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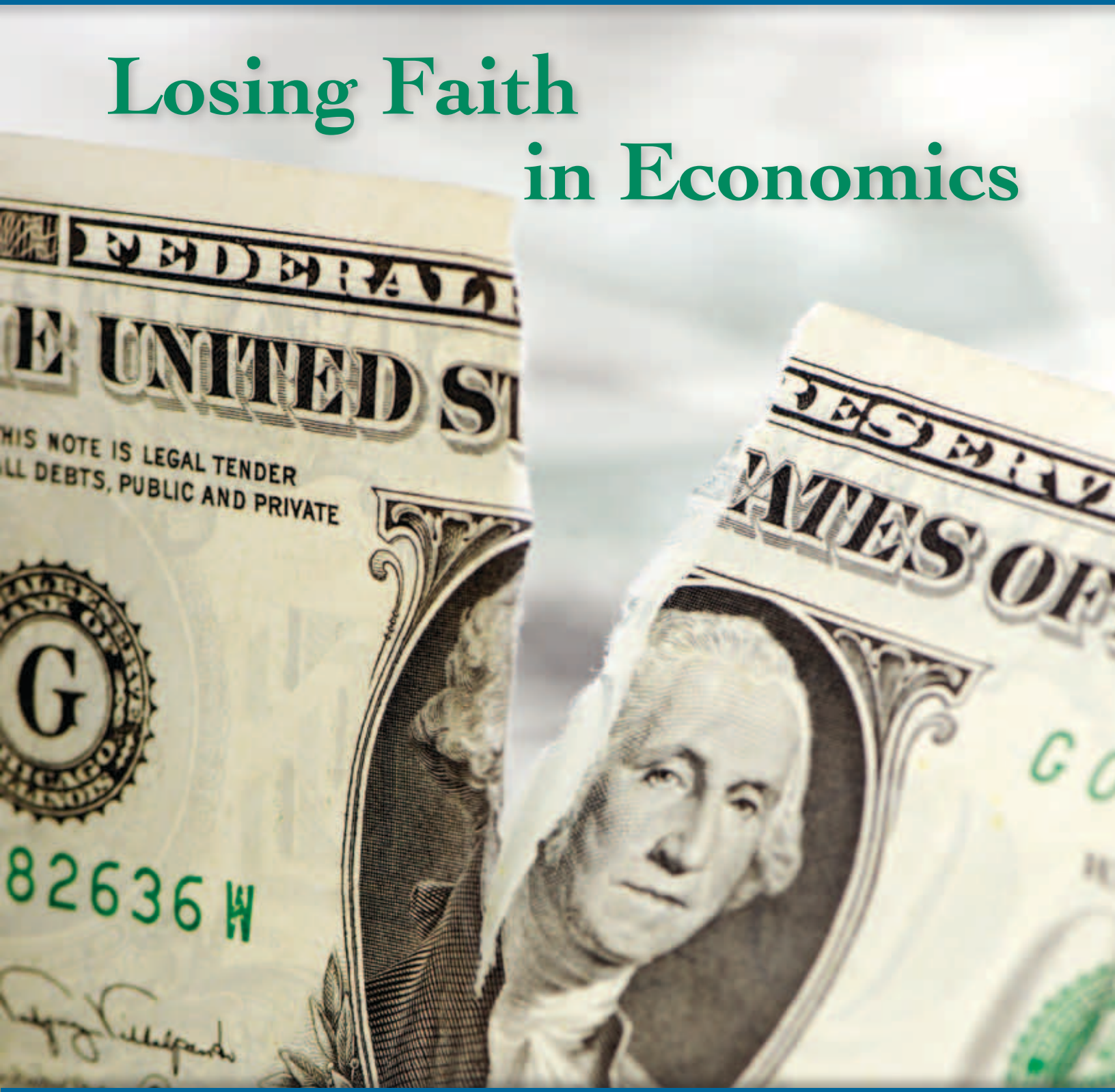
Losing Faith in Economics



Interfaith Center on Corporate Responsibility

Inspired by Faith, Committed to Action

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The End of Faith-Based Economics

By John Gowdy, Charles Hall, Kent Klitgaard and Lisi Krall

"The perpetuation of neoclassical economics, usually to the exclusion of other possible approaches, is essentially the substitution of faith for reason."

