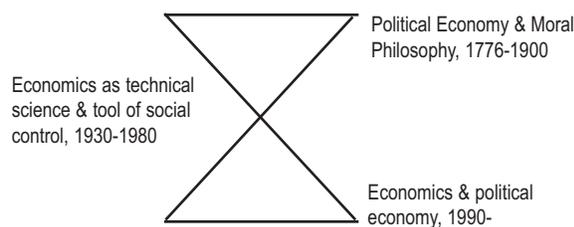


Figure 1: The Hourglass Shape of Economics

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Following WWII, the narrowing of economics greatly accelerated, fueled in no small part by mathematical advances that soon

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

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

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

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

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

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

### **Let’s Get Empirical**

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

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

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

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

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

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

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

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

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

These heterodox criticisms of general competitive equilibrium had little impact on the orthodoxy. But theorists from Kenneth Arrow<sup>7</sup> to Franklin Fisher<sup>8</sup> started to admit that unless they could provide a plausible story about disequilibrium adjustment paths leading to equilibrium solutions, the entire enterprise of general competitive equilibrium possessed limited relevance. These efforts at developing a formal theory of disequilibrium adjustments to equilibrium resolution proved to be more intellectually cumbersome than desired. Theory as it was understood between 1950 and 1980 started to lose some of its luster.

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

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

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

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

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

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

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

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

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

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

If one takes the core principles of economics to be the most important aspects of the discipline, the freakonomics phenomenon is extremely important not only because it is interesting, but also because it familiarizes non-economists with the most significant concepts in economic science.

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

### **Freakonomics and the Rising Popularity of Economics**

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

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

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

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

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

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

### **Concluding Remarks**

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

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

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

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

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

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

## Endnotes

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# Heterodox Economics

*By Frederic S. Lee*

Throughout the 20th century, economics in the United States has been divided into at least two incommensurable, alternative theoretical approaches or paradigms, mainstream economics and heterodox economics. In particular, from 1900 to the 1970s, mainstream economists were completely intolerant of Marxist and Institutionalist economists. Through the use of state power—exemplified by the post-1918 Red Scare and later McCarthyism, the power of the business community, and the class-elite power vested in institutions of higher education, Marxist economists were not hired, or if hired then arbitrarily dismissed. Moreover, mainstream economists took advantage of this power to denigrate both Marxists and Institutionalists, exclude them from their departments, and silence them within their professional organizations.

After 1970, state power played a more indirect role and professional power became more predominant in controlling heterodoxy within the discipline. In particular, in the face of heterodox economists being hired, heterodox associations being formed, heterodox journals being established, and heterodox departments with graduate programs being created after 1970, additional professional-based mechanisms for containing and eliminating heterodox economics had to be found. In the United States, the ranking of economic journals and departments became the primary mechanism.

As a result, mainstream economists (often in conjunction with university administrators) used the rankings to cleanse their departments of heterodox economists, to not hire heterodox economists, and to restrict and constrain teaching to mainstream economics and research to mainstream topics.

The first example of this occurred at the University of Houston in the early 1970s, but it also occurred at the University of Texas and the University of Connecticut, and most recently at the University of Notre Dame. The hegemony of mainstream theory in doctoral programs (as well as undergraduate programs) was seemingly so complete in the United States that the American Economic Association Commission on Graduate Education in Economics simply did not recognize that economic theories other than mainstream economic theory existed, while also noting that graduate programs were virtually identical in terms of the core theory taught at both the graduate and undergraduate level.

In spite of the dominance of mainstream economics, challengers in the U.S. arose in the 1960s and 1970s alongside of the social upheavals at the same time—the Institutional economics (Association for Evolutionary Economics, 1965), radical/Marxian economics (Union for Radical Political Economics, 1968), social economics (Association for Social Economics, 1970), and Post Keynesian Economics (early 1970s). Although separately

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formed, some of their members and adherents were broader in that they engaged with more than one of the challengers. By 2000, these challengers, plus additional ones that emerged in the 1980s and 1990s, became known collectively as heterodox economics and had the status as the primary challenger to mainstream economics.

Heterodox economics refers to economic theories and communities of economists that are in various ways an alternative to mainstream economics. It is a multi-level term that refers to a body of economic theories developed by economists who hold an irreverent position vis-à-vis mainstream economics and are typically rejected out of hand by the latter; to a community of heterodox economists who identify themselves as such and embrace a pluralistic attitude towards heterodox theories without rejecting contestability and incommensurability among heterodox theories; and to the development of a coherent economic theory that draws upon various theoretical contributions by heterodox approaches which stand in contrast to mainstream theory.

Thus, the article is organized as follows. The first section outlines the emergence of heterodox economics in the sense of a body of heterodox theories; the second section deals with heterodox economics as a pluralist community of heterodox economists; the third section situates heterodox economics relative to mainstream economics; and the fourth section delineates heterodox economics in terms of theory and policy.

### **Heterodox Economics as a Group of Heterodox Theories**

Heterodox as an identifier of an economic theory and/or economist that stands in some form of dissent relative to mainstream economics was used within the Institutionalist literature from the 1930s to the 1980s. Then, in 1987, Allan Gruchy used “heterodox economics” to identify Institutionalist as well as

Marxian and Post Keynesian theories as ones that stood in contrast to mainstream theory. By the 1990s, it became obvious that there were a number of theoretical approaches that stood, to some degree, in opposition to mainstream theory. These heterodox approaches included Austrian economics, feminist economics, Institutional-evolutionary economics, Marxian-radical economics, Post Keynesian and Sraffian economics, and social economics; however, none of the names of the various heterodox approaches were suitable as a general term that could represent them collectively. While terms such as “non-traditional,” “non-orthodox,” “non-neoclassical,” and “non-mainstream” were used to collectively represent them, they did not have the right intellectual feel or a positive ring. Moreover, some thought that “political economy” (or “heterodox political economy”) could be used as the collective term, but its history of being another name for Marxian-radical economics (and its current reference to public choice theory) made this untenable. Therefore, to capture the commonality of the various theoretical approaches in a positive light without prejudicially favoring any one approach, a descriptive term that had a pluralist “big-tent feel” combined with being unattached to a particular approach was needed. Hence, “heterodox” became increasingly used throughout the 1990s in contexts where it implicitly and/or explicitly referred to a collective of alternative theories vis-à-vis mainstream theory and to the economists who engaged with those theories.

The final stage in the general acceptance of heterodox economics as the “official” collective term for the various heterodox theories began circa 1999. First there was the publication of Philip O’Hara’s comprehensive *Encyclopedia of Political Economy*,<sup>1</sup> which explicitly brought together the various heterodox approaches.

At the same time, in October 1998, Fred

Lee established the Association for Heterodox Economics (AHE); and to publicize the conference and other activities of the AHE as well as heterodox activities around the world, he also developed from 1999 an informal newsletter that eventually became (in September 2004) the *Heterodox Economics Newsletter*, now received by over 2000 economists worldwide (see <http://www.heterodoxnews.com>). These twin developments served to establish “heterodox economics” as the preferred terminology by which these groups of economists referred to themselves.

### **Heterodox Economics as a Community of Heterodox Economists**

Heterodox economics also denotes a community of heterodox economists, which implies that the members are not segregated along professional and theoretical lines. The segregation of professional engagement has not existed among heterodox associations, with the exception of two instances in the mid-1970s. For example, from their formation in 1965-70, the three principal heterodox associations in the United States, AFEE, ASE, and URPE (see Table 1 for full names), opened their conferences to Institutional, social economics, radical-Marxian, and Post Keynesian papers and sessions; appointed and/or elected heterodox economists to the editorial boards of their journals and to their governing bodies who also were members of other heterodox associations or engaged with Post Keynesian economics; and had members who held memberships in other heterodox associations, engaged with Post Keynesian economics, and subscribed to more than one heterodox economics journal. Moreover, a number of heterodox associations formed since 1988, such as AHE, EAEPE, ICAPE, SDAE, and SHE, have adopted an explicitly pluralistic approach towards their name, membership, and conference participation (for a list of heterodox associations, dates

formed, and primary country or region of activity, see Table 1).

Finally, the informal and explicit editorial policies of heterodox journals have, from their formation, accepted papers for publication that engage with the full range of heterodox approaches, and this tendency strengthened since the mid-1990s as heterodox economics became more accepted. To illustrate this point, from 1993 to 2003 the eight principal English-language generalist heterodox journals—*Cambridge Journal of Economics*, *Capital and Class*, *Feminist Economics*, *Journal of Economic Issues*, *Journal of Post Keynesian Economics*, *Review of Political Economy*, *Review of Radical Political Economics*, and *Review of Social Economy*—cited each other so extensively that no single journal or subset of journals was isolated; hence they form an interdependent body of literature where all heterodox approaches have direct and indirect connections with each other. Thus, in terms of professional engagement since the mid-1990s, the heterodox community is a pluralistic integrative whole.

Theoretical segregation involves the isolation of a particular theoretical approach and its adherents from all other approaches and their adherents; that is to say, theoretical segregation occurs when there is no engagement across different theoretical approaches. However, it does not exist within heterodox economics currently, nor has it existed in the past among the various heterodox approaches. From the 1960s to the 1980s, heterodox economists engaged, integrated, or synthesized Institutional, Post Keynesian, and Marxist-radical approaches, Institutional and Post Keynesian approaches, Post Keynesian and Marxist-radical approaches, Post Keynesian and Austrian, Austrian and Institutional, feminist and Marxist-radical approaches, Institutional and Marxist-radical approaches, Institutional and social economics, ecological and Marxist-radical approaches, and social

and Marxian economics. Thus by 1990 many heterodox economists could no longer see distinct boundaries between the various approaches. Moreover, from the 1990s to the present day, heterodox economics has continued the past integration efforts of engaging across the various heterodox approaches. Hence, it is clear that the heterodox community is not segregated along theoretical lines, but rather there is cross-approach engagement to such an extent that the boundaries of the various approaches do not simply overlap—they

evidence of a more theoretically coherent heterodox economics—a glass half full of coherence as opposed to one half empty.

### Heterodox Critique of Mainstream Economics

Mainstream economics is a clearly defined theoretical story about how the economy works, but this story is theoretically incoherent. That is, mainstream theory is comprised of a core set of propositions—such as scarcity, equilibrium, rationality, preferences, and methodological individualism and derivative

**Table 1 Heterodox Economics Associations** (currently active)

Name	Date Est.	Country/region of primary activity
Association d'Economic Politique (AEP)	1980	Canada
Association for Economics and Social Analysis (AESAs)	Late 1970s	United States
Association for Evolutionary Economics (AFEE)	1965	United States
Association for Heterodox Economics (AHE)	1998	United Kingdom & Ireland
Association for Institutional Thought (AFIT)	1979	United States
Association for Social Economics (ASE)	1970	United States
Association pour le Développement des Etudes Keynesiennes (ADEK)	2000	France
Association Recherche et Regulation	1994	France
Belgian-Dutch Association for Institutional and Political Economy	1980	The Netherlands & Belgium
Conference of Socialist Economists (CSE)	1970	United Kingdom
European Association for Evolutionary Political Economy (EAEPE)	1988	Europe
International Association for Feminist Economics (IAFFE)	1992	World
International Confederation of Associations for Pluralism in Economics (ICAPE)	1993	United States/World
Japan Association for Evolutionary Economics (JAFEE)	1996	Japan
Korean Social and Economic Studies Association	1987	Korea
L'Association d'Economie Politique	1980	Canada
Progressive Economics Forum (PEF)	1998	Canada
Society for the Advancement of Socio-Economics (SABE)	1982	United States
Society for the Advancement of Socio-Economics (SASE)	1989	World
Society for the Development of Austrian Economics (SDAE)	1996	United States
Society for Heterodox Economics (SHE)	2002	Australia
Sociedade Brasileira de Economia Política (SEP)	1996	Brazil
Union for Radical Political Economics (URPE)	1968	United States
US Society for Ecological Economics (USSEE)	2000	United States

are, in some cases, not there at all. The ensuing theoretical messiness of cross-approach engagement is evidence, to detractors, of the theoretical incoherence of heterodox economics, whereas to supporters of progress, it is

beliefs, vocabulary, symbols, and parables—while there is a range of heterogeneous theoretical developments beyond the core that do not call into question the core itself in totality. As a result, critiques of the theory vary in that

they can deal with the internal coherence and/or empirical grounding of the theory, they can be directed at the theory at a particular point in time or at specific components of theory (such as methodology, concepts qua vocabulary, parables qua stories, and symbols), and they can be initiated from a particular heterodox approach. What emerges is a varied concatenation of particular and extensive critiques that generate an emergent encompassing rejection of mainstream theory, although any one particular critique may not go that far.

Although the internal critiques and critiques of models that tell theoretical stories show that the theory is incoherent, they do not by themselves differentiate mainstream from heterodox theory. This, however, can be dealt with in terms of specific critiques of the core propositions. That is, each of the heterodox approaches has produced critiques of particular core propositions of the theory, while each core proposition has been subject to more than one critique; in addition, the multiple heterodox critiques of a single proposition overlap in argumentation. To illustrate this point, consider the critiques of the concept of scarcity. The Post Keynesians argue that produced means of production within a circular production process cannot be characterized as scarce and that production is a social process, while Institutionalists reject the view that natural resources are not “produced” or socially created to enter into the production process, and the Marxists argue that the concept is a mystification and misspecification of the economic problem—that it is not the relation of the isolated individual to given resources, but the social relationships that underpin the social provisioning process. The three critiques are complementary and integrative and generate the common conclusion that the concept of scarcity must be rejected as well as the mainstream definition of economics as the science of the non-social provisioning process ana-

lyzed through the allocation of scarce resources among competing ends given unlimited asocial wants of asocial individuals. Other critiques of the core propositions exist and arrive at similar conclusions. Together, the three critiques—internal, story qua model, and core propositions—form a concatenated structured heterodox critique that rejects and denies the truth and value of mainstream theory.

### **Heterodox Economics: Theory and Policy**

Since the intellectual roots of heterodox economics are located in traditions that emphasize the wealth of nations; accumulation; justice; social relationships in terms of class, gender, and race; full employment; and economic and social reproduction, the discipline of economics, from its perspective, is concerned, not with prediction per se, but with explaining the actual process that provides the flow of goods and services required by society to meet the needs of those who participate in its activities. That is, economics is the science of the *social* provisioning process, and this is the general research agenda of heterodox economists. The explanation involves human agency in a cultural context and social processes in historical time affecting resources, consumption patterns, production and reproduction, and the meaning (or ideology) of market, state, and non-market/state activities engaged in social provisioning. Thus heterodox economics has two interdependent parts: theory and policy. *Heterodox economic theory* is an empirically grounded theoretical explanation of the historical process of social provisioning within the context of a capitalist economy. Therefore it is concerned with explaining those factors that are part of the process of social provisioning, including the structure and use of resources, the structure and change of social wants, structure of production and the reproduction of the business enterprise, family, state, and other relevant

institutions and organizations, and distribution. In addition, heterodox economists extend their theory to examining issues associated with the process of social provisioning, such as racism, gender, and ideologies and myths.

Because their economics involves issues of ethical values and social philosophy and the historical aspects of human existence, heterodox economists make ethically-based *economic policy* recommendations to improve human dignity, that is, recommending ameliorative and/or radical, social, and economic policies to improve the social provisioning and hence well-being for all members of society and especially the disadvantaged members. To do this properly, their economic policy recommendations must be connected to heterodox theory, which provides an accurate historical and theoretical picture of how the economy actually works—a picture that includes class and hierarchical domination, inequalities, and social-economic discontent.

Given the definition of economics as the science of the social provisioning process and the structure of the explanation of the process combined with the pluralistic and integrative proclivities of heterodox economists, there has emerged a number of elements that have come to constitute the provisional theoretical and methodological core of heterodox theory. Some elements are clearly associated with particular heterodox approaches, as noted by Phillip O'Hara:

The main thing that social economists bring to the study [of heterodox economics] is an emphasis on ethics, morals and justice situated in an institutional setting. Institutionalists bring a pragmatic approach with a series of concepts of change and normative theory of progress, along with a commitment to policy. Marxists bring a set of theories of class and the economic sur-

plus. Feminists bring a holistic account of the ongoing relationships between gender, class, and ethnicity in a context of difference . . . And post-Keynesians contribute through an analysis of institutions set in real time, with the emphasis on effective demand, uncertainty and a monetary theory of production linked closely with policy recommendations.<sup>2</sup>

However, other provisional elements, such as critical realism, non-equilibrium or historical modeling, the gendering and emotionalizing agency, the socially embedded economy, and circular and cumulative change, emerged

**Heterodox economists extend their theory to examining issues associated with the process of social provisioning, such as racism, gender, and ideologies and myths.**

from a synthesis of arguments that are associated only in part with particular heterodox approaches.

The core methodological elements establish the basis for constructing heterodox theory. In particular, the methodology emphasizes realism, structure, feminist, and uncertain agency qua individual, history, and empirical grounding in the construction of heterodox theory, which is a historical narrative of how capitalism works. The theory qua historical narrative does not simply recount or superficially describe actual economic events, such as the exploitation of workers; it does more in that it analytically explains the internal workings of the historical economic process that, say, generates the exploitation of workers. Moreover, because of its historical nature, the narrative is not necessarily organized around

the concepts of equilibrium/long period positions and tendencies towards them. Because the narrative provides an accurate picture of how capitalism actually works and changes in a circular and cumulative fashion, economists use their theory to suggest alternative paths that future economic events might take and propose relevant economic policies to deal with them. In constructing the narrative, they have at the same time created a particular social-economic-political picture of capitalism.

The core theoretical elements generate a three-component structure-organization-agency economic theory. The first component of the theory consists of three overlapping interdependencies that delineate the structure of a real capitalist economy. The first interdependency is the production of goods and services and requires them to be used as inputs. Hence, with regard to production, the overall economy (which includes both market and non-market production) is represented as an input-output matrix of material goods combined with different types of labor skills to produce an array of goods and services as outputs. Many of the outputs replace the goods and services used up in production and the rest constitute a physical surplus to be used for social provisioning, that is for consumption, private investment, government usage, and exports.

A second interdependency is the relation between the wages of workers, profits of enterprises, and taxes of government and expenditures on consumption, investment, and government goods as well as non-market social provisioning activities. The last interdependency consists of the overlay of the flow of funds or money accompanying the production and exchange of the goods and services.

Together, these three interdependencies produce a monetary input-output structure of the economy where transactions in each market are a monetary transaction; where a change in price of a good or the method by

which a good is produced in any one market will have an indirect or direct impact on the entire economy; and where the amount of private investment, government expenditure on real goods and services, and the excess of exports over imports determines the amount of market and non-market economic activity, the level of market employment and non-market laboring activities, and consumer expenditures on market and non-market goods and services. These elements of course have parallels in non-heterodox economics, but the ideas are developed differently.

The second component of heterodox theory consists of three broad categories of economic organization that are embedded in the monetary input-output structure of the economy. The first category is micro market-oriented, hence particular to a set of markets and products. It consists of the business enterprise, private and public market organizations that regulate competition in product and service markets and the organizations and institutions that regulate the wages of workers. The second is macro market-oriented and hence is spread across markets and products, or is not particular to any market or product. It includes the state and various subsidiary organizations as well as particular financial organizations, that is, those organizations that make decisions about government expenditures and taxation, and the interest rate. Finally, the third category consists of non-market organizations that promote social reproduction and include the family and state and private organizations that contribute to and support the family.

