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**Better Principles: New Approaches to Teaching
Introductory Economics**

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Better Principles: New Approaches to Teaching Introductory Economics¹

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Each year over a million students in the United States take some version of an introductory economics course. The understanding of economics that these students come away with will, in many cases, provide their only basis for understanding economic issues. Those who go on to major or minor in economics will have some further exposure to economic thinking. But most students will gain little understanding of anything beyond the standard, "mainstream" neoclassical model of economic analysis.

Despite frequent claims to be "value-free" or "value-neutral", the neoclassical perspective contains a significant ideological bias. Some of the most important aspects of this bias include:

- Very limited treatment of environmental and ecological problems
- Glossing over realities of class, race, and gender divisions and discrimination
- Very limited treatment of income and wealth inequalityThe acceptance of current institutional structures as given
- The misrepresentation of these institutional structures as being consistent with models of perfect competition, ignoring concentrations of economic power
- Acceptance of increased consumption as the primary measure of wellbeing

While some economics instructors are comfortable with the standard model, others are aware of these inherent biases, and try to compensate by assigning additional readings or introducing the issues into lectures and class discussion. In doing so, they generally have to "fight the text". These instructors would be greatly aided in their efforts to impart a sounder understanding of economic systems if they had access to better teaching materials. They need to be able to present important aspects of standard economics such as supply and demand, the theory of monopoly, and basic trade theory, while also emphasizing institutional, social, and ecological realities.

Three possible approaches to this problem are:

- (1) Provide a critical commentary on existing texts
- (2) Provide modular educational materials to supplement existing texts
- (3) Provide a better text

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Dr. Steven Cohn, of Knox College, is working with the Global Development and Environment Institute (G-DAE) on the first of these. In-house, G-DAE's Theory and Education Program is focusing on strategies (2) and (3).

Modular educational materials

In dealing with environmental issues, a major limitation of standard economic theory is the almost exclusively microeconomic approach to the theory of environment and resources. This has a number of serious, sometimes crippling, implications for the understanding of environmental issues:

- The microeconomic perspective strongly implies that anything of importance can be expressed in terms of price. It is also oriented towards an imaginary world in which everything is a commodity, usually privately owned. In its extreme form, sometimes known as “free market environmentalism”, and amply represented in the appointees of the incoming U.S. administration, this tends toward absurdities such as the privatization of national parks and “voluntary” environmental regulation. But even divorced from such right-wing ideological fervor, a market approach to the environment is inherently biased towards the economically profitable use of resources rather than conservation. The neoclassical economist who genuinely seeks to defend the environment will argue that there are real values involved in the preservation of open land – including recreational, esthetic, and existence or bequest values – yet will find that these values are almost always swamped in practiced by the hard-cash valuation of current market uses.
- A microeconomic perspective also makes it very difficult to focus on the inherently “macro” environmental issues such as global climate change, ocean pollution, ozone depletion, population growth, and global carbon, nitrogen, and water cycles. Nearly a decade ago Herman Daly first decried the lack of an environmental macroeconomics,² and while since then there has been some progress among ecological economists in examining these macro questions, no significant changes in perspective have filtered into standard economics.
- Standard environmental economics, like all economics courses, too easily falls into the trap of excessive abstraction and quantitative analysis. Both of these, of course, have their place. But when environmental economics becomes a course *only* in the calculation of present values, inter-temporal equilibrium prices, and “optimal” pollution levels, with the blackboard or the PowerPoint slides full of complex diagrams and equations, the student’s interest and enthusiasm regarding environmental issues is lost.

² Daly, Herman E. “Elements of Environmental Macroeconomics.” Chapter 3 in *Ecological Economics: The Science and Management of Sustainability*, ed. Robert Costanza (New York: Columbia University Press, 1991).

We have experimented with a modular approach to introducing a broader perspective on environmental issues into introductory economics courses. Our modules provide teachers with a treatment of a particular topic which can be slotted into a standard introductory course. The modules we offer generally take 1-2 weeks, offering student readings, instructor notes, overheads, discussion questions, and problems. Our initial effort has been on environmental topics, through our modules *Microeconomics and the Environment* and *Macroeconomics and the Environment*.

Microeconomics and the Environment has three parts. The first part places the standard economic analysis of externalities and public goods in the context of two paradigms of economics and ecology. The second explores the issue of global climate change, looking at such economic issues as valuation of environmental damages, carbon taxes, tradable permits, and the Kyoto process. The third discusses sustainable fisheries management and some concepts of industrial ecology.