The last century has seen the ascendancy, indeed intellectual dominance, of neoclassical welfare economics (NWE), also known as neoclassical economics. The basic NWE model represents the economy as a self-maintaining circular flow among firms and households, driven by the psychological assumptions that humans act principally in a materialistic, self-regarding and predictable way. As such NWE violates a number of physical laws and is inconsistent with considerable empirical evidence about human behavior. The NWE model is unrealistic and a poor predictor of people's actions, as an array of experimental and physical evidence and recent theoretical breakthroughs demonstrate.

Despite the abundance and validity of these critiques, few economists seriously question the neoclassical model that forms the foundation of their applied work. This is a problem because policy makers, scientists, and others turn to economists for answers to important policy questions. The supposed virtues of privatization, free markets, consumer choice and cost benefit analysis are considered to be self-evident by most practicing economists, as well as many in business and government.

We offer a review and synthesis of NWE, paying particular attention to the lack of connection of NWE to biophysical reality and its inadequate characterization of human behavior. We end by sketching alternative characterizations of human behavior and economic production. When all the criticisms are taken as a whole it is clear the NWE framework stands on an untenable foundation and that some other basis for interpreting economic reality must be found. It is clear that NWE is very limited in its usefulness and cannot guide us in our attempts to deal with the most important issues of our time, such as the depletion of oil and gas, climate change, financial crises, and the destruction of nature.

SOME FUNDAMENTAL MYTHS OF NWE

The edifice of NWE is built on myths and based on an outdated worldview. These myths are not merely harmless peccadilloes, because they provide the foundation upon which economic policy is made and cultural attitudes are distilled. Thus the worldview and policy prescriptions of most economists can only be described as "faith-based" because many fundamental tenets of economics are inconsistent with economic reality.

Myth 1: A theory of production can ignore physical and environmental realities.

Real economies are subject to the forces and laws of nature, including thermodynamics, the conservation of matter and a suite of environmental requirements. NWE does not reflect the fact that economic activity requires the inputs and services of a finite biophysical world which is usually degraded by that activity.

Myth 1a: The economy can be described independently of its biophysical matrix.

NWE is a model depicting abstract exchange relations considered only as goods and services and money within a world unrealistically limited to markets, firms, and households. Real economies require real material and energy to allow that exchange, and economic activities are limited by the material and energy transformations necessary for economic activity. Students are introduced to the misleading Circular Flow Model of the economy in the first days of Principles of Economics. This conceptual vision of the economy is one of a self-contained and self-regulating system independent of the biophysical system and its laws. There are but two sectors, households and firms, with goods and services going from firms to households, and productive inputs (land, capital and labor) going from households to firms.

Households serve as loci of consumption and possessors of property rights to the factors of production. Firms exist to produce and to hold property rights to the finished commodities. These property rights are willingly exchanged in markets for money. Neither monetary value nor physical materials are lost to heat or erosion as inputs are transformed into goods and services. Thus the NWE theory of production is not a model of production at all, but rather a model of the distribution of productive inputs and the goods they had produced previously. No specific primary inputs from nature are essential in this model.

The NWE notion of scarcity is disconnected from biophysical reality for it is never absolute but only relative to unlimited wants. In this model if we are confronted by the limits of one resource, the imaginative human mind, driven by the proper set of monetary incentives and protected property rights, will always create a substitute. No input is critical, therefore neither absolute scarcity nor the need of any particular resource is a problem in the long run. Thus in the NWE world the economy can simultaneously experience relative scarcity and infinite growth. Competitive prices, formed in markets, assure that resources flow to their best use.