The significance of organizations is that they are the social embeddedness of agency qua the individual, the third component of heterodox theory. That is, agency, which are decisions made by individuals concerning the social provisioning process and social well-being, takes place through these organizations. And because the organizations are embedded in both instrumental and ceremoni-

al institutions, such as gender, class, ethnicity, justice, marriage, ideology, and hierarchy qua authority, agency qua the individual acting through organizations affect both positively and negatively but never optimally the social provisioning process.

## Conclusion

If mainstream economics suddenly disappeared, heterodox economics would be largely unaffected. It would still include the various heterodox traditions; there would still be an integrated professional and theoretical community of heterodox economists; and its heterodox research agenda would still be directed at explaining the social provisioning process in capitalist economies and argue for economic policies that would enhance social well-being. In this regard, heterodox economics is not out to reform mainstream economics. Rather, it is an alternative to mainstream economics: an alternative in terms of explaining the social provisioning process and suggesting economic policies to promote social well-being. Since the mid-1990s, the community of heterodox economics has grown, diversified, and integrated. The previously isolated are now part of a community, heterodox associations exist in countries where previously no heterodox associations had existed, and developments in heterodox theory and policy are occurring at breakneck speed. In short, heterodox economics is now an established feature on the disciplinary landscape and the progressive future of economics. ♦

## Endnotes

<sup>1</sup> O'Hara, P. A., ed. 1999. *Encyclopedia of Political Economy*. London: Routledge.

<sup>2</sup> O'Hara, P. A. 2002. The role of institutions and the current crises of capitalism: a reply to Howard Sherman and John Henry. *Review of Social Economy* 60, 609–18.

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# The Changing Face of Mainstream Economics

*By David Colander, Richard P. F. Holt, & J. Barkley Rosser, Jr.*

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Economics is currently undergoing a fundamental shift in its method, away from neo-classical economics and into something new. Although that something new has not been fully developed, it is beginning to take form and is centered on dynamics, recursive methods, and complexity theory. The foundation of this change is coming from economists who are doing cutting edge work and influencing mainstream economics. These economists are defining and laying the theoretical groundwork for the fundamental shift that is occurring in the economics profession.

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If one reads the heterodox literature in economics these days, one gets the impression that modern mainstream economics is much like the economics of 50 years ago; it is called “neoclassical economics” and is criticized in much the same way that earlier heterodox economists criticized the mainstream economics of the 1950s or 1960s. Much of this criticism today is off the mark, however, because mainstream economic thinking has changed. Economics is moving away from a strict adherence to the holy trinity—rationality, selfishness, and equilibrium—to a more eclectic position of purposeful behavior, enlightened self-interest, and sustainability. This article considers the nature of that change and the process and sociological dynamics by which the profession changes.

## **The Profession as a Complex System**

To understand this argument, it is helpful to think of the profession as a complex system—a system that is too complicated to be fully understood by agents in the system or

researchers studying the system.<sup>1</sup> Complex systems cannot be understood from assumed first principles; they can only be understood through the process of change that underlies them. In the same way, researchers can best understand the economics profession by the process of change that characterizes it. Most considerations of the economics profession have tended to take a static view of the profession, which makes it seem as if it is an unchanging entity. That is the approach that most heterodox criticisms of the profession have taken. But that is not the way we see the economics profession; we see it as a dynamic entity, which generates a self-reproducing, evolving, complex system of interacting ideas.

Getting a handle on such a dynamic entity and conveying its essence to others often requires giving it static classifications and organizing it into distinct periods. Historians of economic thought must do this to provide structure when considering past economists. But these classifications are crutches, not

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characterizations of reality. They are imposed by the observer and are not necessarily part of the essence of the profession at any point in time. Any static classification hides the dynamic change occurring underneath it. For this reason, the classifications used by historians of thought, such as “Classical” or “Neoclassical,” while useful and perhaps even necessary, are nevertheless confining and miss important dimensions of the profession.

### **The Edge of Economics**

The changes in the profession are brought about by what we call “work at the edge of economics.”<sup>2</sup> It is innovative and successful work at the edge of the profession that signals the future direction of change in economics and how the profession eventually comes to be viewed and understood by its elite. The very concept of an edge of the profession is designed to suggest a profession in which there are multiple views held within the profession and goes against the standard classifications of economics. Those standard classifications convey a sense of the profession as a single set of ideas. But that is wrong; it is much more useful to characterize the economics profession as a diverse evolving set of ideas, loosely held together by its modeling approach to economic problems.<sup>3</sup>

Standard classifications tend to miss the diversity that exists within the profession and the many new ideas that are being tried out. They miss the important insight that one can be part of the mainstream and yet not necessarily hold “orthodox” ideas. Standard classifications also emphasize a fairly narrow orthodox core of the profession and convey a picture of all conventional economists accepting this core. The reality is more complicated; conventional economists often hold a variety of views simultaneously. If the variance of views increases, while the core remains relatively unchanged, the static characterization

of the profession will not change, but its dynamic characterization will.

A large variance in acceptable views, such as has emerged in the profession over recent decades, signals that changes are likely in the future. In our view, the interesting story in economics over the past decades is the increasing variance of acceptable views, even though the center of economics has not changed much. For example, mainstream economists today such as William Baumol, George Akerlof, Thomas Schelling, Truman Bewley, and Paul Krugman, in important aspects of their thinking, are working outside of what is generally considered the orthodoxy of the profession. Yet, their ideas are widely accepted and discussed within the mainstream of economics. It is such work that has increased the variance of acceptable views in the profession.

To capture that variance of acceptable views, static classifications must be seen for what they are—useful fictions that are meant for students and non-specialists. These classifications are backward looking, and, to be meaningful, they must be supplemented with a discussion of the variance of ideas acceptable to the mainstream. The reality is that at any point in time a successful discipline will have hundreds of new ideas being tried out, as new methods, new technology, and new information become available. That is what happens at the edge of economics.

This edge of economics has both intellectual and social elements. The intellectual aspect of economics at the edge fundamentally involves originality. This does not mean that all ideas at the edge are totally new. Ideas have origins and grow better in some environments than in others. The history of economics is full of instances in which old ideas are rehabilitated or revived and found to be useful and advantageous within the new context that is emerging.

In work at the edge, ideas that previously

had been considered central to economics are being modified and broadened, and the process is changing the very nature of economics. What makes it possible for these ideas to take root now, but not in the past, are advances in analytic technology, such as nonlinear dynamics, which has made it possible to study much more complex models than before, and developments in computing capabilities, which have made studies with simulations and agent-based models much more useful, allowing economists to study problems that do not have analytic solutions. Combined with advances in other disciplines relevant to economics, which makes the integration among disciplines easier, the combination of these advances has opened up completely new ways of integrating those ideas into the core beliefs of the field and has changed the core beliefs in important ways. For example, developments in nonlinear dynamics now allow alternative models of processes that include sudden shifts from one equilibrium to another, and the development of agent-based modeling is allowing researchers to explore models with heterogeneous agents and to move away from a focus on unique equilibria.<sup>4</sup>

### **Change within the Profession**

Sociological issues impinge upon and constrain what is possible intellectually. The reproduction of ideas involves the social, political, and economic structures of the academic and policymaking establishments in which ideas are developed and transmitted. Ideas, however original and possibly wonderful, that do not become accepted by some of the elite of the profession, and which do not eventually get funded, will not be accepted and transmitted within the profession. To internally move the discipline to a new position, some of the profession's elite must accept these ideas.

What is occurring in economics today is a modification of the standard view of paradigm shifts proposed by Thomas Kuhn.<sup>5</sup> Kuhn argued that the driving forces of change in a discipline are ideas that challenge the very system of thought in a way that puts them outside the mainstream, and ultimately are introduced “funeral by funeral” by a paradigm shift. It is easy to recognize that a paradigm shift has occurred as the shift is so dramatic and sudden.

We see this view as not quite fitting the economics profession. From our dynamic perspective, an alternative channel exists that allows significant changes to occur within the mainstream of the profession in a way that is not apparent to the mainstream. These changes do not lead to sudden paradigm shifts, but instead lead to cumulative evolutionary changes that ultimately will be recognized as a revolutionary change. The changes leading to this ex-post revolution were initially accepted within the profession only gradually, more along the lines suggested by Imre Lakatos.<sup>6</sup> This alternative channel is the following: When certain members of the existing elite become open to new ideas, that openness allows new ideas to expand, develop, and integrate into the profession. In this case, change within the profession can be accepted gradually, being introduced “data set by data set” and “new technique by new technique” as well as “funeral by funeral.” In some cases, these new ideas will originate from outside the mainstream, from those who consider themselves heterodox, even if the acceptance of such ideas leads to their “normalization” and removal from being identified as heterodox.

These alternative channels allow the mainstream to expand and to evolve to include a wider range of approaches and understandings. Eventually, sufficient change is made so that future historians of thought will consider the orthodoxy of the period changed. This is

already occurring in economics. Mark Blaug, one of the most distinguished current historians of economic thought, has pointed out that, beginning as early as the 1950s, the classification “neoclassical economics” was no longer appropriate to characterize modern economics,<sup>7</sup> an argument further developed by Colander.<sup>8</sup>

The difference between Kuhn’s view and ours concerns how changes generally come about in a profession. We suggest that changes, even ones that will eventually be considered revolutionary, often come from within and will not be noticed for years. Kuhn’s view suggests that they can only come from outside and are quite apparent when they occur. The dynamic approach of change within the profession that we are introducing here involves stealth changes, in which advocates of new ideas may gain acceptance among the elite of the profession, and even achieve positions of power and prominence within at least some leading academic institutions of economics. The change, however, is so gradual that the profession often does not notice that the change has occurred.

The reason for the difference is the multiple dimensionalities in the mainstream profession. Mainstream economics is a complex system of evolving ideas. Individuals in the profession see minute change upon minute change but do not have a perception of the aggregate of the changes. Only when historians of thought look back, after sufficient time has passed to gain some historical perspective, does the larger change become apparent.

### **The Process of Change**

Both the social and intellectual aspects of change must be taken into account in order to understand the evolution of ideas. The work at the edge is generally begun by younger researchers, and in some cases those who are doing heterodox work. However, their ability to do that work, and to have their work affect

the profession, is dependent on the existence of crucial persons in the leading academic establishments, representing the mainstream of economics, who are open to seriously considering new ideas. These crucial people may be the ones who have developed what was considered the old orthodoxy, but their having developed it does not mean that they aren’t open to change and new ideas. There is nothing inconsistent with being one of the originators of a theory and simultaneously being a critic of that theory. Good economists simultaneously recognize the strengths and limitations of a theory and are open to new approaches and ideas. A good example of a person that fits this category is Kenneth Arrow. Although he is associated with what is considered modern neoclassical orthodoxy, he was instrumental in introducing the complexity approach into economics.<sup>9</sup>

The consideration and ultimate acceptance of a new idea by a certain portion of the elite becomes a key to the process of how the conventional foundation of the discipline evolves. It is not crucial that those developing the ideas initially be at leading establishments. But they must be able to attract the attention of influential individuals at those institutions in order for their ideas to be published in venues that will receive attention, and for research along those lines to get funded. This allows students and advocates of those ideas to get hired at those institutions and thus to establish themselves within the mainstream of the discipline, even when the originators of these ideas remain somewhat outside the mainstream elite.

### **Orthodoxy, Heterodoxy, Mainstream**

It is helpful in making our argument to consider carefully the terms “mainstream,” “orthodox,” “heterodox,” how they are used, and how they relate to our idea that the dynamics of change in a profession are at the edge of the profession. Let us start with the

term, “mainstream economics.” In some sense, mainstream economics is the easiest of the terms to define, although it may be the hardest to identify in practice. It is in large part a sociologically defined category. Mainstream consists of the ideas that are held by those individuals who are dominant in the leading academic institutions, organizations, and journals at any given time, especially the leading graduate research institutions. Mainstream economics consists of the ideas that the elite in the profession finds acceptable, where by ‘elite’ we mean the leading economists in the top graduate schools. It is not a term describing a historically determined school, but is instead a term describing the beliefs that are seen by the top schools and institutions in the profession as intellectually sound and worth working on. Because of this, mainstream economics usually represents a broader and more eclectic approach to economics than is characterized as the recent orthodoxy of the profession.

In our view, the term “orthodox” is primarily an intellectual category. It is a backward-looking term that is best thought of as a static representation of a dynamic, constantly changing profession, and thus is never appropriately descriptive of the field of economics in its present state. Orthodoxy generally refers to what historians of economic thought have classified as the most recently dominant “school of thought,” which today is “neoclassical economics.” Modern mainstream economics, however, is quite different from this neoclassical concept of orthodox economics. Having the two terms is important because it allows one to make intertemporal comparisons between the most recently dominant school of thought, in this case neoclassical economics, and today’s evolving mainstream economics.

To help us get a grasp of what we mean by neoclassical orthodoxy and how it relates to mainstream economics, it is important to first

specify what we see as neoclassical economics. Neoclassical economics is an analysis that focuses on the optimizing behavior of fully rational and well-informed individuals in a static context and the equilibria that result from that optimization. It is particularly associated with the marginalist revolution and its aftermath. Leon Walras and Alfred Marshall can be viewed as its early and great developers, with John Hicks’s *Value and Capital*<sup>10</sup> and Paul Samuelson’s *Foundations of Economic Analysis*<sup>11</sup> as its culmination. When a dynamic context is assumed, individuals understand the probability distributions of possible outcomes over the infinite time horizon at the moment of decision. The neoclassical orthodoxy tests the results of that model by using conventional econometric techniques that are based upon a foundation of classical statistics. Perhaps the most important characteristic of the neoclassical orthodoxy is that axiomatic deduction is the preferred methodological approach.

The difference between mainstream and orthodox becomes clearer when one recognizes two other aspects of the term “orthodox.” The first is that the name and specification of what is orthodox usually comes decades after that time when orthodoxy was supposed to exist; at the time it is a true orthodoxy, it generally has no name. Thus, orthodox specifications inevitably are backward-looking, not current or forward-looking. Second, in economics at least, the name for the orthodox school usually comes from a dissenter, who opposed orthodox ideas, not from a supporter of the orthodox ideas. For example, Marx<sup>12</sup> coined the term “classical economics,” even though the Classical school is seen as starting back in the late 1700s. Before Marx’s general classification there was no name for the classical orthodoxy.

Similarly, the term “neoclassical economics” was coined by Veblen,<sup>13</sup> referring to the economics of the last part of the 19th century

as he tried to tie this period of economics to Classical economics, so as to make the argument that both are unscientific.<sup>14</sup> In each case, the classification was made by an economist to create a better target for his criticism. Defining orthodoxy, and giving a name to it, gives a critic an easy target; it implies a static unchanging dimension of thought. But this static view is not characteristic of the economics field. At any point in time, and especially by the time that the term becomes generally used, a large part of the mainstream profession disagrees with important dimensions of what is then thought of as orthodoxy.

Finally, let us consider the term “heterodox.” It is usually defined in reference to orthodox, meaning to be “against orthodox,” and defines itself in terms of what it is not, rather than what it is. An economist who sees him or herself as heterodox does not subscribe

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to the current orthodox school of thought, as defined by the historian’s classifications. However, in our view, heterodoxy also has a sociological aspect. A self-identified heterodox economist has also defined his or her self outside the mainstream. Heterodox economists are highly unlikely to get funding through normal channels, such as the National Science Foundation, although they might receive alternative funding from a variety of sources. Thus, heterodoxy involves both sociological and intellectual aspects. Since many mainstream economists also do not accept important aspects of the orthodoxy, the additional feature that determines a heterodox

economist is social; heterodox economists refuse to work within the framework of mainstream economics whether because of the nature of the modeling process used, or because of the assumptions made. This often causes a failure of communication between heterodox and mainstream economists, even when they may share similar views about the limitations of the “orthodox” approach.

In the economics profession, various schools—many of which have long histories—comprise heterodox economics. These schools have their own networks and organizations and journals and academic institutions where they dominate. Often, the fundamental intellectual content of a heterodox school is its rejection of orthodoxy, or at least major elements of orthodoxy. In economics, at least, beyond this rejection of orthodoxy, there is no single unifying element that we can discern that characterizes heterodox economics. In fact, it is well known that many varieties of heterodoxy have more disagreement with each other than they do with orthodoxy. But it should also be said that different heterodox schools previously emphasized many of the ideas that are now on the edge of economics, and these schools can play an important role in developing new critiques of the orthodox. Among the most established of the heterodox schools with reasonably full systems of institutional support are Marxists, Post Keynesians, feminists, Old Institutionalists, and Austrians.<sup>15</sup>

If the field of economics were static and one-dimensional, these two classifications (orthodox/heterodox) would be sufficient, but it isn’t and they aren’t. The economics profession is dynamic and constantly changing. Since these classifications usually lag developments in the field by decades, the terms, “orthodox” and “heterodox,” when used in a current setting, tend to be backward-looking, describing beliefs that, while they still may show up in texts, are not strong convictions of

many in the profession and are being attacked by economists at the edge of the profession.

To understand the dynamic aspect of the profession and the role of economists working at the edge, the distinction between mainstream and orthodox is central. The edge of economics is that part of mainstream economics that is critical of orthodoxy and that part of heterodox economics that is taken seriously by the elite of the profession. Our argument is that modern mainstream economics is open to new approaches, as long as they are done with a careful understanding of the strengths of the recent orthodox approach and with a modeling methodology acceptable to the mainstream.

For an economist working at the edge, attacking the profession is not sufficient; he or she must be developing new methods and ideas. In this approach, the difference between mainstream and heterodox becomes far less important than whether an economist is doing work at the edge. In this case, both mainstream and heterodox economists are working on issues that challenge the neoclassical

thought in the past. It includes some (but not all) Nobel Prize winners, and most economists who have major chairs at top graduate programs. If one has standing offers from a number of top schools to come and teach there if one desires, and if one receives calls from the NSF about who to put on NSF panels, one is in the elite of the profession. Examples of well-known mainstream elite are Paul Samuelson, Kenneth Arrow, Robert Solow, Thomas Schelling, Amartya Sen, Joseph Stiglitz, Chris Sims, Michael Woodford, George Akerlof, Richard Thaler, Anne Krueger, and Jagdish Bhagwati. This is a very diffuse group.

Recognizing that there is an elite element in the mainstream that plays a crucial role in what new ideas will prove to be part of the acceptable edge of economics raises two problems—one of how open the elite will be, and another of how these ideas then disseminate throughout the rest of the mainstream and the profession more generally. Our view is that the current elite are relatively open-minded when it comes to new ideas, but quite

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orthodoxy, but that orthodoxy is no longer descriptive of what the mainstream elite believes. The elite’s vision of economics is forward-looking—these are the ideas that are exciting today, and here is where they may lead; the static classifications of economics are backward-looking, emphasizing where economics has been.

This concept “elite of the profession” is elusive but is understood by those in the profession. It is those mainstream economists who have made important contributions to

closed-minded when it comes to alternative methodologies. If it isn’t modeled, it isn’t economics, no matter how insightful. It is here that heterodox economics and the mainstream elite normally collide. Specifically, it is because of their method, not their ideas, that most heterodox find themselves defined outside the field by the elite.<sup>16</sup>

We are certainly not claiming that the mainstream is always pluralistic and open-minded, willing to accept heterodox views with open arms. Far from it. They are human and

become fixed in their ways of looking at things and often reject alternative views without giving them serious consideration. That is part of human nature. This means that, in many unconscious ways, which we consider unfortunate, the mainstream elite can suppress the views of heterodox economists. Moreover, they often use their method as a tool to protect views that do not fit nicely into their way of thinking. What we are claiming is that their closed-mindedness is generally unconscious and representative of almost any group that has the power to be that way—including, in their own small spheres, many heterodox economists. The worst types of heterodox suppression and narrow-mindedness are not carried out by the elite, but instead are carried out by economists whose professional credentials are mediocre for the very reason that they are not as imaginative and creative as the elite.

Once an idea is expressed in an acceptable model, the dissemination process is a long and drawn-out endeavor that works along the following lines. Work at the edge usually shows up first in working papers that are presented at graduate seminars and workshops. These are the incubators of new ideas in economics, although sometimes the ideas are initially generated by persons outside of those seminars. The ideas contained in these working papers will generate discussion among professors at graduate schools. Some will be panned; others will be tentatively accepted and mentioned to professors at other schools. Some ideas will generate a buzz and, when they do, will attract intense interest. (This generally occurs before publication.) Eventually the idea will be published in a top journal, but that publication is often a tombstone, marking ownership of the idea more than it is a spreading of the idea. The diffusion of the idea throughout the elite of the profession will have already occurred, although sometimes an idea will be published and not get noticed until sometime later. Thus,

Follmer<sup>17</sup> initially proposed that ideas from statistical mechanics could be applied to analyzing heterogeneous agent models in economics, which was not followed up on until the 1990s, and Strotz<sup>18</sup> first proposed the idea of hyperbolic discounting, also only taken seriously in the 1990s.

As this process is occurring, the working paper or article will show up in core graduate program reading lists and eventually make its way into graduate textbooks. The process from conception of an idea to its appearance in graduate textbooks can take up to 10 years. Intermediate and upper level undergraduate textbooks usually take another five to 10 years to include these ideas, although they may show up as a supplemental box, or an added paragraph earlier than this. Principles books take another five to 10 years to actually incorporate the idea as a central element, although, like their undergraduate upper level counterparts, they may add them as addenda so that they look modern.

There is a paradox in this diffusion process. The more central the idea, the less likely it is to be included in a central way in the texts. For example, complexity suggests the whole conception of equilibrium in an economy needs to be reconsidered, and experimental economics suggests that the entire approach to thinking about the appropriate mix of induction and deduction needs to be rethought. Such a reconsideration and rethinking would likely change the entire way textbooks are structured and the way the courses are taught. Such major changes are unlikely to show up even with the long lags previously discussed. Instead they will be simply added as an addendum to the existing core.<sup>19</sup> Such changes resemble more the kind of changes that Kuhn discussed in his analysis of paradigm shifts, even if the shift has occurred in the more gradualist manner described.

Why the enormous lag? The reason is that the professors who actually teach the majority

of the courses are most comfortable teaching what they have studied, and the publishing industry writes for that majority. Since the average undergraduate professor has been out of graduate school for a long period of time, the average professor (whom the textbooks target as their audience) will generally be most comfortable teaching older material as the core of the course, with new material scattered throughout. The material shows up in higher level courses first because the higher the level of the course, the more likely a specialist in the area is teaching the course, and that specialist is more likely to feel comfortable including new developments.

This long lag should not be seen as a complete waste; it serves a useful function in that it provides a filtering process that eliminates those ideas that seemed wonderful, but turned out to be just fads. For example, in graduate work in macro, the focus is almost entirely on stochastic dynamic intertemporal general equilibrium models with infinitely bright individuals, that for many economists are of dubious value in understanding the macro economy. Undergraduate textbooks have taken only slight notice of this development, and the Keynesian IS/LM model has remained the core of many undergraduate macro texts even after it has all but been excluded from what is taught in graduate schools. New books reflecting the new graduate school approach have been published, but they have not been generally adopted at the undergraduate level.

We suspect that the reason for this is that the new work in macro is simply a fad that will pass as researchers come to accept that the macro economy must be analyzed as a complex system.

This lack of acceptance by the undergraduate texts reflects the uncertainty that many mainstream economists had with the rational expectations revolution in macro. While it was a logical extension of microeconomic reasoning, it did not seem reasonable to many,

suggesting that something was wrong with the models that were based on it in its strong form. For this reason, the rational expectations revolution led to work in what might be called the complexity revolution, which is striving to provide stronger underpinnings for macro models generally. This work begins from the assumption of rationality but seriously considers the problems of defining rationality in a complex environment and, when there are problems, accepts the complex environment as its reference point, rather than taking a simpler environment.

The lags in this process can lead to a situation where an idea that has come to be viewed as somewhat old hat at the elite mainstream level may only finally be appearing in the principles textbooks. Consequently, textbooks, especially lower level texts, often do not reflect the diversity of views acceptable to the mainstream, but instead reflect an older orthodox position.<sup>20</sup>

Another important comparison between the mainstream and orthodoxy is that economists working within the mainstream can find their views evolving. For example, they might be working with a particular approach, but then change. Consider rational expectations and the New Classical revolution in macroeconomics. One of the early developers of rational expectations, Leonard Rapping, modified his views significantly and became a leading heterodox economist before his untimely death. Another example is Thomas Sargent, another of the leading figures in the application of rational expectations to macroeconomics. As a result of visiting the Santa Fe Institute, he came to abjure a strict rational expectations view.<sup>21</sup> His more recent work with Lars Hansen and others<sup>22</sup> has attempted to provide quantitative approaches to dealing with Knightian uncertainty. Thus, he has moved out of orthodoxy but has remained mainstream and is on the edge of the edge of economics.

As should be clear from the above discussion, the edge is where the action is in the profession. Whether what works at the edge is considered heterodox or mainstream is primarily a matter of the individual's proclivity to fit within the existing mainstream and the degree to which he or she directly attacks, rather than softly criticizes, the work of the elite. It should be pointed out that working at the edge does have its problems, especially for those whose proclivity is toward attacking, rather than working within the existing field, and hence finding themselves in heterodoxy. They face significant sociological problems of achieving acceptance from the established mainstream.

Economists considered heterodox often find it difficult to gain funding for their work, and they will be squeezed out of the decision-making process at their universities. Those involved in working at the edge that are in the mainstream lack this sociological problem, but they also often find themselves at odds with those around them to some degree as they press against the boundaries of the mainstream.

### **Work at the Edge of Economics and the Complexity Vision**

We emphasize complexity as a defining factor of the new work at the edge of economics, because it appears to be the vision behind this work. But the actual work involves a number of fronts, and the people working on those fronts have varying degrees of connection to the broader complexity approach. Along with this, and interacting with it, is a new openness to ideas from other disciplines. Thus, modeling remains the central core of the mainstream approach, but the nature of the models and the assumptions underlying them are much more open, and transdisciplinary.<sup>23</sup> More specifically:

- Evolutionary game theory is redefining how institutions are integrated into the

analysis.

- Ecological economics is redefining how nature and the economy are viewed as interrelating.
- Psychological economics is redefining how rationality is treated.
- Econometric work dealing with the limitations of classical statistics is redefining how economists think of empirical proof.
- Complexity theory is offering a way of redefining how we conceive of general equilibrium.
- Computer simulations are offering a way of redefining models and how they are used.
- Experimental economics is changing the way economists think about empirical work.

These changes in turn have led to a broader set of changes in how mainstream economics sees itself. It is much more willing to accept that the formal part of economics has limited applicability, at least as currently developed. It is also far more willing to question economics' special status over other fields of inquiry and to integrate the methods of other disciplines into economic analysis.

The change that is occurring in economics is most clearly symbolized by two conferences held nearly a decade apart at the Santa Fe Institute. The first held in 1988 generated a book entitled *The Economy as a Complex Evolving System*.<sup>24</sup> Waldrop reported that this conference featured a set of largely mainstream economists and defenders of general equilibrium orthodoxy, assembled by Kenneth Arrow, and a set of physicists assembled by others.<sup>25</sup> The economists mostly attempted to defend their mainstream approach, while they faced sharp challenges and ridicule from the physicists for holding relatively simplistic views. Although models using nonlinear dynamics and other complexity approaches have been developed for some time,<sup>26</sup> such

approaches at that time remained outside the mainstream camp.

The second conference saw a very different outcome and atmosphere than the first.<sup>27</sup> No longer were mainstream economists defensively adhering to general equilibrium orthodoxy. Now they were using methods adopted from biologists and physicists, many suggested at the earlier conference, in innovative ways. They were also much more open to complex economic analysis.

These two Santa Fe conferences are representative of the change that occurred throughout the profession during this time. It was as if the ideas planted by earlier researchers in many areas, such as experimental economics, behavioral economics, and nonlinear dynamics, were taking root. Thus, by 1997, the mainstream accepted many of the methods and approaches that were associated with the complexity approach. What they had not accepted was the broader complexity vision.<sup>28</sup> That broader vision is held by a much smaller group of economists, and it may or may not be held by the individuals working on the edge of economics. But as the work at the edge progresses and accumulates, it shifts the center of economists' approach, and, in our view, eventually will create a new orthodoxy centered on a broader complexity vision. ♦

## Endnotes

<sup>1</sup> For a general discussion of complex systems, see Auyang (2000). Unsurprisingly, defining "complexity" is not simple. The physicist Seth Lloyd has documented over 45 definitions (see Horgan, 1997, p. 303, footnote 11). Many deal with computational or algorithmic meanings, with these applied in economics by Leijonhufvud (1993) and Albin with Foley (1998). Day (1994) provides a dynamic definition that a system does not converge to a fixed point, a limit cycle, or explode continuously due to endogenous factors. Pryor (1995) and Stodder (1995) use it to mean something like "complicated" institutional and sectoral linkages. We note that any of these can lead to making it difficult for an agent or observer to understand the workings of an economic system. See Rosser (1999) for further discussion.

<sup>2</sup> The term, edge of economics, refers to work challenging the previously considered "orthodox" ideas. Initially, we

described it as cutting edge work, but some of our colleagues have pointed out that cutting edge work can only be defined historically as work at the edge that has panned out. Comments by Larry Moss and Ken Koford were very helpful in redirecting us in our terminology.

<sup>3</sup> Robert Solow (1996, p. 43) writes "Today if you ask a mainstream economist a question about almost any aspect of economic life, the response will be: suppose we model that situation and see what happens ... modern mainstream economics consists of little else but examples of this process."

<sup>4</sup> See Arthur, W. B., Durlauf, S. N. & Lane, D. A. (Eds) (1997) *The Economy as an Evolving Complex System II* (Redwood City: Addison-Wesley); Judd, K. & Tesfatsion, L. (Forthcoming) *Handbook of computational economics: Agent-Based Computational Economics* (Amsterdam: North Holland); and Rosser, J. B., Jr. (Ed.) (2004) *Complexity in Economics, Volumes I-III* (Cheltenham: Edward Elgar).

<sup>5</sup> Kuhn, T. S. (1970) *The Structure of Scientific Revolution*, enlarged edn (Chicago: University of Chicago Press).

<sup>6</sup> Lakatos, I. (1978) *The Methodology of Scientific Research Programmes: Philosophical Papers, Vol. 1* (Cambridge: Cambridge University Press).

<sup>7</sup> Blaug, M. (1998) *The formalist revolution or what happened to orthodox economics after World War II*, University of Exeter, 98/10 Discussion Paper in Economics.

<sup>8</sup> Colander, D. (2000) *The death of neoclassical economics*, *Journal of the History of Economic Thought*, 22, pp. 127–143.

<sup>9</sup> Mirowski, P. (2002) *Machine Dreams: Economics Becomes a Cyborg Science* (Cambridge: Cambridge University Press). Mirowski argues that an important influence on Arrow's change of view was a former student, Alain Lewis (1985, *Complex structures and composite models—an essay on methodology*, *Mathematical Social Sciences*, 10, pp. 211–246), whose work continues to be little known by most of the profession.

<sup>10</sup> Hicks, J. R. (1939) *Value and Capital* (Oxford: Clarendon Press).

<sup>11</sup> Samuelson, P. A. (1947) *Foundations of Economic Analysis* (enlarged edn, 1983) (Cambridge: Harvard University Press).

<sup>12</sup> Marx, K. (1847) *The Poverty of Philosophy*, English translation in 1977. Karl Marx and Friedrich Engels: *Collected Works* (New York, Progress Publishers).

<sup>13</sup> Veblen, T. (1900) Preconceptions of economic science, part III, *Quarterly Journal of Economics*, 14, pp. 240–269.

<sup>14</sup> Asproumorgos, T. (1986) On the origin of the term "neoclassical," *Cambridge Journal of Economics*, 10, pp. 265–270.

<sup>15</sup> We recognize that this characterization oversimplifies the state of heterodox economics. Not only are there many sub-categories and schools within these main branches of hetero-

doxy, but there are many other schools or approaches as well.

<sup>16</sup> Colander, D. (2003) Are institutionalists an endangered species?, *Journal of Economic Issues*, 37, pp. 111–122.

<sup>17</sup> Follmer, H. (1974) Random economies with many interacting agents, *Journal of Mathematical Economics*, 1, pp. 51–62.

<sup>18</sup> Strotz, R. H. (1956) Myopia and inconsistency in dynamics utility maximization, *Review of Economic Studies*, 23, pp. 165–180.

<sup>19</sup> Colander, D. (2000) A thumbnail sketch of the history of thought from a complexity perspective, in: D. Colander (Ed.) *Complexity and the History of Economic Thought* (New York: Routledge).

<sup>20</sup> This lag of textbooks of mainstream thinking can be seen in earlier times as well. In his writings, John Stuart Mill gave up the wage fund doctrine, but retained it in his principles book, stating that these new developments “are not yet ripe for incorporation in a general treatise on Political Economy” (Mill, 1929, p. xxxi).

<sup>21</sup> Sargent, T. J. (1993) *Bounded Rationality in Macroeconomics* (Oxford: Clarendon Press).

<sup>22</sup> Hansen, L. P. & Sargent, T. J. (2000) *Wanting robustness in macroeconomics*, [ftp:// zia.Stanford.edu/pub/sargent/web-docs/research/wanting.pdf](ftp://zia.Stanford.edu/pub/sargent/web-docs/research/wanting.pdf).

<sup>23</sup> There is much discussion now regarding how one is to describe research that involves more than one discipline. The oldest term is probably multidisciplinary. However, this now usually is applied to situations where persons representing different disciplines get together and contribute ideas from their separate disciplines in ways that maintain the distinct identities of their disciplines, as in separate chapters within a book. A more recent term of use has been interdisciplinary that involves more integration of the ideas of different disciplines. However, this is often used in the sense of dealing with ideas that exist in the intersection of two disciplines, leading to particular specializations, e.g. “water economist,” who knows about relevant aspects of both hydrology and economics. Following the lead of the ecological economists we favor the term transdisciplinary to describe the new developments at the edge, which implies a more thoroughgoing and profound interaction between the disciplines leading to some kind of new synthesis and transcendence.

<sup>24</sup> Anderson, P. W., Arrow, K. J. & Pines, D. (Eds) (1988) *The Economy as an Evolving Complex System* (Redwood City: Addison-Wesley).

<sup>25</sup> Waldrop, M. M. (1992) *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Simon & Schuster).

<sup>26</sup> Rosser, J. B., Jr. (1999) *On the complexities of complex economic dynamics*, *Journal of Economic Perspectives*, 13(4), pp. 169–192.

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# The Perfect Storm: Michigan and the “New Economics” in the 21st Century

*By Dr. Randall Doyle*

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Eds. note: While a few of the facts contained in this article have become outdated in the year since this article was written, the author’s major points remain true.

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**W**e are told early in life that no one lives forever and nothing remains the same. We know this fundamental fact of life and basically understand its cosmic and spiritual meanings. Nevertheless, when death, of one type or another, strikes one’s life, the result remains the same—shock and pain. In 2007, Michigan is experiencing multiple deaths in its statewide family. Specifically, the auto industry and other Michigan manufacturing entities are slowly withering before our eyes. Other economic realms within the state are suffering as a consequence, such as housing, education, and infrastructure. Also, Michiganders are increasingly coming to grips with the “new economics” that are fundamentally transforming the economic face of the state.

The automobile industry has been the rock foundation of Michigan’s economy for most of a century. Today, the citizens of the Wolverine State are witnessing an historical economic epoch within the first decade of the 21st century. The shock is profound, and the pain is excruciating for hundreds of thousands

of workers.

This article will focus on three primary factors that are seriously affecting the Michigan state government’s ability to function as a responsible political unit, which means meeting the basic necessities and primary needs of the citizenry: 1) various budgetary and economic figures and a few of the decisions by small businesses and large corporations that have triggered the current economic crisis throughout the state; 2) serious consequences related to these economic figures and the challenges and decisions awaiting Michigan’s state government, citizens, and local communities; and 3) the changing expectations of future workers, the intense present-day quantitative arguments concerning the number of jobs being outsourced from America, and the opinions and prognosis from various scholars concerning the alterations and reforms needed of the current structure, i.e. of the “new economics”: the cold-blooded and ruthless trend of economic decisions being made outside the control of local communities and state governments and the outsourcing of local jobs to

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foreign countries.

In truth, Michigan is simply experiencing what millions of other citizens throughout America and the world have already learned about the “new economics.” Its potential for good, or bad, can literally make or break a community, state, or nation. Critics of the “new economics” believe that all workers are considered in a very simplistic manner: expendable. They also point out that there are numerous abuses and inequities within this present-day economic paradigm. Defenders of the “new economics” believe that American CEOs are now under intense pressure to make sure that their products are able to compete internationally, and to maximize profits for their shareholders. However, they also stress that the average citizens benefit from the “new economics” when they shop at Wal-Mart or other discount stores within their respective communities. As expected, both sides continue to vigorously debate the merits and weaknesses of the “new economics.”

What is not debatable, though, is that the pillars of Michigan’s economic house, during the past six years, have been collapsing under the stress and weight from the new fundamentals and realities associated with the “new economics,” that now arguably represent the philosophical contours and practices of the global economy in the 21st century.

### **Numerical Pain in Michigan**

When examining any challenging situation, especially statistical matters, I am always aware of Mark Twain’s old adage, “there are lies, damn lies and statistics.”<sup>1</sup> Nevertheless, in the case of Michigan and its industrial and manufacturing base, in 2007, the overall economic figures portray a state staggering like a punch-drunk heavyweight fighter who is years beyond his championship prime. Indeed, the power and speed are fading. The Wolverine State has lost much of its industrial bite. Jennifer Granholm, re-elected as gov-

ernor in 2006, has confronted sizeable annual budget deficits since 2003. There was the almost certain expectation and accepted common wisdom that Michigan’s economy would eventually bottom-out, and a steady but prosperous recovery would ensue. This reality has not materialized, nor will it in the near future. Instead, Governor Granholm finds herself, once again, wrestling with crippling and scary budgetary numbers. A palpable fear is descending upon the state’s legislature because more cuts in state employment, benefits, programs, and services will almost certainly occur.

Due to this painful conclusion, a small but growing chorus of voices within Michigan’s editorial boards and policy think tanks are now openly discussing whether the implementation of “revenue enhancements” (i.e., taxes) are now necessary to head off the state’s deepening fiscal crisis. Craig Ruff, a senior policy fellow at Public Sector Consultants in Lansing, Michigan, strongly believes that “Michigan needs the courage and conviction not only to cut spending, but to increase taxes to save essential public services.”<sup>2</sup>

In January 2007, the Michigan House, Senate, and other administrative officials are in agreement that the state is facing a monstrous deficit of approximately \$800 million. And, potentially, it will get much worse before it gets better, because the Republicans, and the small business community, want the governor to permanently eliminate the Single Business Tax (SBT) at the end of the current year.<sup>3</sup> If she succumbs to this fervent anti-tax sentiment, and does not find another source of funding to cover the state’s essential expenditures, Michigan could be facing a deficit approaching \$2 billion this year!<sup>4</sup>

With a sense of urgency, Governor Granholm immediately put together an emergency 12-member financial advisory group, chaired by former Michigan Governors

William Milliken and James Blanchard, to create some viable solutions for an economic situation that is steadily becoming untenable.<sup>5</sup> Liz Boyd, spokeswoman for Governor Granholm's office, stated that "the Granholm administration has cut \$3 billion from the state government in the past three years. Among the cuts were \$585 million to local governments and \$250 million to higher education."<sup>6</sup> What was the trigger mechanism that began this economic avalanche within Michigan? The competitive decline of Detroit's "Big Three" represents a major reason for the state's current financial crisis.