Nicholas Georgescu-Roegen, and his student Herman Daly, were among the first to point out the absurdity of this depiction of production. Real economies cannot exist outside the global biophysical system, which is essential to provide energy, raw materials, and a milieu

within which it can operate and assimilate wastes (Georgescu-Roegen, 1975; Daly, l977). Hence their first step to make the economic model consistent with reality is to put the economy *inside* the global biophysical system. Some natural scientists have gone several steps further. Several writers (Cleveland et al. 1984; Hall et al., 1986, 2001; and Wilson, l998) demonstrate clearly that the NWE model is unacceptable because: 1) its boundaries are drawn incorrectly and 2) the model is *de facto* a perpetual motion machine because it has neither energy inputs nor entropic loss. The model is incorrect at its core, for while money may cycle seemingly indefinitely among goods and services, the real economic system cannot survive without continual inputs from, and outputs to, nature.

Myth 1b: Economic production can be described without reference to physical work.

The economists' model of production does not require any specific physical inputs but is solely an exchange of existing inputs among firms. The economic process is driven not by the availability of physical resources, but rather by human ingenuity as depicted in the still widely used Cobb-Douglas function: $Q = AK^{\alpha}L^{1-\alpha}$ where α represents capital's share of output, 1-α stands for labor's share, and $1 > \alpha > 0$.The quantity of output produced (Q) is a function of capital (K) and labor (L) multiplied by some constant A, considered pure technological change. Technology is independent of the inputs of land and capital and is calculated as a residual left when the contributions of the measured factors are subtracted from the growth rate of total economic output. Not surprisingly the residue tends to increase over time. Thus technology is an amorphous force that cannot be measured directly but can increase the productive power of the economy without limit. With the assumption that there are no diminishing returns to technology, there is no need to worry about physical work or the scarcity of any particular productive input.

The preoccupation with pure technological change as the driver of economic growth has caused economists to virtually ignore the critical importance of energy in powering the modern economy (e.g. Denison 1989). By contrast, many natural scientists have concluded that the explosion of economic activity during the twentieth century was due primarily to the increase in the ability to do work through the expanding use of fossil fuel energy. Additionally, the economist's technology residual disappeared when energy was included as an input, and that energy as a factor of production was *more* important than either capital or labor for Germany, Japan and the United States in recent decades (Hall et al., 2001). Likewise Ayers and Warr found that most "improvements" in technology have been simply an increase in the quantity of energy used or the efficiency of getting it to the point where the work is done (Ayers and Warr, 2005). Although NWE models purport to show that technology alone has driven the industrial economy, historically, at least, it has been a technology that mostly has found new sources of, and applications for, energy.

Myth 2: A theory of consumption can ignore actual human behavior.

Just as NWE production assumptions violate principles of physics, its assumptions about human behavior are inconsistent with a large body of psychological and neurological research. It is well established that real human beings are other-regarding, that is, how one person

values a certain economic outcome depends on how much it is valued by others. It is also well established that the consumption of market goods cannot be equated with an individual's happiness. Nevertheless, the fundamental behavioral assumptions of NWE require self-regarding consumers whose happiness depends upon their consumption of market goods. The cultural context of behavior is deemed irrelevant to economic analysis as the emphasis is entirely on the behavior of the isolated individual.

Myth 2a: *Homo economicus* is a scientific model that does a good job of predicting human behavior.

At the heart of standard economic theory is the model of human behavior embodied in *Homo economicus* or "economic man." Economic texts usually begin with a very general statement about human nature that is soon codified into a set of rigid mathematical principles resting upon the idea that "people maximize their well-being by consuming market goods according to self-regarding, consistent, constant, well-ordered, and well-behaved preferences." The assumption that people are self regarding has been falsified by considerable contemporary work in behavioral economics, neuroeconomics, and game theory (Gintis, 2000, Camerer and Loewenstein, 2004; Heinrich, 2001). For example, Henrich and colleagues, after examining the results of behavioral experiments in fifteen societies ranging from hunter-gatherers in Tanzania and Paraguay to nomadic herders in Mongolia conclude: "[T]he canonical [NWE] model is not supported in any society studied." (Heinrich, 2001). Gintis describes several experiments showing that humans are both far more altruistic and far more vindictive than the rational actor model allows (Gintis, 2000). They will make decisions to punish persons they will never again encounter if those people cheat in experimental transactions, even if this means considerable monetary loss to themselves. In experimental settings and under real-world conditions, humans consistently make decisions that favor enforcing social norms over ones that lead to their own material gains.