The Big Three (GM, Ford, and Daimler-Chrysler), situated in Detroit, have been struggling with international competition since 2001. Their combined U.S. market share has shown irrefutable signs of steady erosion since the beginning of the new millennium. To be specific, from 2001 to 2005, Detroit's Big Three had lost 7% of their U.S. market share

car sales don't improve.

Put directly, the cars that the Big Three are building are simply not selling with their usual pace and verve, and the autos brought over from primarily Japan and South Korea are purchased with greater enthusiasm and frequency. In truthful hindsight, the full spectrum of Detroit's auto products began to lose its appeal and edge among demanding U.S. consumers several years ago. Thus, the "perfect storm" that is currently battering the Detroit auto industry is really due to numerous bad internal decisions concerning car choices for production, a shrinking market share reflecting those decisions, and unrelenting quality products from foreign competitors, metastasizing into a Katrina-type disaster for the Big Three's North American market. A cold-blooded fury has shaken this iconic American industry to its very foundation—and the endgame concerning the industry's meltdown remains speculative at best. Thus,

**The "perfect storm" that is currently battering the Detroit auto industry is really due to numerous bad internal decisions concerning car choices for production, a shrinking market share reflecting those decisions, and unrelenting quality products from foreign competitors.**

to foreign competitors, primarily from Japan and South Korea.<sup>7</sup> In 2008, no turnaround appears in sight. In fact, Ford announced, in January 2007, that it lost \$12.7 billion during 2006. It represented the greatest financial losses in the company's 103-year history. Ford CEO Alan Mulally commented, "We are at the bottom."<sup>8</sup> Perhaps not, for at the end of January 2007, Ford announced that its car sales for the month were 20% lower compared to the same month in 2006.<sup>9</sup> As expected, tens of thousands of workers in the auto industry in North America, representing the Big Three, will continue to be removed from their respective payrolls through buyouts and layoffs if

the question of if and when will the industry finally bottom out and begin its slow climb back toward respectability and profitability remains elusive.

The eighth annual Wall Street Journal/Harris Interactive Poll, taken in January 2007, indicates that the status of Ford and GM has diminished among their peers in the business world. The WSJ/Harris Poll has sought to identify the top 60 U.S. companies. Last year, Ford and GM were ranked 37th and 38th, respectively. In 2007, both tumbled to their respective rankings of 55th and 57th.<sup>10</sup> If these polls indicate anything, it is that Ford's CEO Alan Mulally is still wrong about the status of

his company. This proud automotive company is still in free-fall.

Yet, the auto industry was not the only business sector in Michigan to endure hardships during the past six years. The state's furniture industry, its pharmaceutical industry, various other manufacturing entities, and small businesses have suffered similar setbacks. For instance, Electrolux, a Swedish-based refrigerator manufacturer, moved its facilities, and 2,700 jobs, from Grenville, Michigan to Mexico in 2005.<sup>11</sup> Meijer, a Grand Rapids-based grocery, laid off 1,900 persons in management positions from its family-owned stores in five states, including 300 positions within the Detroit metropolitan area. It represented the largest dismissal of employees in the store's history.<sup>12</sup> Steelcase, the most prominent office furniture maker in western Michigan, closed its doors in 2005—after dismissing hundreds of employees. Its property was eventually sold to a development group from New York City. It plans to transform the former industrial site into a multi-purpose property: a commercial property, a residential area, a retail area, and an industrial-use area.<sup>13</sup>

A final example that stunned the state's officials, occurred in late-January 2007: Pfizer, the world's largest drug-maker, announced that it was closing its research and production facilities in Michigan. This decision, which eliminates 2,400 well-paying jobs, stunned Governor Granholm, because she had campaigned during her re-election bid in 2006 on the platform that Michigan was going to concentrate on developing its biomedical capabilities. She described the depressing and painful announcement by Pfizer's CEO Michael Finney as "a body blow" to her future plans to rebuild Michigan's economy during her next term in office.<sup>14</sup>

Finally, the final statistics are those that establish the historical predicament that Michigan currently finds itself in. According

to University of Michigan economists Joan Crary, George Fulton, and Saul Hymans, Michigan is experiencing its longest period of employment loss since the 1929 stock market crash. That event triggered The Great Depression that lasted throughout the 1930s. As proof, these economists point to the 336,000 jobs that the state lost since 2000. They stated, "Michigan is being battered by one of the most tenacious economic storms ever confronted by its citizenry. At no time in its history, or at least as far back as the records take us, has the state endured such a drawn-out disturbance."<sup>15</sup> Sadly, they also believe that the bad economic conditions existing in Michigan will continue this year.

### **The Community of Michigan: A Reckoning**

The employment and financial statistics mentioned above tell only part of the story of Michigan's painful plight during the past six years. This section will focus on Michigan's workers and how declining business revenues throughout the state have triggered substantial unemployment and serious relocation figures in many communities. To put it succinctly, tens of thousands of citizens within Michigan are not only changing jobs but are often losing their homes during this traumatizing transition. This "transition" has seen many of the unemployed staying in Michigan, but there are also thousands leaving the Wolverine State as well. Nevertheless, a small army of Michiganders are confronted with the daunting task of re-establishing their lives. These stressful factors, such as seeking new employment and the loss of housing, will be addressed as well as diminishing school budgets, deteriorating state roads, and the increasingly difficulties of small businesses trying to survive during these trying times. Finally, these hard-working Americans also felt their efforts and loyalty were not appreciated, nor reciprocated in kind. They witnessed their employers effortlessly transferring their jobs

overseas to obtain higher profits for their shareholders. Thus, the “new economics” that many business gurus, observers, and writers expound upon as being the accepted norm and methodology of the modern financial world rings hollow in many parts of Michigan.

In 1989, filmmaker Michael Moore produced a controversial but devastating critique about what happened to his hometown of Flint, Michigan in the 1980s, with his documentary movie *Roger & Me*. The premise of the movie was two-fold: First, Moore’s pursuit of GM CEO Roger Smith to obtain the exact reason why he decided to close many of the GM plants in Flint—even though these plants remained profitable for GM; second, he also wanted to know if Smith *actually* understood the economic and social devastation that he brought to the citizens of this hardworking blue-collar city. He never quite achieves either objective in the film.

However, in 2005, 16 years after the presentation of Moore’s documentary masterpiece that exposed the darker aspects of the “new economics” that afflicted Michigan during the 1980s, Flint workers, at what remained of GM’s presence in the city, in the state of Michigan and in North America itself, were notified that the company planned to close all or part of those remaining plants—and the job cuts would be deep.<sup>17</sup> Reading a newspaper article commentary brought back this haunting memory of Moore’s movie, and the pain and human suffering that he portrayed that literally brought the Flint community to its knees almost 20 years earlier.

Alvin Jones, 59, a line worker for 40 years at GM’s metal plant, resented the idea of accepting GM’s retirement buyout. He stood outside his plant, a bit shell-shocked and angered by the news, “Once you take the buyout, what’s going to be left for you to do?”<sup>18</sup> Jones has seen the ups and downs of Michigan’s auto industry for four decades, but the situation in 2005 had even him resigned to

the fact that this might be the final nail in the coffin for GM’s presence in Michigan: “I’ve never seen it this bad, and I’ve been around for a lot of years.”<sup>19</sup> Art Baker, the U.A.W. chairman of the local auto workers in Flint, who represented 950 hourly workers at GM’s metal plant, was not even notified of the full dimensions of GM’s decision concerning the degree of worker reductions and plant closings that were impending, until literally the last minute. Baker was stunned by the scope of GM’s decisions: “It was not the expectation that General Motors was going to get lean and mean. It was a real shock.” U.A.W. President Ron Gettelfinger and Richard Shoemaker, vice-president of the U.A.W. local branch, stated in a press release, “Hope is diminished, the future is unclear and communities are less stable.” It was the 1980s all over again for Flint and its dedicated auto workers, except this time there was a grim sense of *finality* to the whole tragedy unfolding before their eyes.

In 2007, the Ford Motor Company is faced with a similar daunting and desperate task of attempting to recover its vitality and competitiveness. Similar to GM’s actions, in 2005 Ford decided to close 16 plants in North America in 2006—several of which were located in Michigan—and offered financial buyouts to approximately 60% of its workforce, which eventually eliminated 44,000 jobs. This massive downsizing was primarily designed to produce a positive cash flow with the hope to re-establish Ford in the global auto industry. An article in the *Detroit Free Press* stated, “The challenge comes in predicting consumer tastes, managing the long lead times to develop new cars and trucks and getting the vehicles to market as Ford burns through an estimated \$17 billion in cash through 2009.”<sup>20</sup> After a distinguished 103-year history within the global automotive industry, it comes down to a precious couple of years for the Ford Motor Company and its prospects for survival.

According to industry analysts, all bets are off. Erich Merkle, director of automotive forecasting at IRN, Inc. in Grand Rapids, Michigan, writes, “It’s going to be tight. They’re [Ford Motor Company] running against a clock right now.”<sup>21</sup> Wall Street analysts share Merkle’s concern about Ford’s future viability. Peter Nesvold, an analyst with the brokerage Bear Stearns & Company, noted that “The aggregation of so many troublesome items (for Ford Motor Company)...raises concerns whether Ford’s bench is deep enough to pull off a turn-around of this magnitude.”<sup>22</sup> Despite the gloom and doom of analysts and investors, David Miner, 52, an employee of Ford for 29 years, believes in the company’s capacity to bounce back successfully, “It kind of tells me that they were not as financially secure as they thought, (but) I have faith

**Home foreclosures during 2006—nationwide—increased 42%. However, in Michigan, foreclosures rose an astonishing 127%.**

they’re going to pull themselves through this thing. The company has been around for so long, they know what they are doing.”<sup>23</sup> GM worker Jones and Ford worker Miner have experienced the hard times, but both also recognize the enormous economic gravity confronting their respective companies. So does the state of Michigan.

However, even if the company does turn a profit, this is still no guarantee that one’s job is safe. The smallest of the Big Three, DaimlerChrysler, reported a slender profit margin (0.5%) for its January 2007 sales. Compared to Ford’s (-19.6%) and GM’s (-16.7%) double-digit drop in sales for the month of January 2007, DaimlerChrysler’s sales figures look downright positive.<sup>24</sup>

Nevertheless, three days after these relatively positive numbers were announced, it was reported that DaimlerChrysler was going to eliminate more than 10,000 jobs from its overall operation, including the potential closing of an engine plant in Detroit.<sup>25</sup> It increasingly appears that profits and skills are simply not enough to remain employed in this undefined age of the “new economics” which continues to engulf Michigan in its wake.

As a result of massive lay-offs and buyouts occurring in various industries throughout Michigan, a sagging job market, and a growing fear concerning one’s overall job security, it should not come as a surprise that the housing market and financial situation in the state, particularly in the southeast, is increasingly in utter turmoil. In May 2006, Michigan Real Estate put out an article on its website ([www.mirealestate.wordpress.com](http://www.mirealestate.wordpress.com)), “Housing Market: Crash or Soft Landing?” that provided a few of the predictions and trends discussed at the semiannual National Association of Home Builders (NAHB) conference that had taken place in Washington, DC earlier in April. Dave Seiders, NAHB chief economist stated, “(Nationwide) it will be a general cooling process, not a thud.”<sup>26</sup> Seiders also predicted that the rate of home-price appreciation will fall to 4% by the end of 2006, and home sales would fall approximately 6% during the first quarter of 2007. Finally, he notes that rising interest rates and energy costs will curtail the buying power of many U.S. consumers as well.<sup>27</sup>

In hindsight, it appears Mr. Seiders and the NAHB were correct about the national housing market trends, but the situation emerging in southeast Michigan is much worse than the national averages. Due to the deteriorating economic conditions mentioned earlier in this article, several counties that are part of the greater Detroit metropolitan area are experiencing record foreclosures. Rick Sharga, Vice-President of RealtyTrac, who follows the

rate of foreclosures nationwide, called Michigan's situation, "the perfect storm": slow housing sales, loss of income, and increasing monthly payments that bring "the house down on homeowners."<sup>28</sup> In fact, the National Association of Realtors stated in 2006 that the Detroit metro area had endured the most severe decline in home values of any large urban market in the nation.<sup>29</sup>

Just to put a finer point on the implosion of the housing situation in Michigan, RealtyTrac presents evidence indicating that home foreclosures during 2006—nationwide—increased 42%. However, in Michigan, foreclosures rose an astonishing 127%. As a consequence, it should not come as a shock to readers that it was reported by United Van Lines that 66% of its interstate shipments (10,325) involving Michigan residents in 2006 were for moving people *out* of the state. David Corrigan, president of Farmington Hills-based Corrigan Moving Systems, an affiliate of United Van Lines, said, "the economy and the weather are the biggest factors in why people are leaving."<sup>30</sup> However, he believed the economic situation was the primary reason for people leaving Michigan, "It's definitely gotten worse."<sup>31</sup>

If Michigan's economy and house sales remain in a steep decline, and home foreclosures appear to be occurring exponentially, then it should be also understood that state-financed entities, such as schools and roads, will quickly find their respective budgets slashed by the state legislature, which must meet (as it is in most states) its constitutional obligation to balance the state's annual budget. In December 2006, Governor Granholm did not mince words at her year-end press conference. She warned that if Michigan's economic "doldrums" continued into 2007, the state's legislature will have to choose between increasing taxes or making significant cuts in statewide services.<sup>32</sup> The Governor was not making idle threats or try-

ing to scare voters: "I'm not giving you a headline to write, I'm preparing people for the fact that this is going to be significantly challenging."<sup>33</sup> Perhaps, voters in Michigan have already decided for her. A poll taken last year by the *Detroit Free Press* indicated that 64% of voters preferred the state legislature to cut spending rather than raise their taxes to balance the state's budget in 2007.<sup>34</sup>

However, the one issue that is most challenging and important to Governor Granholm is education. She has staked her governorship on maintaining quality education in Michigan, but this issue of principle for the governor appears to be in grave trouble due to the state's \$800 million dollar revenue shortfall. Thus, the projected state revenues have translated into a potential cut of \$218 per student throughout the state of Michigan in 2007.<sup>35</sup> Governor Granholm and the state legislature had established a school aid fund of \$13 billion for Michigan's public schools in 2007. However, it is becoming apparent to state officials that the public school aid fund will be approximately \$368 million dollars short of projections.<sup>36</sup> No one blames the Governor directly for this excruciating predicament, but nerves are becoming frayed in the offices of many school districts in Michigan. This is due to the drastic cuts they have already made since 2003 because of the state's continued financial crisis.

Even Michigan's flagship university, the University of Michigan (U-M), has been hurt by the closing of high profile industries. Pfizer's planned exit from Ann Arbor this year, taking with it more than 2,000 well-paying jobs, may represent a costly shortfall within U-M's overall research budget. U-M and Pfizer have had a special research partnership over the past three years that amounted to \$12 million. Even though U-M's total annual research budget is approximately \$800 million; the prospect of losing Pfizer's sizable contribution will definitely hurt the universi-

ty's capacity to finance quality research. U-M President Mary Sue Coleman called Pfizer's decision to leave Ann Arbor "a big shock."<sup>37</sup> Yet, there is still hope that the largest pharmaceutical company in the world will not break its ties with U-M.

The essential and irrefutable *truth* is that the state's budget deficit is simply too large to hide with creative bookkeeping (i.e., "fuzzy math"), or by the use of *smoke and mirrors*-type of budgetary shenanigans. Thus, in the end, there is the recognition of another unspoken *truth*—that taxes will either be raised, or state services will be cut back accordingly. This draconian financial reality threatens Michigan's future potential to grow its way out of the current recession that is strangling the state.

As a result of these potentially wrenching scenarios, Governor Granholm and her political career are literally standing at the edge of the abyss. She knows with absolute certainty that voter anger is sure to develop due to her forthcoming budgetary decisions in 2008. Henceforth, Jennifer Granholm, though much of Michigan's present economic circumstances are not her fault, could very well be serving her final term in office as the state's governor. She doesn't want to cut the state's education budget or the budget for social programs, but she has faced serious budget deficits every year of her term thus far. As a result, she is trying to raise taxes with a 2% service tax on various commercial activities and services, yet the Republicans are fighting this legislation. Last year, Michigan faced a \$850 million deficit. As the old biblical adage tells us, the road to Hell is often paved with good intentions.

Governor Jennifer Granholm's actions and decisions in the next few years will determine which road represents Michigan's future—pain or recovery? The fate of the state and her political career are indeed intertwined during the next four years of her governorship. The

convergence of troubling economic circumstances, painful political truths and the eventual use of executive power to solve these excruciating problems makes the next few years in Michigan promise to be very interesting political theater.

Finally, if there is a road back to quality employment and prosperity for the people of Michigan, it will be a bumpy one indeed, figuratively and literally. According to the Anderson Economic Group based in Lansing, the state capital, the overall quality of Michigan's roads is significantly below national standards. A national review showed that 56% of U.S. urban interstates were good condition, while only 41% were considered to be of proper quality within Michigan. The study, commissioned by Michigan State House Republican Leader Craig DeRoche, also stated that 72% of U.S. rural interstates were in good condition, but only 42% in Michigan met the proper standards of quality.<sup>38</sup> This statewide transportation deficiency does not bode well for Michigan's economic resurgence in the near future, as Michigan depends on its roads for trucking and tourism. These sub-standard roads and highways represent the vital arteries for the economic activities involving these two important industries, and they are seen as another financial hardship for workers in the state. Furthermore, it is difficult to attract new workers when the bad roads are often seen and interpreted as evidence of a mediocre state government.

The "new economics" embraced and recognized by many of the world's most renowned economists and financial observers since the early 1990s as the new paradigm for global economic affairs, has taken a brutal toll upon the community of Michigan. Jobs, housing, schools, and roads are just a few of the state's foundational entities to be severely affected by this economic typhoon that shows no letup in the coming years for the Wolverine State.

### The World of “New Economics”: Jobs, Outsourcing and Fear

After writing about the daunting and disturbing economic figures confronting Michigan and its state legislature, and the effect that those numbers have had on the quality of life within the state’s communities during the past five years, I kept wondering: Is Michigan, due to circumstances beyond its control, caught up in an economic transition that is more comprehensive and complex than the average citizen recognizes or understands? It appears to me that something new and traumatic is emerging from within the labyrinthine maze-like world of global business and commerce. As a result, the old acceptances, assumptions, and assurances concerning capitalism are being discarded without a real debate occurring among all the parties involved. Michigan’s workforce, like workers throughout the world, is trying to comprehend the new fundamentals and parameters of the “new economics” that are quickly transforming our lives and the world.

In the old days (pre-globalization era), Americans were frequently told that if we went to school, received good grades, studied something that could get us a quality job, and remained committed toward upgrading our skills, we would be competitive and employed within the American economy. These old economic truisms have changed for *all* workers. Today, millions of white- and blue-collar workers who directed their efforts toward creating wealth for their respective employers have suddenly found themselves in the same economic condition—discarded. They are being summarily dismissed, in some cases, despite their companies achieving profitability. According to David T. Ratcliffe, a shrewd critic of U.S. economic and foreign policy, “most people look at the world and see the devastation wrought by economic and political policies that result from valuing money over life. A deep despair accompanies this

perception.”<sup>39</sup>

This sizeable and growing army of disenfranchised workers is finding out that their new jobs pay considerably less than their former positions. The *Detroit Free Press* examined a national study published in January 2004 concerning the pay of new jobs obtained by workers in comparison to their old jobs. Overall, the new jobs paid approximately 21% less than their old jobs.<sup>40</sup> In Michigan, the healthcare industry is growing, but the average starting salary is 26% less than those paid in the state’s auto industry.<sup>41</sup>

These findings simply confirmed what most Michigan (and American) workers have already experienced and understood: their quality-of-life expectations are taking a significant financial hit. These individuals were loyal employees who believed and trusted their employers, and they expected, in return, a degree of loyalty to be given back to them. What happened? The “new economics” paradigm and rules of the 21st century!

The foundational factors supporting the “new economics” throughout the world has been the spectacular progress made in the realms of communications, technology, and transportation. Due to the advancements in these crucial areas, the outsourcing of jobs to foreign countries has rapidly taken place over the past 20 years. Of course, the great debate within Michigan (and America) is to what extent the outsourcing of jobs has occurred. It depends on who is doing the analysis and counting. Will Hutton, an economic analyst for the British newspaper, *The Guardian*, wrote that the American conservative economic think tank Economic Policy Institute estimates that 2.24 million jobs have been lost in America, between 1989 and 2005, due to Chinese imports.<sup>42</sup>

However, Hutton believes the issue of jobs *actually* being outsourced, particularly to China, is greatly exaggerated by U.S. critics on the political left and right. Hutton, the

author of the highly acclaimed book on China, *The Writing on the Wall*, points to the statistics published by the U.S. Bureau of Labor. It identified 884,000 U.S. job losses in 2005. Of those, only 12,030 went overseas, and just a few thousand were actually outsourced to China.<sup>43</sup> Having lived in Michigan since 2000, I immediately felt that Hutton's outsourcing figures were extremely low.

My doubts were confirmed when I discovered an economic report produced in 2004 by two U.S. labor scholars, Kate Bronfenbrenner and Stephanie Luce, which declared that 48,417 U.S. jobs had been designated for outsourcing during a three-month period, January through March 2004.<sup>44</sup> Bronfenbrenner, a labor expert at Cornell University, and co-author Luce, who teaches at the University of Massachusetts-Amherst, believe the process of estimating the *true* outsourcing numbers is quite difficult because "companies are wary about the negative publicity and often don't share it [their real intentions] fully with reporters."<sup>45</sup>

Both scholars collected their information by constant monitoring of various media

own acquired knowledge—Bronfenbrenner and Luce had presented the more honest analysis and numbers concerning the outsourcing of American jobs.

Hence, the use of "Orwellian language" is becoming ever more common by U.S. corporations and the American government to avoid political "blowback" from angry voters and critical coverage by the local or national media. Today, most Americans receive their news from television. Thus, it should not come as a surprise to anyone that there are great efforts made by Corporate America, and its allies within the U.S. government, to shield the American worker from the real decisions being made in corporate boardrooms across the U.S. Sadly, by the time the average citizen understands what decisions have been made without his consent or consultation, his fate and job have already been sealed, as is often the case for workers.

According to Michael Albert, an economic writer for *Z Magazine* and creator of ParEcon (The Participatory Economics Project), the removal of the common citizen from the decision-making process is no accident. Albert

Many critics and observers, within the finance and development realm, are now asking whether the "new economics" is simply another western-driven economic stratagem facilitated and manipulated by the powerful that justifies and maintains their lofty global status (and living standards) at the expense of the poor and the weak.

reports and by corporate research, and they created a database that contains information on all announced production shifts and those reported by the media. Altogether, both scholars believe that in 2004 overall, an estimated 406,000 U.S. jobs will be outsourced—compared to 204,000 jobs in 2001. Obviously, their figures differed greatly from Mr. Hutton's estimations, but I felt—based on my

writes, "In the halls of the capitalist globalizers, only political and corporate elites are welcome. The idea that the broad public of working people, consumers, farmers, the poor and the disenfranchised should have a proportionate say is actively opposed."<sup>46</sup> Corporations are indeed a powerful and intimidating force in global economic and political affairs. Their demands and desires are to be ignored at great

peril and risk by any local, state, or national government that cannot, or will not, agree to their terms.

It has become common knowledge that corporations, in financial terms and influence, are quasi-empires in their own right. Their cumulative global reach and power can weaken the knees of even the staunchest economic nationalist. To be specific, corporations and governments are increasingly global partners. Albert informs readers that 52 of the largest 100 global economies are not nation-states, but instead, are private corporations!<sup>47</sup>

Not unexpectedly, this emerging “new (global) economics” that are unstintingly and shamelessly promoted by prominent mouthpieces, such as *The New York Times* columnist Thomas Friedman, are increasingly under fire from millions of workers from almost *all* countries throughout the world, but especially in the poor and underdeveloped nations. This emerging trend has not gone unnoticed. A growing list of economists and global observers are harshly criticizing the “new economics” and its systemic corruption, because it increasingly resembles the exploitative imperial systems that existed during the “Age of Empires” in the 19th and 20th centuries. Therefore, many critics and observers, within the finance and development realm, are now asking whether the “new economics” is simply another western-driven economic stratagem facilitated and manipulated by the powerful that justifies and maintains their lofty global status (and living standards) at the expense of the poor and the weak. As expected, a growing chorus of voices from primarily the periphery, consisting of the developing and undeveloped worlds, is openly challenging the “new economics” due to the growing evidence of, and penchant for, regulatory abuses and financial inequities for the majority of people in the world.

Perhaps the most prominent voice concerning the “discontent” of those concerning glob-

alization and the implementation of the “new economics” is the Nobel Prize-winning economist Joseph Stiglitz. Though Stiglitz, a professor of economics and finance at Columbia University, supports the basic *theory* concerning globalization and is still a believer in its *potential* to improve the standard of living for the vast majority of people in the world, he nevertheless has emerged as one of the preeminent voices critical of the improper enforcement and implementation of negotiated international trade laws, regulations, and rules by the economically powerful.

During a widely attended lecture given at the Chicago Council on Global Affairs in September 2006, Professor Stiglitz stated that a “large fraction of humanity are not being helped by globalization.”<sup>48</sup> He pointed out that elements of globalization are simply not working, there is increasing inequality in the world, and the “Washington Consensus” is not working, or workable, in many developing countries.<sup>49</sup>

In Professor Stiglitz’s recent book, *Making Globalization Work*, he provides several specific reasons why the “new economics” of the 21st century is not relevant for so many workers and nations. Here are the main points to his argument:

- 1) Economic globalization has outpaced political globalization.
- 2) The economic consequences of globalization have far outpaced our ability to cope, shape, and understand globalization through our political processes.
- 3) Reforming globalization is a matter of politics.
- 4) The scale and pace of the competitive threat, of the job loss in a relatively short time, is beyond anything that has happened before.
- 5) With full global economic integration, the world will become like a single country, and the wages of unskilled workers will be the same everywhere.<sup>50</sup>

In the end, a perfect storm has struck Michigan during the past six years. It is due to the convergence of numerous domestic and international economic and political variables. When Pfizer, the world's largest drugmaker, announced in January 2007 that it was leaving Michigan, Governor Granholm asked corporate officials if she could have done something to have prevented its exit from the state. The Governor was told that there "was nothing she or the state government could have done to affect the company's decision to leave Michigan."<sup>51</sup> In short, it was a done deal and an irreversible decision.

Though the Pfizer decision was extremely painful and yet another blow to Michigan's economy, it does not represent the whole story about what is going on in the other areas of the state's development. For instance, Google had announced six months earlier in mid-2006, that it was building an office and research center in downtown Ann Arbor which would employ approximately 1,000 employees.<sup>52</sup> Needless to say, it was a gift from the gods, but it also represents another point that needs to be made.

Though the current storm is not over yet, not for at least another two years, Michigan's economy will eventually recover due to its skilled workforce and its first-rate educational system. This road back to economic vitality will commence, in every community throughout Michigan, as soon as the recent storm clouds representing economic havoc have dissipated, and the inevitable sunshine of a new economic vision begins to take hold in the state.

However, in the meantime, Michigan's workers will remain edgy, if not traumatized, by the occasional headline, "CHINA IS COMING: And Why Detroit Should Be Worried," that appeared in the *The Detroit News* last year.<sup>53</sup> Yet, the citizens of Michigan have painfully learned to accept and acknowledge that some decisions and events are sim-

ply beyond their control and influence. But, they have also recognized how imperative and absolutely necessary it is to comprehend and fully understand the new dynamics, and painful realities, associated with the "new economics" that now exist as the new paradigm for global commerce at the beginning of the 21st century. ♦

## Endnotes

<sup>1</sup> This famous quote that is often associated with Mark Twain was first spoken during the 19th century by former British Prime Minister Benjamin Disraeli, according to the *National Review Online*, August 2000.

<sup>2</sup> Craig Ruff, "Michigan Needs The Courage to Raise Taxes, Fund Services," *The Detroit News*, February 1, 2007, p. 13A. Ruff also mentions in his article that Virginia faced a similar fiscal crisis, in 2004, and raised taxes which balanced the budget and helped to create jobs.

<sup>3</sup> "Michigan 2007-2008 Budget Deficit Projected At \$800 Million," MITECHNEWS, January 13, 2007.

<sup>4</sup> Dawson Bell, "Looming Deficit Challenges Officials to Devise Remedies," *Detroit Free Press*, December 22, 2006.

<sup>5</sup> "Michigan 2007-2008 Budget Deficit Projected At \$800 Million," MITECHNEWS, January 13, 2007.

<sup>6</sup> Tim Martin, "Economy, Tax Revenues Combine to Shape Michigan's Budget Blues," *The Associated Press and Examiner.com*, January 17, 2007.

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# An Anti-Free Trade Position

*By W. Raymond Mills*

**T**rade policy in the U.S. is highly controversial. Many people think that trade is always beneficial to all countries. Others think that the United States and Great Britain are important exceptions to that generalization.

Trade is beneficial to all participating nations *only* when trade between nations is balanced—exports equal to imports. Adam Smith, in his classic work, *The Wealth of Nations*,<sup>1</sup> provides arguments against the proposition stated in the previous sentence. His arguments on this issue, however, are not reasonable and should be discarded.

Mercantilism, which Smith rebutted, argued that trade, to be beneficial, must produce a surplus because a trade surplus is the means whereby the quantity of gold and silver in the nations is increased. Smith countered with the argument that it is the value of the output or produce of the labor of the population that creates the wealth of the nation, not possession of gold or silver. Furthermore, that output or produce will be increased in two nations that exchange goods of equal value. To have something to exchange, output in each nation must expand production beyond that required to serve only the local population. Specialization of production and growth of the size of the market served, created by equal trade, will increase both the productivity and the output of both nations. No surplus

is needed. Both nations benefit from equal trade.

Thus was mercantilism routed. But free trade is not the only alternative to mercantilism. If one wants a trade policy that benefits all nations, the trade policy implied by Smith's argument is equal or balanced trade, not the policy of free trade that Smith advocated.

This argument begins with Adam Smith but does not end with him. The expansive view of the benefits of trade is widely accepted in the United States because U.S. economists tout the benefits of free trade. But when a free trade policy creates 30 years of a trade deficit in the largest trading nation in the world, the question that should arise is whether or not a trade deficit produces the same benefits as equal trade.

The economics profession in the United States has not seriously addressed the critical question of the consequences of the semi-permanent U.S. trade deficit and thus has failed to provide effective guidance for U.S. trade policy for the last two decades.

The mercantile position was wrong because it maintained that a trade surplus was the *only* way to get benefits from trade. A trade surplus does provide a benefit to a nation because it increases domestic output. A trade deficit, on the other hand, harms a nation because it reduces domestic output.

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If equal trade creates benefits by expanding the production in each nation, unequal trade (to the degree it exists) provides benefits only to the nation that provides the extra production to produce the surplus. And, would it not follow, that the deficit country would lose production, as compared with equal trade, because production is transferred from the deficit country to the surplus country? These propositions are true if increased domestic production is the proper measure of the benefits of trade. But not all international trade economists accept that criterion, however.

Free trade and balanced trade are competitors for the job of guiding U.S. trade policy. It makes sense to consider them together. But because free trade is the reigning champion, it also makes sense to concentrate first on free trade. The weaknesses of free trade theory and practice must be exposed before equal trade can get a fair hearing.

### Background

In 1994, Paul Krugman and Maurice Obstfeld produced a textbook, *International Economics*, which was widely adopted by teachers of international trade.<sup>2</sup> This book not only advocates free trade, free trade is the only policy option that receives favorable mention in the text. The Richardian model is introduced as a means of explaining why trade benefits all nations (the Richardian model assumes equal trade between nations). Free trade is supported by arguing that the welfare effects of trade can be measured by changes in the terms of trade (price of exports divided by price of imports). The opposite of free trade, protectionism (whether created from tariffs or quotas or subsidies), reduces the efficiency of production, as compared to what would be achieved with free trade. Any restraint of trade reduces the total output of the world. In the few cases where governmental intervention might be thought to make trade more efficient, weaknesses in the U.S. political system lead

to the conclusion that such efforts will likely backfire. Comparative advantage guarantees that both parties benefit from trade because the less efficient producer can always provide some product that the more efficient producer does not have the time to produce. Various versions of the Richardian model provide the details as to how trade benefits all parties.

The ideas from which this consensus developed were first presented by Adam Smith 230 years ago. Since 1776, these ideas have been fought over and discussed by successive generations of thinkers, resulting in the following opinion provided by Thomas Sowell:

[M]any economists do not bother to answer either the special interests or those who oppose free trade for ideological reasons, since the arguments of both have essentially been refuted long ago and are now regarded in the economics profession as beneath contempt.<sup>3</sup>

Adam Smith was concerned with how a non-wealthy country could become wealthy. The current U.S. problem is how a wealthy country can remain wealthy. My contention is that U.S. economists have not examined the question of whether or not a trade deficit produces net benefits for the deficit country. Until that question has been answered, arguments should continue.

### The Other Side of the Story

*Using an assumption helpful to economists as a guide to national trade policy*

Free trade, if it existed, would maximize total world output. But the nations that are expanding their role in world trade, such as Germany, China, and some other Asian nations, are concentrating instead on expanding their export capacity, without any concern for maximizing total world output. A nation that really adopts, as the number one priority, the goal of expan-

sion of total world output, will eliminate all barriers to imports. No nation has done that. Japan has shown that expansion of export capacity does not require adoption of free trade as a trade policy.

The goal of perfect economic efficiency and maximum world output is a useful concept for economists. It establishes a standard against which actual economies can be measured. But it is not helpful for individual nations and should not be a basis for establishing trade policy for any nation. The competitive struggle among nations for a greater share of world exports argues against a trade policy aimed at benefits for the world. Each nation must protect itself.

This is not to say that economic efficiency is unimportant. It is extremely important for those industries in which each nation has been able to develop a comparative advantage—the export industries. The point is that a nation can succeed in international trade by becoming sufficiently efficient in its export industries to be able to support inefficiencies in industries that serve the local market.

The reluctance of the economics profession to examine the negative consequences of free trade is based, in part, on the utility, for them, of perfect economic efficiency as a way of organizing their thinking.

#### *Misrepresenting a financial transaction*

Four years ago, the U.S. external deficit was \$666 billion, approximately 5.75% of the U.S. gross domestic product (GDP).<sup>4</sup> Instead of borrowing money to pay for the trade deficit, U.S. business firms simply reach down in their deep pockets and pay with cash. The money transferred is recorded as a cash transaction on both the U.S. and foreign accounts.

This transaction is misrepresented by free traders because the money sent overseas is very harmful to the U.S. economy. Manufacturing firms located in the U.S. are in

a struggle for survival against foreign competitors. The money sent overseas has a double use for foreign countries. First, the dollars are received by the producer organizations (usually business firms) that sent the goods to the U.S. These firms then exchange some of these dollars for local currency, then used to pay for employees and raw materials. Presumably, some profit remains, which can be used to purchase more and better equipment to create more competition for U.S. business firms.

Second, the dollars exchanged for local currency wind up in the hands of the central bank. The most common use of these dollars is to increase the foreign reserves of the country, so as to avoid the terrible experience of a devaluation of the local currency, as experienced by many Asian countries in 1998-1999. These reserves are most commonly held in the form of U.S. Treasury Certificates because these certificates pay interest and provide assurance that the country has the cash to be able to avoid a run on the local currency.

Purchase of these U.S. Treasury Certificates supports the exchange value of the dollar by increasing the flow of funds back to the U.S. These purchases also tend to maintain the level of interest in long-term bonds issued by the U.S. Both of these consequences support the exchange value of the U.S. dollar, which results in a continuation and increase of the size of the U.S. trade deficit. Thus, trade deficits lead to more trade deficits, a result avidly sought by U.S. trading partners. Catherine Mann labeled this situation “mutual co-dependency.”<sup>5</sup> I label it “taking advantage of a stupid trading partner.”

Although the current account of \$666 billion requires that a comparable dollar amount be returned to the U.S. in the form of a capital account that matches the value of the current account, this is money that originally moved from the U.S. to overseas. In addition, the capital account, which moves from overseas

to the U.S., is matched by a flow in the other direction of various kinds of financial assets the foreign owner prefers to the dollars sent to the U.S.

*Accounting rules require an equal flow in each direction*

The capital account is matched by a flow of financial assets from the U.S. to overseas. The current account, which flows from the U.S. to overseas, is matched in value by the goods and services sent to the U.S. in excess of U.S. exports.

Many economists think that the U.S. somehow needs the money returned by the capital account. The U.S. does not need additional capital (it has plenty), but if it did, it does not get any by the return of dollars as recorded in the capital account. The money returned to the U.S. by the capital account does not increase the total level of financial assets owned by U.S. citizens because the inflow is matched by an equal value outflow.

Ben Bernanke says that developing countries are lending money to the U.S. But developing countries are transforming some, but not all, of the dollars received from their trade surplus with the U.S. into financial assets that pay interest, such as U.S. Treasury certificates. The recognition that financial assets are returned to countries that send dollars to the U.S. is crucial for understanding the impact of the U.S. trade deficit on the world because it shows the net gains in financial assets made by these countries at the expense of the U.S. Trade surplus countries not only gain net financial assets, as the mercantilists argued, they also gain in Gross Domestic Product.

The ability of the U.S. to pay cash for imports is not in question. The net worth of households and non-profit organizations in the U.S. increased by 4,092 billion in 2004, even after sending \$666 billion overseas to pay for imports in excess of exports.<sup>6</sup> The U.S.

could pay for imports with cash because of the \$43,973 billion of net worth accumulated at the beginning of the year 2004. The U.S. has the cash to pay for imports.

*Use of an inappropriate criterion to measure the gains from trade*

The choice of a measuring stick, to indicate the degree to which a nation has benefited from trade, is obviously important. The standard yardstick, according to Krugman and Obstfeld, is the terms of trade (price of exports divided by price of imports). That measuring stick, however, leaves out an important component: the volume of goods and services sold and purchased. Price is only a part of the picture. The trade balance (price multiplied by volume) is a more important indicator than is price alone. When one variable expands, the other variable declines.<sup>7</sup> These two indicators point to quite different conclusions.