The centrality of the behavior of isolated individuals is reflected in the notion that consumers are sovereign in a market economy. Ackerman and Heinzerling point out that the rise of economic orthodoxy put consumers at the center of analysis. The idea is that producers respond to consumer preferences rather than the reverse (Ackerman and Heinzerling, 2004). Yet we all know that, in fact, consumer tastes are manipulated and that firms barrage us with advertising in order to increase their market share. Nonetheless, the centrality and preeminence of the individual in orthodox economic analysis precludes any analysis or emphasis on the context of individual behavior.

Myth 2b: Consumption of market goods can be equated with well-being and money is a universal substitute for anything.

Most economic texts simply equate utility with happiness and assume that utility can be measured indirectly by income without any substantive or formal discussion of the matter (Frey and Stutzer, 2002). The higher the per capita income, the better off a particular society is supposed to be. Yet there is considerable evidence that past a certain point income is a

positional good; that is, if everyone's income goes up there is little or no long-term gain in social well-being. This implies that policies designed merely to increase per capita income may have little effect if the goal is to improve social welfare.

Psychologists have long argued and documented that well-being derives from a wide variety of individual, social and genetic factors. These include genetic predisposition, health, close relationships, marriage, and education — as well as income (Frey and Stutzer, 2002). It is generally true that people in wealthier countries are happier than people in poorer countries, but even this correlation is weak and the happiness data show many anomalies (Diener et al., l995). For example, some surveys show that people in Nigeria are happier than people in Austria, France and Japan (Brickman et al., 1978; Blanchflower and Oswald, 2000; Lane, 2000). Past a certain stage of development, increasing incomes do not lead to greater happiness. For example, real per capita income in the U.S. has increased sharply in recent decades but reported happiness has declined (Meyers, 2000).

When economists equate utility with income in the NWE model this affects the policy recommendations of economists which impact the natural world. According to Arrow and colleagues, "sustainability" means simply maintaining the discounted flow of income over time (Arrow et al., 2004). Leaving future generations the same or greater real income than the present leaves them at least as well-off no matter what happens to specific features of the natural world. By this reasoning if the present discounted value of a rainforest is $1 billion in ecosystem services if left intact, but can generate a discounted investment flow of $2 billion if it is clear cut and sold, then it is the moral responsibility of the present generation to cut down the rainforest. With $2 billion the future generation could buy another rainforest or something of equal value and have $1 billion left over. This is the logic that is used by economists to justify the extinction of a substantial portion of the planet's ecosystems and species (Gowdy, 2004).

WHY THEORY MATTERS

It is in the policy arena that the ideological nature of NWE reveals itself most completely. Most economists substitute the mythical NWE world of rational agents, certainty and perfect information for the complex reality and uncertainty of real economies. Where reality and the neoclassical model disagree, reality is increasingly forced through policy to conform to the neoclassical model (Makgetla and Seideman, l989). Neoclassical economists generally assume that people always respond rationally and consistently to price signals, therefore the goal of economic policy is to assign property rights and get the prices right. The corollary assumption is that things of value to people have a price, and anything without a market formed price must lack value. Prices are theoretically capable of reflecting all the relevant attributes of any good or service and all that people value. The rest of us are asked to take the validity of their assumptions and analyses on faith, and to turn our complex decision making increasingly over to barely regulated markets and cost benefit analyses. This emphasis frequently leads to fundamental policy-related failures and problems that include the following:

1. The ultimate policy goal of NWE is not to correct any particular problem directly but rather to correctly value the problem in terms of everything else so that the calculating machine of the market can establish the pecking order of priorities. The focus on establishing general market equilibrium frequently means neglecting essential details of the policy problems under consideration, especially those for which it is difficult or impossible to determine a price (i.e. oil depletion, environmental degradation and global climate change).