Gross Domestic Product, or its closely related measure, income, is the natural indicator of growth in an economy. When Douglas A. Irwin wanted to provide an empirical demonstration of the ability of trade reform to improve the economy of a nation, he presented three different results, plotting the growth of per capita GDP in three different nations at three different time periods: South Korea, 1953-1999; Chile, 1960-1999; and India, 1960-1999.<sup>8</sup> One straight line shows the growth in per capita GDP based on an estimate of what would have happened without reform (extrapolation of a trend line of a period *before* the economy is opened to foreign trade). The second line is the actual growth of per capita GDP, after the reform. Comparison of these two lines clearly shows a divergence, a more rapid increase in per capita GDP after trade reform. These data shows that trade reform, opening a country to imports, can increase per capita GDP in an undeveloped

country, if the other necessary conditions are present.

As Adam Smith noted, growth in domestic production is the best measure of the gains from trade. Irwin agrees.

*Extension of propositions that are true in some circumstances to circumstances in which the propositions are false*

Traders, people who engage in trade, do so because they expect to gain from the exchange. What is true for individuals and firms is not necessarily also true for nations.

When a U.S. citizen purchases a car made in Germany, the citizen gets the marginal benefit of the additional value that foreign car possesses, relative to the value of an alternative car put together in the U.S. But this marginal gain in value is only a small part of the total value of either car. Because the foreign car is marginally better, the total Gross Domestic Product of the U.S. is reduced by the value of the hypothetical production of the rejected car. The citizen is better off. The nation is worse off because Gross Domestic Product was reduced by a number much higher than the marginal difference between the values of the two cars. (The way around this dilemma is not to ban foreign cars but to arrange a situation in which foreign cars may come into the U.S. without reducing U.S. Gross Domestic Product.)

Free traders argue that trade benefits both parties, including nations. However, the mere fact of the existence of trade does not necessarily show that each nation is better off. There are some conditions under which trade benefits both nations and some conditions under which trade benefits only one nation.

Both nations benefit from trade only when trade is balanced or equal between exports and imports. Balanced trade can be assured if trade is conducted by barter—direct exchange of one set of goods for another. Balanced

trade also exists when the currency flowing between nations to pay for trade is equal. But direct exchange of goods for goods is the clearest example of equal trade.

Exchange of goods for goods is so important because both nations must increase their production or output to provide the goods sent abroad. If the goods produced have equal value, as one would expect when goods are exchanged for goods, with no currency used, then both nations must increase their output or production by an equal amount of value. Equal trade produces equal benefits because equal trade requires increased production of equal value goods to be exported by each nation.

What happens when goods are exchanged for currency? The exchange of currency for goods is an equal exchange, in that both entities exchanged have equal value. However, Gross Domestic Product (or any other measure of domestic output) is not increased in the trade deficit country when currency is shipped abroad. Instead of increased output, the deficit country suffers a reduction in financial assets. Where is the gain to the deficit country when GDP is not increased and financial assets are decreased? There is none if increase in GDP is the measure of the gains from trade (except for the increased output required to transfer imports to the retail customer).

There is no way to escape this logical deduction. If trade is guaranteed to benefit all nations participating, trade must be limited to exchange of goods for goods, or when currency is used, equality of exports and imports (assuming that growth in domestic production is the way trade provides benefits to a nation). Equal trade becomes the proper policy recommendations.

*Protection of one or a few selected industries is not the only alternative to free trade*

Protectionism is a word that may take on

either a narrow definition or a broad one. Adam Smith refers to imposition of restraints on imports of specific goods or industries in response to the pleas of politically powerful business owners. This is the narrow definition. When the word is used in a broad sense, protectionism can refer to any alternative to free trade—any restraint of imports for whatever reason.

When protectionism is said to be the only alternative to free trade, then the word is used in the broad sense. But most of the time, when people talk about protectionism, they are referring to the narrow sense, when selfish people use their political power to protect and extend their economic interests. Protectionism in the narrow sense is clearly undesirable. But it is possible to think of some alternatives to free trade that are not protectionism in the narrow sense.

For example, it would be possible for a nation like the United States to adopt equal trade as the basis for establishing national trade policy. With that goal, reduction in the size of the trade deficit would be first priority. The fastest way to reduce the U.S. trade deficit is to impose conditions on imports into the U.S., which would result in increasing the imports accepted from nations that have approximately equal trade with the U.S. This objective could be achieved by imposing tariffs on all imports coming from the five countries that have the largest trade surplus with the U.S.

Free traders believe that governments cannot impose restraints on trade that will escape the problems of protectionism in the narrow sense. They refuse to examine the possibility of some generalized system that protects the entire domestic economy. That is because they believe that protectionism is the only alternative to free trade (which is true only in the broad sense of the word), but they are thinking of the problems created when the narrow type of protectionism is applied.

If protectionism is used in the narrow sense, then alternatives to protectionism exist that should be explored. If protectionism is used in the broad sense, then protectionism cannot be said to be undesirable, unless it inhibits the growth of Gross Domestic Product (using the Adam Smith definition of the gains from trade).

### *Changing circumstances*

- The Cold War with the Soviet Union developed immediately after WW II, when the U.S. economy was at the height of its power. Encouraging the growth of foreign trade between the U.S. and its allies was an important means of creating an anti-communistic bloc of nations. This stance is no longer needed.
- Nations that have benefited greatly from the growth of international trade in the past 50 years are markedly different from the U.S. The U.S. role in international trade is unique among nations. The existence of benefits from trade gained by nations other than the U.S. is undeniable. Benefits experienced by other nations do not answer the question of the benefits (or lack of benefits) experienced by the U.S.
- A serious trade deficit did not develop in the U.S. in the early years of the Cold War. But in 1977, the goods trade deficit jumped to 20% of the goods imported into the U.S.<sup>9</sup> This ratio retreated during the recessions of 1980, 1982, and again in 1991-92. During the “good” economic times of 1994-1997, it stabilized at around 24%. When the stock market bubble inflated during 1998-2000, this ratio began to grow and continued to increase until 2005, when it topped out at 47%. The data since 2005 suggest that the trade

deficit ratio may be stabilizing or perhaps beginning a decline. In the first six months of 2007, the ratio stood at 41%.

- Manufacturing industries' share of all U.S. corporate profits were 44% in 1980 and 20% in 2006.<sup>10</sup> The decline in share of national corporate profits was largely due to the growth of the goods trade deficit, which went from a 10% to a 47% of goods imported between 1980 and 2005. (Manufactured products account for 60% to 80% of U.S. merchandise trade. The trade deficit in goods shows the disparity between goods shipped from the U.S. and goods shipped to the U.S. The share of manufacturing profits to all profits must decline in response to imports in excess of exports of goods.) Profits are a more sensitive measure of manufacturing success than output because profits should increase with increases in productivity.

In the decade of 1995-2005, the manufacturing share of all corporate profits went from 30% to 20%, despite the rapid growth in Gross Domestic Product and productivity per man hour in manufacturing during this period. The trade deficit ratio went from 23% to 47% during this decade.

That this change was not due to the shift from consumption of goods to services is shown by the fact that goods as a share of U.S. Personal Consumption Expenditures stabilized at around 41-42% in 1995 and did not drop below 41% during the period from 1995 to 2006.

The weaknesses in the U.S. manufacturing sector resulted in Germany replacing the U.S. as the largest exporter nation in the world in 2005 and 2006.

- Currency value change led to both the growth and then the decline of the previously mentioned index of the trade deficit during the period from the beginning of 1981 to the end of 1989. This experience provides a clear example of a time when currency value change controlled the change in the trade deficit ratio. But some new factor entered the picture after 2001. Between the spring of 1997 and the spring of 2002, the real broad trade weighted value of the dollar grew by 21%.<sup>11</sup> The goods trade deficit index initially grew with the gain in currency value, just as it did from 1981 to 1985. However, after February 2002, the old script was discarded. The broad trade-weighted value of the dollar declined by 24% (both for nominal and real indices) between February 2002 and November 2007. This time, the goods trade deficit refused to follow currency decline down as it had in the period 1987-1989. The goods trade deficit index continued to grow, going from 41% to 47% between 2002 and 2005. The numeric gain in the U.S. goods trade deficit was 62% during that interval.

Three new influences spurred the growth of the trade deficit after 2000, despite the recession in 2001 and currency value decline since 2002. These new influences were a) the growth of manufacturing production outside the U.S.; b) the learning curve as foreign producers became knowledgeable about the U.S. market and how to serve it; and c) the liquidity supplied by the federal government to overcome the 2001 recession. Since the percent of the U.S. trade deficit paid by cash declined from 47% in 2005 to 41% in the first six months of 2007, it is possible that the continuing decline in the value of the U.S. dollar is finally translat-

ing into a reduction of the trade deficit. However, 41% is far from zero. The current level of the real broad trade weighted index of the dollar is 86.1. This index has not been below 86 anytime in the last 28 years. If current trends continue, the U.S. economy will be moving into unknown territory regarding the value of the dollar at a time when both inflation and a recession are looming threats.

Continued reliance upon dollar decline to reduce the trade deficit weakens the world economy because imports from every nation are affected, not just the imports from those nations creating the current trade deficit. Imported parts to produce automobiles are more expensive. Imports of produce from Mexico and Chile are increasing in price, due to the lower value of the dollar. Equal trade would reduce the trade deficit and simultaneously slow the decline in the value of the dollar (relative to what will be the result without a policy change).

- Protectionism (in the narrow sense) was the big obstacle Adam Smith faced in moving Britain and other nations toward opening their doors to imports. Providing a framework which removed the option of politically powerful industrialists to cause import restrictions was appropriate in 1776. Now the situation has changed precisely because the acceptance of the ideology of free trade reduced the influence of industrialists, just as Adam Smith intended. The automobile industry, the steel industry, and the textile industry have lost their ability to restrict competitors from the U.S. market. Widespread knowledge of the tendency of industrialist to rig the market to benefit themselves has eliminated that option.

- The U.S. economy cannot expand fast enough to grow its way out of the trade deficit. During the period of 1994-1997, the economy grew fast enough to stabilize the trade deficit. Stabilization is not enough. The trade deficit must be reduced. The prospect of another growth pattern as sound as the achievements of 1994-1997 is remote. The recent growth spurt of the U.S. economy appears to have peaked.

### Conclusion

Economists are correct when they argue that any deviation from free trade will reduce economic efficiency in the world and reduce total world output. Yet this knowledge should not influence national trade policy. Instead, each nation should adopt a trade policy that guarantees benefits to all nations participating in the global economy.

Begin with a reevaluation of the contribution of Adam Smith. He correctly identified the criterion to be used to evaluate the gains from trade. His criterion, increase in the goods and services produced by the domestic economy, leads logically to equal trade. Instead of following the logic of his own position, however, he advocated free trade, arguably because he wanted an ideology that would eliminate the possibility of politically powerful industrialists being able to use their influence to create trade barriers to prevent foreign competition for their specific product. His aim has been achieved, by and large, in the U.S. and in Great Britain, the two countries in the world that are the strongest advocates of free trade.

He did not consider the possibility that the leading nation in the world economy would be unnecessarily reduced in economic power by a 30-year trade deficit that culminated in 47% of U.S. imports paid for by transferring U.S. financial assets overseas. These financial assets represent more than dollars lost, they

also indicate GDP lost and manufacturing capacity lost. The trade deficit has sapped the strength of the U.S. economy, resulting in Germany surpassing the U.S. as the leading goods export nation.

The rest of the world has greatly benefited from U.S. leadership of the world-wide reduction in tariff barriers. Adam Smith began the thinking that led to that result. Adam Smith will long be honored for the ideas that led to the global economy. However, he does not provide guidance for our current situation. The time has come to reject Adam Smith's call for free trade and embrace instead equal trade—a guide that ensures that trade will benefit all nations.

Free trade was a useful ideology in the past. Its usefulness is over. Balanced trade should be the new guide for trade policy, not only in the U.S. but in Great Britain and any other nation that experiences a large trade deficit.

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# The Invisible Hand and Giving You a Hand at the Pump

*By David Daep*

What does Adam Smith's classic metaphor of the invisible hand have to do with your choices at the gas pump today? Surprisingly, it might have a lot to do with why the American consumer has one choice at the pump and, in contrast, the Brazilian consumer has two choices. Large portions of global society are concerned about fossil fuel consumption, global warming that results largely from this consumption, and the widely-discussed but unclear road to cleaner energy sustainability through use of petroleum alternatives. What is purported here is that the invisible hand is a useful metaphor, yet it falls short of providing a solution for the everyday person who fills up at the pump.

Henry Ford's first working automobile was capable of running on ethanol, the substance that in 1925 he deemed "the fuel of the future." More than 80 years later, how do we move forward to make "the fuel of the future" "the fuel of the present"? Consumer passivity to escalating questions regarding fossil fuel supply, an essential pillar of the global economy, continues to allow governmental leadership to push "the fuel of the future" to the back burner. With a divided, unorganized global conglomerate of citizens hoping for scientific breakthroughs and alternative ener-

gy policy initiatives, where and how does a national government, especially The United States, act in this dilemma? Adam Smith's famous "invisible hand" didn't exactly produce market-generated alternatives in previous oil shocks and cannot be expected to offer such desirable solutions in forthcoming times of shortage. This paper endeavors to build a foundation on comparative historical analysis beginning with the oil crisis of 1973, leading to the current debate over the viability of ethanol as an oil/gas substitute and closing with a rough prescription for U.S. energy security policymakers.

To briefly review Smith's classic metaphor of the invisible hand, we note that its focus is the illustration of how those who seek wealth by following their individual self-interest inadvertently stimulate the economy and assist society as a whole. Smith claims that, in capitalism, an individual pursuing his own good tends also to promote the good of his community, through a principle that he called "the invisible hand" of the market, which ensures that those activities most beneficial and efficient will naturally be those that are most profitable. Smith's highly revered and metaphorically inclined model is well supported by the realignment of markets seem-

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ingly in natural fashion following boom and bust cycles. However, the question here is the applicability of “the invisible hand” in times of oil crises. Examining the difficulties that confront the “invisible hand” in navigating through problems of collective responsibility highlights government’s role in guiding markets to their more stable points.

What is collective responsibility and what does it have to do with global energy sustainability and the need for government intervention in markets? Collective responsibility is depicted nicely by the idea of a small plot of land farmed by various individual farmers each focusing solely on his own output. Each farmer will try to squeeze as much production

**The power of today’s nation-state is highly dependent on its energy resources, and, therefore, securing energy inputs is of vital importance.**

from the land, and overgrazing will result from a lack of coordination amidst mutually harmful self-interests. In the end, total harvest will be diminished and the land left desolate with future farming prospects significantly reduced. It has been documented that coordination, whether through an outside mediator or participant, serves to ensure each individual a reasonable outcome and a protection of renewable assets (i.e. land/natural resources). With the economies of the world reaching for ever-increasing gross domestic product (GDP) growth, each individual country will use as much petroleum as it feels is necessary to fuel its perceived highest possible domestic economic growth. There is no overseer of global petroleum consumption, just oil-importing nations and oil-exporting nations driving towards future shocks. History has shown through supply shocks the ills of oil

dependency, and this is where one would expect the invisible hand to provide a market solution to market imbalances. When the invisible hand doesn’t provide the answer in times of real despair, it is government’s hand that lends help to stem slowdowns and protect against the even mere premonition of economic depression.

In turning to national governments to effect even partial resolve of worldwide energy sustainability crises, a foundational beginning is formed through the classic debate between realists and liberals. Realists focus on the acquisition of power by the state believing that economic prosperity follows triumph in the interstate conflicts that are inevitable in the zero-sum game that is international politics. Contrastingly, liberal thinking is guided by an expansive trust in markets as the most efficient mechanism of asset allocation with the government playing a more passive role through provision of necessary public goods and allowing markets to function freely. A specific interventionist role for the U.S. government in ensuring greater domestic usage of alternative energy resources is a better approach, however.

The argument in response to calls for government intervention in moving toward oil alternatives would be something like “if consumers will it, it will be. Let markets determine where we go with energy and the inputs of the energy sector.” Basically, let the invisible hand work its magic. Contrastingly, the realist may understand best that the power of today’s nation-state is highly dependent on its energy resources, and, therefore, securing energy inputs is of vital importance. The modern day example of the realist philosophy is embodied by China as it is signing agreements in Africa and Latin America to ensure that its astounding assumption of power driven by surging economic growth is not halted by market crushing oil shocks. China is also hedging future energy shortage risks by

exploring the use of solar power in buildings in an effort to reduce oil consumption. The liberal and the realist can argue whether such government initiatives are well reasoned or not; the danger of non-intervention in global energy consumption deserves attention.

The concern is that U.S. laissez-faire non-intervention policy will stifle the development and implementation of viable oil alternatives (i.e., ethanol) while oil reserves dwindle down the drain of collective consumption. Consumers are both uninformed and too large a group to comprehensively unite in support of oil alternatives. Consumers are like the farmers overgrazing on their shared plot of land. Americans will consume as much oil as they need individually and hope that there is enough tomorrow to still purchase a tankful at reasonable prices. Governments have the ability to affect current markets and create new ones by providing incentives to individual and group actors. A comparison of the respective responses of the Brazilian and American governments to the oil shock of 1973 will help explain why the U.S. is where it is today with energy options.

The 1973 oil crisis began on October 17, 1973, when the members of the Organization of Arab Petroleum Exporting Countries (OAPEC, consisting of the Arab members of OPEC plus Egypt and Syria) announced, as a result of the ongoing Yom Kippur War, that they would no longer ship petroleum to nations that had supported Israel in its conflict with Syria and Egypt (i.e., to the United States and its allies in Western Europe). OPEC members coordinated to harness their leverage over the world price-setting mechanism for oil in order to quadruple world oil prices. Due to the dependence and price inelasticity of demand of the industrialized world on OPEC oil, price increases of this vital input had a dramatically inflationary effect on the economies of the targeted countries, while at the same time suppressing economic activity.

The targeted countries responded with a wide variety of initiatives to contain their further dependency.

Both Brazil and the United States felt the wrath of OPEC as a mere 5% reduction of petroleum output resulted in massive inflation and economic stagnation. In the industrialized countries, especially the United States, the crisis was for the most part borne by the unemployed, marginalized social groups; certain sections of aging workers; and increasingly, by younger workers. Schools and offices in the U.S. often closed down to save on heating oil while factories cut production and laid off workers. U.S. and Brazil's respective retooling for economic survival during this time display clear meta-invisible hand activity; however, such retooling will provide a parallel market in only one of these countries.

In a Keynesian, interventionist move, the U.S. government enacted price controls (in the United States) which limited the price of "old oil" (that already discovered) while allowing newly discovered oil to be sold at a higher price, resulting in a withdrawal of old oil from the market and creating an artificial scarcity. These "controls" indirectly attempted to promote oil exploration; however, the artificial scarcity resulted more notably in a rationing of gasoline (which occurred in many countries), with motorists facing long lines at gas stations. Additionally, the U.S. government attempted to constrain oil demand by assigning drivers days of purchase of gasoline. Drivers of vehicles with license plates having an odd number as the last digit were allowed to purchase gasoline for their cars only on odd-numbered days of the month, while drivers of vehicles with even-numbered license plates were allowed to purchase fuel only on even-numbered days. The rule did not apply on the 31st day of those months containing 31 days, or on February 29 in leap years (the latter never came into play, as the restrictions had been abolished by 1976).

In further attempts at a constraining policy, the U.S. government instituted a National Maximum Speed Limit of 55 m.p.h. to help reduce gasoline consumption. This law survived through late 1995 on claims that it enhanced highway safety. President Nixon named William Simon as an official "energy czar," and in 1977, a cabinet-level Department of Energy was formed, subsequently leading to the creation of the United States' Strategic Petroleum Reserve. Of greater significance in the American response to OPEC was the passage of The National Energy Act of 1978. The National Energy Act included in it The Energy Tax Act (Public Law 95-318), a law passed by Congress that promoted fuel efficiency and renewable energy through taxes and tax credits. This law gave an income tax credit to private residents who use solar, wind, or geothermal sources of energy. The credit amounts to 30% of the cost of the equipment up to \$2000, as well as 20% of costs greater than \$2000, up to a maximum of \$10,000. Also created were tax credits to businesses for renewable energy equipment, amounting to a maximum of 25% of the cost of the equipment. The renewable energy credits of this law were increased by the Crude Oil Windfall Profits Tax Act of 1980.

The Energy Tax Act included a Gas Guzzler tax targeting the sale of vehicles with official EPA-estimated gas mileage below certain specified levels. In 1980, the tax was \$200 for a fuel efficiency of 14 to 15 miles per gallon and was increased to \$1800 in 1985. In 1980, the tax was \$550 for fuel efficiencies of 13 mpg and below, and was changed in 1986 to \$3,850 for ratings below 12.5 mpg. Much to the chagrin of environmentally concerned persons, the Gas Guzzler tax applied only to cars under 6,000 pounds, which allowed for the exemption of widely popular sport utility vehicles (SUVs) and other large passenger cars. Such a caveat in the Gas Guzzler tax is a gleaming contradiction as consumers may

move toward less fuel efficient cars that weigh in excess of 6,000 pounds to avoid a tax that, by its very name, implies a goal of conservation/moderation. This allowance in the punitive tax on the gas guzzlers reflects two phenomena: that the U.S. government is heavily influenced by big industry (i.e., the auto industry) and that consumer pressure heavily influences government to enact the economic policies that will allow American consumers to enjoy their cars of higher gas consumption and their desired utility from driving.

Admittedly, government policies in the U.S. also shift the direction of big business as shown in the U.S. "Big Three" automakers downsizing existing automobiles upon passage of the Corporate Average Fuel Economy (CAFE) standards. By the end of the 1970s, 121-inch wheelbase vehicles were a thing of the past. Before the mass production of automatic overdrive transmissions and electronic fuel injection, the traditional FR (front engine/rear wheel drive) layout was being phased out for the more efficient and/or integrated FF (front engine/front wheel drive), starting with compact cars. Using the Volkswagen Rabbit as the archetype, much of Detroit went FF after 1980 in response to CAFE's 27.5 MPG mandate.<sup>1</sup>

Of great interest in this comparative analysis of historical government response to energy crises is that such events led to greater interest in renewable energy, but the U.S. and Brazilian governments pursued the development of long-term petroleum alternatives to varying degrees and with varying persistence. The U.S. government took on greater interest in wood fuel and promoted research in the areas of solar and wind power. Again, to the disappointment of environmentalists, the energy crisis spurred by the 1973 embargo brought on greater pressure to exploit North American oil sources and increased the West's dependence on coal and nuclear power.

To provide a comparative point, the policies of a then militarily-led Brazilian government highlight a sharply different response to energy woes. Amidst the aftermath of the 1973 oil crisis in Brazil, General Ernesto Geisel took over the reigns as president and shifted the troubled Latin American giant toward a more democratic rule. Contrary to assumptions provoked by his title, General Geisel replaced many regional commanders with trusted officers and labeled his policies *distensao*, meaning a gradual loosening of authoritarian rule. President Geisel sought to bolster economic growth rates even with the difficulties that ensued from the oil shock. He promulgated massive investment in infrastructure—highways, telecommunications, hydroelectric dams, mineral extraction, factories, and atomic energy. Even more interesting, in the face of strong nationalist pressures to maintain a quasi-closed stance, Geisel opened Brazil to oil prospecting by foreign firms for the first time since the early 1950s.

Running up to the 1973 oil shock, Brazil was suffering from deterioration in its terms of trade (price of exports/price of imports) with export performance constrained by an overvalued currency burdened by prolonged hyperinflation. With its trade imbalance worsening, the oil shock boosted import prices exacerbating Brazil's dire circumstance. Geisel borrowed billions of dollars to sustain the country through this turbulent period. Brazil's deepening current account deficit was financed by rising foreign debt. Geisel's gamble paid off as the combined forces of import-substitution/industrialization and export expansion eventually spawned a trade surplus allowing for sufficient debt servicing.<sup>2</sup>

In a direct response to the ills of oil shortage, the Brazilian government ramped up its efforts to substitute sugarcane alcohol for gasoline. The major actors involved in giving lift to the Brazilian National Alcohol Policy (Proalcool) included central and state govern-

ments, military groups, the alcohol industry, sugarcane agricultural aristocracy, bureaucrats, researchers, and developers. The decision to shift away from oil as the sole automotive fuel was not new to Brazil as the first official alcohol policy was established in 1931. Between this pre-World War II initiation and the widely acclaimed Proalcool program, various attempts were made at the alternative fueling of Brazilian cars. The Proalcool program intensified the use of gasohol (a mixture of ethanol and gasoline) to fuel common gas-powered cars giving consumers flexibility at the pump and placing a trump card in the sleeve of the Brazilian government in warding off future petroleum shocks.

What made it possible for the Brazilian government to adapt its nationwide energy strategy away from oil in the wake of the 1973 crisis? The grounds to move Brazil toward alcohol-powered cars, thereby reducing national dependence on oil, were strong for numerous reasons. Brazil has both a large land mass and a large quantity of cheap labor that helps support massive sugarcane production. At the time of the oil crisis, the sugarcane industry was experiencing a real slowdown. By turning attention toward research and development that would reveal energy potentials hidden inside Brazil's bustling sugar crops, the government harbored the potential to stimulate demand in the industry and diminish oil dependency through ethanol alternatives. In addition to the ability to kill two birds with one stone, military sentiment in Brazil strongly favored government-led movement toward national self-sufficiency (a sort of realist thinking) specifically in key inputs, namely fuel. Military and civilian leaders dictated ethanol production levels and funded projects in relevant technological advancement costing billions of dollars. The government provided cut-rate loans to sugar companies to build ethanol plants and guaranteed prices for the refined product. Protection

against cheap substitutes/imports ensured that producers would have a reliable market for their ethanol supply. Military leaders who held positions of power in relation to the government advised that national sovereignty was at risk due to oil dependency. These leaders pressed for the two-pronged approach of development of alternatives along with national petroleum exploration.

From government leaders to leading researchers in Brazilian labs, widespread nationalistic sentiments built upon the idea that dependency on developed countries *and* on oil would be the demise of the country. Brazilian leadership had the foresight to avoid the sort of dependency that might have taken

slightly different than that of the campaign driven by political forces in the U.S. The American campaign shifted responsibility to the people with the hope that the invisible hand of markets would alleviate the pains of the swelling oil shock. With a greater sense of government leadership for energy solutions, the Brazilian campaign built support for a national, cohesive move away from oil by exploration of available alternatives.

The difference here is where the responsibility rests. The U.S. leadership used direct price intervention to sculpt consumer behavior whereas the Brazilian leadership focused on catalyzing a movement of aggregate consumer consensus by developing a whole new

The U.S. leadership used direct price intervention to sculpt consumer behavior whereas the Brazilian leadership focused on catalyzing a movement of aggregate consumer consensus by developing a whole new supply side.

hold if it had relied on oil imports from more developed countries. Researchers were confident that they could develop technology for alcohol engines if there were sufficient demand for such devices and resources were provided to invest time and energy into this endeavor. Providing rationale for significant financial support to further alternative engine research, The Center for Aerospace Technology in Sao Paulo had already achieved notable success with Otto-cycle internally combusted engines for alcohol. Researchers' enthusiasm for continuing advancement in such groundbreaking technology helped secure national dedication to the cause of oil-alternative technological innovation.<sup>3</sup>

Beyond researchers and political leaders, it was the media that ingrained in the minds of the Brazilian people the dangers of a continuing oil shortfall. This media campaign was

supply side (ethanol/"alcohol"). This effectively allowed for a divergence from oil-dependent nations and ultimately gave consumers greater options. Additionally, Brazilian political leaders had the foresight to use subsidies to sooth the disenchanted national oil producers. Brazilian consumers were made to feel a part of a grand movement toward a stronger Brazil while American consumers were standing in gas lines with no alternative in sight.

The value of the above detailed historical comparison is that it highlights Brazil's feeling of urgency in developing a parallel market that the "invisible hand" had yet to create while the U.S. felt it could afford to weather OPEC's storm through temporary measures without seeking permanent alternatives to oil. That was then, and now realists in China have promoted a roving of the earth for oil reserves to ensure that an oil shock will not curtail the Asian giant's fast and furious growth. The

U.S. could arguably begin to decouple itself from the Middle East and OPEC through collaboration with ethanol producers and policy experts in Brazil. With relevant historical knowledge underpinning its efforts, the U.S. can proceed to tackle some of the issues raised in the current alternative energy debate.

In preparing the stage for the current debate on whether and how the U.S. government should help move America toward greener sources of energy, it is essential to provide a brief background on ethanol as a natural substance. Ethanol is produced by yeast fermentation of the sugar extracted from feedstock that include, *inter alia*, sugarcane and sugar beets. As of 2006, production is primarily from sugarcane, maize (corn), and sugar beets. The best farm crop for ethanol production is sugar beets, in terms of gallons of fuel per acre, with the lowest water requirements to cultivate the crop. Sugarcane, the primary crop for ethanol production in Brazil, yields 20 times the amount of ethanol as compared with corn.<sup>4</sup> This displays Brazilian sugarcane farmers' clear comparative advantage over American corn farmers in producing ethanol. Brazilian production of ethanol is then refined to create a fuel called *álcool* which is sold at gas stations throughout the largest Latin American country.

The coveted *álcool* is distilled ethanol with purity of approximately 95 percent. This hot item, widely available at gas stations in Brazil, can sell at almost half the price of gasoline depending on supplies of both substances. To calm fears that may arise when looking at the *álcool* shortage of 1989, the Brazilian government has thrown its weight behind "flex-fuel" vehicles (FFVs) that can run on gasoline, *álcool*, or any combination of the two. The Proalcohol initiative has been deftly crafted to appeal to consumers, providing options that make the consumer less prone to negative effects of supply shocks and fuel price fluctuations. The U.S. government could

similarly endorse domestic production of FFVs that would empower American consumers to hedge their own individual future risks arising in times of fuel shocks. Realizing that American consumers take great notice of brands, it is important to note that Volkswagen, Fiat, and General Motors are just some of the names involved in this new wave of FFV production.<sup>5</sup>

All is not lost in the U.S. as large, powerful corporate interest groups are placing pressure on the government to slow climate change. Ten of the biggest U.S. companies, including Alcoa, General Electric, and Lehman Brothers, will embrace a system of mandatory caps on greenhouse gas emissions in an effort to cut environmentally harmful discharge by 30 percent over the next 15 years. A report compiled by the Energy Security Leadership Council, a coalition of 16 business leaders and retired generals, has called for a four percent annual rise in the fuel economy standard for vehicles, more drilling, and new tax incentives for renewable fuels. All of this falls in line with exploration of ethanol's potential in the U.S. market. As seen in Brazil, demand can be sparked by initial government investment and intervention in markets.<sup>6</sup>

Ethanol has already appeared on the radar in some states in the U.S. and is notably the centerpiece of The E85 Coalition in the State of Colorado.<sup>7</sup> E85 is a blended mixture of 85 percent ethanol and 15 percent unleaded gasoline. The purpose of this coalition is to increase awareness, availability, and usage of E85 in the State of Colorado. The Coalition's goal is to educate Colorado's nearly 300,000 flex-fuel vehicle (FFV) owners about the benefits and availability of E85. FFV owners include consumers, commercial drivers, pump owners, and auto dealers. The E85 Coalition will also seek to double from 10 to 20 the number of E85 pumping facilities over the next 12-18 months, using available funds to subsidize the installation of new pumps or

conversion of existing pumps to E85 grade.

Now all of this talk of U.S. moving to increased usage of ethanol and decreased reliance on petroleum does not mean that all of the country's ethanol needs need to be produced in the U.S. This point is highlighted by the gargantuan volume of corn used in America to produce 44.5 percent of the 9.66 billion gallons constituting world ethanol production in 2005 (Brazil produced 45.2 percent with sugarcane and the rest came from Europe through use of oilseeds). The concern is both that corn is not an efficient source for ethanol production, and that using such large volumes of this staple food crop will endanger food supplies. Additionally, the \$8.9 billion worth of direct corn subsidies in 2005 come out of taxpayers' pockets. As previously noted, more efficient sources of ethanol production suitable to the U.S. may be uncovered through government funded research and development. These sources include grasses, wood chips, and cellulose (found in trees, grass, and other plants). Further support for using non-staple crops such as grasses, trees, and woodchips for American production of ethanol comes from the fact that these inputs can be grown on land that is poorly suited for food crops. While the U.S. pursues research and development to realize full energy potential within the aforementioned plant life, coordinating with tropical countries for sugarcane derived ethanol is a very attractive oil alternative option.

In addition to new prospects in the agricultural sector in America, car producers have the opportunity to build on the success of flex-fuel vehicles (FFVs) seen in ever-increasing sales figures in Brazil and rising demand for rollouts in other countries. FFVs offer consumers what has proven to be a very attractive option in Brazil: aesthetically pleasing, efficient, environmentally sound vehicles. Demand for both FFVs and the ethanol that can be used to power them is rising in both

Japan and Sweden as they use this popular import to help fulfill their commitments to the Kyoto Protocol. As seen in the CAFÉ and other government regulations on the automotive industry, the U.S. government could promote domestic production of FFVs as well as the creation of mass transit vehicles that operate on E85 or alcohol. A promotional campaign with visible examples such as buses that run on E85 would spark consumer interest in a society that is always watching prices at the pump with Middle East oil dependency in mind, in addition to creating new jobs and government revenue.

The United States currently imports 62% of its petroleum needs, and this figure is projected to increase to 77% by 2025. On top of the dependency that such import reliance creates, The U.S. spends roughly \$50 billion annually protecting Middle East oil supplies. In turning attention and resources toward alternative fuels, the U.S. can slowly decouple itself from the Middle East while rekindling relations with a Chavez-leaning Latin America which may help to move forward negotiations in the Doha Development Round. The recent Green Fuel Deal between the U.S. and Brazil promises more collaboration on the technology and development needed to efficiently produce ethanol. What is left to discuss is greater access to the U.S. market for Brazilian suppliers of ethanol, as the current tariff of 54 cents per gallon on Brazilian ethanol imports along with the 51 cents per gallon subsidy on American ethanol heavily distort this energy alternative market. This is where Washington needs to rethink the efficacy of domestic corn-based ethanol production and to go in the direction of the U.S. Energy Department's \$385 million investment in six biorefineries designed to convert cellulose into ethanol.<sup>8</sup>

President Bush has set 2025 as the target year for replacing three-fourths of the oil imported from the Middle East with American ethanol. Such optimism is appreciated, but

what is more important than words is the action that brings truth to those words. It takes hands to make sugar and turn it into ethanol, and it takes hands-on government policy to make a nation energy self-sustainable. It's time to look beyond the invisible hand and to lead the world into the new era of cleaner fuel that Henry Ford spoke of nearly a century ago.

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# The 2006 SEC Disclosure Rulings and the Future of Executive Change-of-Control Contracts

*By Karen O. Spohn*

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This paper examines the expected impact of the new 2006 SEC disclosure requirements on executive change-of-control contracts. This new ruling is examined in the context of existing executive pay theory, historical regulation trends, and current empirical findings. Since the earlier 1992 SEC Ruling, executive pay and the role of the executive in friendly merger markets have increased. Indirect regulation such as the 2006 SEC ruling is beneficial in that it increases transparency of executive change-of-control contracts. Based on the past, however, direct regulation via tax policies to restrict certain components of executive pay have not been successful in capping executive pay and have increased costs for shareholders.

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Public firms began the 2007 proxy season with the new Security and Exchange Commission (SEC) disclosure requirements for executive compensation.<sup>1</sup> These rulings are the most detailed changes to executive compensation in proxy statements since the first major overhaul of executive pay reporting required by the SEC in 1992. Since the 1992 ruling, the disclosure of top executive pay is standardized in comprehensive table formats. These tables provide details of performance- and nonperformance-based pay of the top five executives. Performance-based pay includes executive pay components such as equity ownership, number of exercised and unexercised options, Black-Scholes estimates of stock option value, and long term incentive plans.

Nonperformance-based or flat-based pay includes salary and bonus numbers.

The new 2006 SEC ruling on executive pay disclosure requires a “user friendly” language to report executive pay policies. In addition, the current rulings expand the details of executive pay to include a single total compensation amount, more tables on equity awards, and in particular, more details on change-of-control contracts.<sup>2</sup> It is this latter addition that is the most dramatic shift in disclosure requirements of executive pay since 1992.

The new SEC ruling shares similar objectives with its 1992 predecessor. These objectives promote increased transparency of executive pay reporting and increased standardization for peer comparisons. The 1992 requirements concentrated on executive pay compo-

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nents that affected compensation under normal business conditions (conditions in the absence of a change of control). The 2006 requirements broaden these objectives to include more details and dollar estimates of executive pay under change-of-control conditions.

Prior to the 2006 ruling, change-of-control contracts were available in proxy statements as a paragraph which referenced components of executive pay under normal business conditions that became active under change-of-control conditions. Energetic analysts could approximate dollar estimates of change-of-control contracts from “change-of-control” paragraphs and tables of executive pay on stock and stock options owned by top executives.

Change-of-control contracts generally include lump-sum payments that are a multiple (originally three times) of the base salary with or without a gross-up feature to cover tax penalties. Change-of-control contracts may also include an equity component which could involve acceleration of stock options and restricted stock with Stock Acceleration Rights (SAR). The value of these equity components are dependent on the final bidder price should an acquisition occur.

In the past, component estimates and/or total dollar estimates of the entire change-of-control contract were not generally calculated by the company itself. The new rulings require public companies to provide details including probability and dollar estimates of the executive change-of-control contract.<sup>3</sup> This is one of the most interesting features of the new SEC ruling. It comes on the heels of a major merger wave in the U.S. and Europe. In particular, the required reporting of probability and dollar estimates suggests the importance of the dual role of the executive in both the active merger market and under normal business conditions. The takeover market is no longer a disciplining mechanism for execu-

tives. The increase in the performance-based equity component of executive contracts transformed hostile takeover markets to friendly merger markets of the past two decades.

### **Two Camps of the Executive Compensation Debate**

Academics and practitioners fall into two well known camps of executive compensation theory. Most financial economists support the optimal contracting model of principal-agent theory. According to this theory, executive compensation contracts exist as a result of the company’s efforts to align the manager’s interest with those of shareholders. A major assumption of this theory is that executive contracts minimize agency costs on average.<sup>4</sup> In addition, these contracts develop best where corporate governance is strong and independent Boards of Directors serve the interests of the shareholder over the interest of the manager.

The optimal principal-agent contract is comprised of two key components: performance-based and flat-based pay. Performance-based pay links the manager’s compensation to her performance. The flat-based pay is not linked to the executive’s actions but accounts for uncertainty that is not under the control of the typically risk averse executive.