2. The NWE model makes no qualitative difference between needs and wants, even the most trivial of them, or among commodities produced, or among specific productive inputs, including energy. Everything we find useful is treated like an abstract commodity substitutable for and by anything else. Absolute scarcity does not exist nor, within certain broad limits, are any specific conditions deemed necessary for human existence. Value is a relative matter expressed in relative prices. Because no single thing is essential, substitution among resources and commodities will occur until the marginal value of a commodity divided by its prices is the same for all commodities. At this point rational individuals have made optimal choices, and the sum of all optimal choices leads us to the "best of all possible worlds."

3. The model assumes that aggregate income is a complete and sufficient measure of well-being. Operationally this means that total costs and benefits of policies can be determined by merely adding the monetary changes in the incomes of all isolated individuals affected. This implies that relative income effects don't matter to the individual – for example a loss of $1,000 to a poor person can be more than compensated for by a gain in $1,100 to a billionaire. Similarly, preferences are considered to be exogenous to social context. Yet numerous studies have found that relative income effects matter and sometimes these effects can completely cancel out increases in total income which is always the primary goal of NWE. How much one person values a gain or loss depends on what others get, the income of each person relative to others, the fairness (or not) of the income change and a variety of other social factors which are not included in the NWE model.

4. "Sustainability" in the NWE model means sustaining only the discounted flow of per capita income, not anything else such as biodiversity, oil stocks, human health or social cohesiveness. This is known as weak sustainability. However, to live within nature's limits, we need to arrive at the conditions of strong sustainability, which requires that the profits from the depletion of a resource or degradation of an ecosystem are reinvested in developing alternatives or restoring degraded systems. This entails looking at the bigger picture of how market systems function and interface with the biophysical world. Consequently one cannot arrive at a social decision to achieve an optimal macroeconomic scale by merely aggregating many separate efficient market outcomes.

NWE dominates policy making yet provides an inadequate toolbox for confronting the major problems of the present world: global climate change, biodiversity loss, oil depletion, loss of wilderness and the recalcitrant problems of poverty and social conflict. We are led to believe that our most pressing environmental and social problems can be dealt with effectively by simulating efficient market outcomes as if this provides the elixir for all that ails us. Yet we know that the concept of market efficiency rests on an untenable and faulty foundation and

that the real market economy is not best described in this framework. But the perpetuation of neoclassical economics, usually to the exclusion of other possible approaches, is essentially the substitution of faith for reason, science and empirical testing in many areas of economics. We must move beyond this "faith-based" economics and find a more illuminating way of understanding economic activity and informing decision making so that our policies will amount to something more than window dressing for the status quo.

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Why Join ICCR?

WHO IS ICCR?

The Interfaith Center on Corporate Responsibility (www.iccr.org) is a membership organization which seeks a global community built on justice and sustainability through transformation of the corporate world.

Founded in 1971, at a time when the power of several social and religious movements converged, ICCR members first gained international attention for their efforts to end apartheid in South Africa. Today ICCR members are at the center of the Corporate Social Responsibility movement they began nearly forty years ago. Faith guides and shapes our priorities and we seek members and partners who embrace collaboration within this context. By promoting the transformation of corporate policies and practices, our members are certain that they are building a more just and sustainable world.

WHY BECOME A MEMBER OF ICCR?

ICCR members have a long tradition of work in areas of human rights, environmental stewardship and corporate governance. ICCR provides members with the research, resources and tools necessary to promote real changes in corporate practice and behavior. Members have the opportunity to be well-informed about cutting-edge issues in corporate social responsibility.

Working with ICCR, members sponsor shareholder resolutions, engage in dialogues with corporate management, participate in public hearings, partner with community organizations and raise awareness of issues through broad-based, outreach campaigns to key decision makers.

As we look towards the future, our growing coalition seeks new members who bring with them new visions and fresh ideas. The Interfaith Center on Corporate Responsibility is committed to broadening our membership by actively reaching out to all communities of faith who share our goals.

In short, ICCR members are inspired by faith and committed to action, as we work together to bridge the divide between morality and markets.

Please join us.

For more information or to become a member of ICCR please contact ICCR's Member Relations Associate Allison Lander at alander@iccr.org or 212-870-2984.

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