Managerial entrenchment theory, on the other hand, contends that corporate governance is generally weak, and lucrative executive compensation packages are created as evidence of strong links between managers and Board members. This theory is based on the assumptions that corporate governance at large firms is not strong on average and executive contracts are derived at the cost of shareholders’ interests. Current references to these opposing camps are the “arm’s length optimal contracting model” versus the “managerial power approach.”<sup>5</sup>

### Historical Perspective of Regulation Trends (Direct and Indirect)

The U.S. government's focus and attention on executive pay began as early as the '80s. Government response to executive pay packages came in the form of two types of regulation: direct and indirect. Direct regulation is regulation that addresses the structure of executive pay and specifically references a particular component of the executive compensation contract. This type of regulation typically sets out to control or reduce certain types of executive pay and thus has a direct effect on the structure of the executive compensation contract. The structure of executive pay according to the principal-agent theory consists of two components: performance-based pay, based on the actions of the executive, and flat-based pay that addresses the uncertainty of events that are out of the control of the executive. Direct regulation has traditionally taken the form of tax penalties on flat-based pay via acts of Congress or accounting changes such as expensing stock options via the Financial Accounting Standards Board (FASB) rulings.

Indirect regulation includes the broader scope of corporate governance issues that typically have an impact on the manager shareholder relationship. The objective of indirect regulation is to strengthen corporate governance at public firms by increasing the transparency of executive pay and by increasing the independence of the Board of Directors. The new 2006 SEC disclosure ruling is one example of this type of regulation.

Over the past several decades, both direct and indirect regulations have increased as a result of the combination of changes in tax laws and through SEC and FASB rulings. All of these regulations were adopted over the years with the similar objective to protect shareholder interests. Overall, most of the regulation led to a focus on shareholder interest and improved corporate governance.<sup>6</sup>

While an increase in indirect regulation strengthened corporate governance in a number of firms, a closer look indicates that direct regulation targeted at specific components of executive pay may have actually contributed to the excessive inflation of executive pay over the past decades.

### Direct Regulation

For example, tax policies, in particular, had a direct effect on the structure of executive pay. One of the first significant tax policies began with the 1984 tax penalty on golden parachutes. The "traditional" golden parachute is a lump-sum severance payment triggered by a change-of-control.<sup>7</sup> In 1984, Congress attempted to eliminate or at best limit golden parachutes via Section 280G and Section 4999 of the 1984 Tax Reform Act.<sup>8</sup> Section 280G places a penalty tax on executives who receive golden parachutes that exceed 2.99 times the executive's base salary.

Contrary to Congress' initial objective, the popularity of golden parachutes has grown in number, size, and variation. Initially, firms responded to the 1984 tax with a "cutback approach." The cutback approach is a cap on payments at 2.99 times the base amount as defined by Section 280G of the Internal Revenue Code. Firms' decisions regarding Section 280G may have reflected trends in merger markets more than trends in tax penalties. The early '80s saw limited acquisitions followed by the active hostile takeover markets of the late '80s where firms that survived takeovers restructured to become a less attractive target.<sup>9</sup>

Takeovers were originally thought of as disciplining mechanisms for inefficient managers. Successful takeovers generally result in the replacement of target management. In a takeover market, shareholders of target firms benefit from an increase in stock prices. The alignment of executive pay under change-of-control conditions became important to entice

target management to negotiate mergers with target shareholders' interests in mind. It is no surprise that a friendly merger wave arose in the late '90s for two reasons related to executive pay. First, more firms provided executives golden parachutes with additional tax features such as modified caps<sup>10</sup> and gross-up provisions<sup>11</sup> replacing the initial response of a cutback approach. Second, stock ownership by executives increased, and performance-based pay replaced flat-based pay, which was capped by more tax policies by Congress.

The 1990s began the era of performance-based pay backed by both practitioners and academics.<sup>12</sup> In response, tax policy was created to cap salaries and other nonperformance-based pay. For example, in 1993, Congress passed the Federal Revenue Reconciliation Act which disallows a corporate tax deduction on executive compensation that exceeds one million dollars. Compensation that meets performance-based criteria is exempt, however. The focus of IRC Section 162(m) is to encourage more performance-based pay in executive compensation contracts.

The tax policy that attempted to cap executive pay components did little to reduce overall pay packages. In fact, specific component caps may have actually led to increases in costs to shareholders. Some have suggested it squeezed flat-based pay into pensions and other avenues that are less transparent.<sup>13</sup> The other detailed requirements of the 2006 SEC ruling may offer better insight into this area.<sup>14</sup>

In addition, during the same time, equity pay became a greater percentage of executive pay. Stock options for executives, in particular, became even more attractive since they appeared as footnotes and were not recorded as expenses on company income statements. In response to the growing stock option trend, FASB in 1994 started to review the issue of expensing stock options on income statements. A decade later in 2003, companies

began voluntarily expensing stock options in anticipation of the official adoption of FASB 123 (R) in 2004 which required the expensing of options by public companies effective June 15, 2005. The result was that company use of stock options declined and their use of restricted stock increased.<sup>15</sup>

Other specific components have been targeted as well as a quick response to excesses. With respect to executive compensation specifically, Sarbanes-Oxley banned loans to CEOs. This ban was limited and primarily responded to the extravagant loans made to WorldCom's CEO.<sup>16</sup>

### **Indirect Regulation**

Similarly, the last several decades have also witnessed increased regulation with respect to broader corporate governance issues that affect executive compensation at U.S. public companies. The wave of increased transparency and government scrutiny of executive pay began with the 1992 SEC standardized reporting of executive pay in proxy statements.

In addition to the 1994 tax penalty on flat-based pay, the criteria that defined the performance-based exemption to the 1994 tax code were equally as important. These criteria included oversight by a compensation committee comprised of two or more outside directors. In 1996, the SEC amended Rule 16b-3, which further refined the "independence" of compensation committees by redefining "independence" in terms of relationships and interactions among directors and CEOs rather than on stock plan eligibility.<sup>17</sup> In 2003, SEC approved listing requirements adopted by NYSE, NASDAQ, and AMEX. These requirements emphasized the independence of directors and confirmed the trend that had already started in 1993.<sup>18</sup>

In 1998 the SEC passed amendments which merely validated its earlier 1992 shift in philosophy to allow some shareholder proposals on executive compensation.<sup>19</sup> This merely

supported the behind-the-scenes shareholder activism that had already been started by large institutional investors. For example, large institutional investors like The California Public Employees' Retirement System (Calpers) pressured firms like PeopleSoft in 2004 to change its executive compensation without the need for a proxy fight.<sup>20</sup>

On July 25, 2002, Congress passed the Sarbanes-Oxley Act. The major feature of that Act was to create the Public Company Accounting Oversight Board (PCAOB) to monitor and regulate the auditing process at public firms. The indirect effects of the Sarbanes-Oxley Act with respect to executive compensation supported existing trends in strengthening corporate governance with more disclosure and the independence of nominating and compensation committees.

### **Empirical Findings on Executive Pay Trends**

Overall, indirect regulation strengthened corporate governance which increased during the '90s and into the present as is evidenced in the increase of the independence of outside directors.<sup>21</sup> Many believe, however, the large increase in executive pay is a symptom of the weak corporate governance that still exists.<sup>22</sup> Others attribute the growth in executive pay to the large increase in firm value coupled with the large increase in executive firm ownership. CEO equity ownership was encouraged by direct regulation via tax policies to reduce nonperformance-based pay. As a result of equity ownership, executive pay increased sixfold from 1980 to 2003. Most of this increase is based on an increase in firm valuation of large firms during this period.<sup>23</sup> Accounting rules prior to 2005 allowed stock options to be the favored equity avenue since they appeared in footnotes and were not expensed on income statements. The accounting change to expense stock options has led to an increase in restricted stock as the replacement equity component.<sup>24</sup> For normal busi-

ness conditions (absence of change of control), the debate continues as to the optimal level of stock- and option-based pay. In fact, some economic research suggests that CEOs should not hold any stock options.<sup>25</sup> Others provide an explanation that options are an important component of the optimal contract for loss-averse managers versus the stock grants for the classical risk-averse manager.<sup>26</sup>

Increased stock ownership by executives also contributed to the merger friendly wave of the late '90s and the wave of the current decade which peaked in 2007. The increased importance of the target management's role in a merger friendly environment demands that new SEC disclosure requirements include more information on change-of-control contracts.

### **2006 SEC Ruling and the Future of Change-of-Control Contracts**

With the 2006 SEC disclosure rulings, increased transparency continues to be an important corporate governance issue. Despite some possible negative effects, most academics and practitioners support indirect regulation that improves transparency. Some minor concerns exist about increased disclosure of executive pay. One concern is that disclosure and peer comparison may have a ratcheting up effect.<sup>27</sup> The spread of "bad habits," however, can happen without the assistance of proxy disclosure. Compensation consultant and peer evaluations contribute to the shared knowledge of pay techniques among executives at public firms. This was evidenced in the backdating scandals that affected a number of firms. Backdating was possible since the original date of the strike price was never required in proxy statements although the activity was "learned" and passed from firm to firm through some other medium. A second concern of disclosure is the psychological effects and social pressures on an executive whose pay is revealed and com-

pared. Further exploration in this area is left to the growing realm of research ideas for behavioral economists. A third concern is that the revelation of details of executive pay may have an adverse effect in that government, in response to political pressure, will rush to regulate.

Thus, it is beneficial to apply lessons in regulation that were experienced since the last SEC disclosure overhaul in 1992. As mentioned, the 1992 SEC Rulings focused on executive pay under normal business conditions (in the absence of a change of control). Consequently, an increase in both indirect and direct regulation on executive pay under normal business conditions followed. As mentioned, some forms were more successful than others in adhering to their original objective, which was to serve shareholders' interests through the design of the optimal agent contract.

For example, indirect regulation like increased corporate governance requirements improved oversight by Boards of Directors and spotlighted director independence and accountability. Direct regulation through FASB changes were beneficial in that they ensured executive stock options were reflected in the bottom line of public firms. Contrarily, actions by Congress to create tax policies to limit or cap certain pay components have led to additional costs to shareholders, particularly when a change of control is considered. For example, encouraged by merger waves that followed the '80s, firms responded to the tax penalty caps on golden parachutes with "grossed up" features that pushed the tax burden off the executive and onto the shareholder.

In addition, Congress' tax penalties in the '90s that capped nonperformance-based pay contributed to the increase in the percentage of equity-based pay in overall executive compensation packages. When change-of-control contracts are considered, some studies suggest

the overuse of stock options and equity contribute to an underselling of target firms. CEOs with higher holdings of stock and options are more likely to get acquired, accept lower premiums, offer less resistance, and more often leave after the acquisition.<sup>28</sup>

The new role of the executive in the friendly merger markets of today make the change-of-control contract more relevant and more important to understand. Bengt Holmstrom and Steven Kaplan provide a summary of

**A new model of takeover theory suggests target firms are undervalued and acquirers are overvalued based on Market to Book value ratios.**

research on takeovers and argue that corporate governance issues and resulting increase in stock options led to the merger friendly era of the '90s.<sup>29</sup> As mentioned, takeovers were traditionally considered a disciplining device for inefficient management as target management are replaced and target shareholders benefit from increased stock prices. The increase in equity has better aligned target management interest with those of target shareholders. Further evidence indicates that target firms are typically low Q firms and acquirers are high Q firms.<sup>30</sup> More recently, a new model of takeover theory suggests target firms are undervalued and acquirers are overvalued based on Market to Book value ratios.<sup>31</sup> Matthew Rhodes-Kropf, David Robinson, and S. Viswanathan offer a possible explanation that high short run value firms acquire targets with high long run value.<sup>32</sup> This suggests executives have different goals when the probability of a change of control increases in an active merger market.

The timing of the disclosure requirements

is important. The 1992 disclosure requirements came at the end of an inactive acquisition period (1990-1991) and preceded the 1990s merger wave. The 2006 disclosure requirements (effective in 2007) come at what appears to be the end of the current merger wave. The credit crunch that began in 2007 is likely to slow activity in the takeover arena. At the same time, according to the 2006 SEC Ruling, firms will provide dollar and probability estimates for change-of-control contracts. Similar to contract components of normal business conditions where pay is subject to meeting certain criteria and objectives, pay under change-of-control contracts is even more uncertain. The current credit crunch may play a role in suppressing the merger market and thus suppressing estimates of current change-of-control contracts. Dollar estimates of actual executive payouts depend on bidder offer prices and the firm's own interpretation of its expected synergy gain. This information is pair dependent and also involves inside information of the company's own assessment of its worth as a target firm.

It is still a question as to whether change-of-control contract reporting will provide more efficient markets of information in merger deals or at best rough minimum estimates. The additional requirements of the 2006 SEC ruling will certainly standardize the process of change-of-control contract estimation and comparison by academics and practitioners. The merit of these estimates will play out in the next merger wave as the actual values and probabilities are realized and compared. One thing is guaranteed: there will be more research and debate, more administrative costs, and more opportunities for consultants on executive pay.

In the meantime, government should allow practitioners and academics to digest and examine this new information. Government should maintain increased trends in indirect regulation that strengthens the independence

of Boards and support institutional shareholder activism to provide strong corporate governance, which is a belief of the managerial power approach and an assumption of the optimal principal-agent contract. In addition, direct regulation that keeps all components of executive pay consistently revealed in the business' bottom line through FASB oversight is beneficial. Until the first two have been successful, government should refrain from direct regulation involving tax policies that limit or cap specific components. The past has proven that this intervention only leads to overuse of another pay structure and an inefficient increase in executive pay. This reasoning may make sense in an economist's optimal payment contract that emphasizes efficiency gains but will be harder to sell in political arenas when a slowing housing market and tightening financial markets highlight issues of inequity like relative pay. ♦

## Endnotes

<sup>1</sup> See SEC Release No. 33-8655 on January 27, 2006. On December 22, 2006, the SEC adopted an amendment for reporting stock and option awards consistent with Financial Accounting Standards Board (FASB) Financial Accounting Standards (Carleen, Lewis, and Rothenberg 2007.)

<sup>2</sup> Cumberland, Brian and Ivy, J.D. (2006). SEC Proposes to Broaden Disclosure of Golden Parachute Payments. *Benefit Law Journal*, 19(3), 49-54.

<sup>3</sup> *Id.*

<sup>4</sup> Core, John E., Guay, Wayne R. and Larcker, David F. (2003). Executive Equity Compensation and Incentives: A Survey. *Federal Reserve Bank of New York Economic Policy Review*, April, 27-45.

<sup>5</sup> For a complete comparison of "arm's length optimal contracting model" and "managerial power approach," see Bebchuk, Lucian and Fried, Jesse (2004). *Pay without Performance The Unfulfilled Promise of Executive Compensation*. Cambridge: Harvard University Press.

<sup>6</sup> Holmstrom, Bengt and Kaplan, Steven N. Corporate Governance and Merger Activity in the United States: Making Sense of the 1980s and 1990s. *The Journal of Economic Perspectives*, 15(2), 121-144.

<sup>7</sup> Firms typically define change-of-control as a change occurring: (a) by virtue of mergers or consolidations, sale or transfer of assets, (b) by virtue of a change in the majority of

Directors during two-year period not approved by two-thirds vote, (c) through the acquisition of shares representing 20 percent or more of the voting power of the firm, or (d) through any change-of-control reported in any filing with the Securities and Exchange Commission, provided acquisition of shares is not by the firm, a firm subsidiary, or a firm-sponsored employee benefits plan.

<sup>8</sup> Section 280G of the Internal Revenue Code of the Tax Reform Act of 1984 subjects recipients of “excess parachute payments” to a 20% nondeductible excise tax. In addition, under provisions of section 4999, excess parachute payments are not deductible by the paying corporation. An excess parachute payment is the amount of the payment which exceeds 2.99 times the base amount. The base amount is the average annual taxable compensation for the five-years preceding the change-of-control. Once a payment is determined an excess payment the tax applies to not just the excess but to the amount that exceeds one times the base amount.

<sup>9</sup> Holmstrom and Kaplan, *supra* n. 6.

<sup>10</sup> The modified cap limits the parachute payment only if it increases the executive’s after-tax benefits.

<sup>11</sup> Under gross-up provisions, corporations agree to make the executive whole by paying him an amount sufficient to cover the excise tax on any excess parachute payment. The gross-up payment is itself subject to the excise tax.

<sup>12</sup> Jensen Michael C. and Murphy, Kevin J. (1990). CEO Incentives: It’s Not How Much You Pay, but How. *Harvard Business Review*, 68, 138-153.

<sup>13</sup> Bebchuk and Fried, *supra* n. 5.

<sup>14</sup> In 2006 the SEC adopted new disclosure requirements that required even more detailed reporting on aspects of executive pay such as deferred compensation, fringe benefits and change-of-control contracts. A total dollar value that quantifies all executive compensation is also required. These changes were effective in December 2006 proxy statements. Some companies started to incorporate changes in executive contracts in anticipation of new rulings and policies.

<sup>15</sup> Balsam, Steven, O’Keefe, Sebastian and Weidemer, Mark M. (2007). Frontline Reaction to FASB 123(R). *Journal of Accountancy*, April, 54-56.

<sup>16</sup> Coates, John C., IV (2007). The Goals and Promise of the Sarbanes-Oxley Act. *Journal of Economic Perspectives*, 21(1), 91-116.

<sup>17</sup> Wood, Richard E. (2004). How Independent is Your Compensation Committee? *Benefits Law Journal*, 17(4), 82-97.

<sup>18</sup> Bebchuk and Fried, *supra* n. 5.

<sup>19</sup> Marino, Lori B. (1999). Executive Compensation and the Misplaced Emphasis on Increasing Shareholder Access to the Proxy. *University of Pennsylvania Law Review*, 147(5), 1205-1260.

<sup>20</sup> *IOMA’s Pay for Performance Report* (2004), 04(7), 15.

<sup>21</sup> Murphy, Kevin J. (2002). Explaining Executive Compensation: Managerial Power versus the Perceived Cost of Stock Options. *University of Chicago Law Review*, 69(3), 847-870.

<sup>22</sup> Bebchuk and Fried, *supra* n. 5.

<sup>23</sup> Gabaix, Xavier and Landier, Augustin (2006). Working Paper 12365, <http://www.nber.org/papers/w12365>.

<sup>24</sup> Balsam, O’Keefe, and Weidemer, *supra* n. 15.

<sup>25</sup> Dittmann, Ingolf and Maug, Ernst (2007). Lower Salaries and No Options? On the Optimal Structure of Executive Pay. *The Journal of Finance*, February, 62(1), 303-343.

<sup>26</sup> Dodonova, Anna and Khoroshilov, Yuri (2006). Optimal Incentive Contracts for Loss-Averse Managers: Stock Options versus Restricted Stock Grants. *The Financial Review*, 41(4), 451-482.

<sup>27</sup> Bebchuk and Fried, *supra* n. 5.

<sup>28</sup> Cai, Jie and Vihj, Anand M. (2007). Incentive Effects of Stock and Option Holdings of Target and Acquirer CEOs. *The Journal of Finance*, August, 1891-1933.

<sup>29</sup> Holmstrom and Kaplan, *supra* n. 6.

<sup>30</sup> Jovanovic, Boyan and Rousseau, Peter L. (2002). The Q-Theory of Mergers. *The American Economic Review*, 92(2), 198-204.

<sup>31</sup> Rhodes-Kropf, Matthew, Robinson, David T., and Viswanathan, S. Valuation Waves and Merger Activity: The Empirical Evidence. *The Journal of Financial Economics*, 77, 561-603.

<sup>32</sup> *Id.*



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