Macroeconomics and the Environment, also in three parts, presents an expanded circular flow analysis taking the biosphere into account. The second part deals with critiques of and alternatives to GNP/GDP, emphasizing natural resource and environmental as well as social sustainability. The third part examines long-term growth of population and economic output, and contrasts the goals of growth and sustainable development.

These modules have been made available in two forms: a downloadable version distributed for free over the internet, and a published module which can be ordered for bookstores. The modules have been used in over 50 U.S. and 20 foreign universities, reaching at least 3,000 students. Some professors use the full module, and a few assign the published version through their bookstores, but many take advantage of the flexibility of the downloadable version to assign portions to their students, or to include them in course packets. Although the original target was Principles course, they have also been assigned for upper-level economics or interdisciplinary courses.

The advantages of the electronic medium for alternative teaching approaches are (at least) two. First, it allows easy worldwide distribution, leaping over the barriers which often make it difficult and expensive to obtain texts and teaching materials internationally. Second, it makes it possible to slot more critical approaches into existing conventional courses. The electronic form also makes it easy to receive feedback, and to contact instructors with updates or timely examples.

Encouraged by the experience with the first two modules, we have followed up by making six chapters from the forthcoming text by Jonathan Harris, *The Economic System and the Environment* (Houghton Mifflin, forthcoming 2001), available as individual modules. These are intended for use in upper-level undergraduate or first-year graduate courses. They include key concepts, references, and discussion questions. The topics they deal with are:

1. *Valuing the Environment*. This module grapples with the issue of whether and how to place a price on the environment. It reviews the standard economic techniques for valuation, but also discusses their weaknesses and limitations. Problematical areas such as the valuation

of human life, valuation of the interests of future generations, risk and the precautionary principle are explored with the objective of familiarizing students both with economic analysis and with some of the social, political and philosophical dilemmas surrounding this topic.

2. *Population and the Environment*. This puts the population debate into historical perspective, gives an overview of present trends, population momentum, and the slow process of population stabilization, with a net addition of about two billion people expected in the next three decades. It contrasts economic and ecological perspectives on the issue, and gives a brief overview of the current discussion on integrating population policies with improvement of social services and the status of women.

3. *Agriculture and the Environment*. This module looks at macro trends in production and consumption as well as distributional issues and environmental impacts of agriculture. It also focuses on policies for sustainable agriculture, considering the environmental and social aspects of sustainability, production techniques, and consumption patterns.

4. *The Economics of Energy*. This draws on the ecological economics perspective, presenting both economic and thermodynamic analyses of energy in an accessible form. It deals with trends and projections for energy use, the potential of alternative energy sources, and the multitude of subsidies and institutional interests favoring environmentally destructive fossil fuel dependence. The section on “policies for future energy development” outlines policies for a transition to a more sustainable energy system.

5. *The Economics of Global Climate Change*. This discusses the basic scientific evidence on climate change, including some of the recent more alarming projections on temperature and sea-level rise, then evaluates the strengths and weaknesses of economic analysis of the issue, including discussion of valuation of environmental damages, carbon taxes, tradable permits, and the Kyoto process.

6. *Trade and the Environment*. After introducing the basic issue of potential conflicts between free trade and the environment, this module presents an analysis combining trade theory with the theory of externalities to show how the basic principles of gains from trade must be modified in a real world with many environmental complications. The institutional and policy issues involved are discussed with reference to the World Trade Organization, the European Union, and NAFTA. The debate over the Environmental Kuznets Curve and issues of sustainable trade and “greening” global environmental institutions encourage the student to place the theoretical issues in the context of real-world policy.

All of these topics have many current applications, and we hope to provide updates and examples on a just-in-time basis through electronic outreach. Whether it be future

climate change negotiations, the debate over opening the Arctic National Wildlife Refuge for Oil drilling, or the spread of mad cow disease through "modernized" agricultural techniques, there is a rich vein of current issues which can make economic principles come alive, and also show that alternatives to the excessively narrow neo-classical perspective are both urgently needed and more productive for teaching and learning. We have another rich mine of material to draw from in the six volumes of our now-completed *Frontiers in Economic Thought* series. We will also select portions of our textbook, *Microeconomics in Context* (discussed below) to present in modular form.

An introductory microeconomics text

Our approach to offering a principles text for US colleges arose from the preparation of a microeconomics text for the former Soviet Union. We began with an agreement with Kelvin Lancaster that would allow us to start by revising the old, but excellent textbook, *Economics: Principles and Practice*, which Lancaster wrote with Ronald Dulany. After several years of revision, the result - called *Microeconomics in Context* - is probably about one-quarter Lancaster and Dulany, three quarters new. The first edition has now been translated into Russian, and, under the leadership of Tom Gottschang, Chair of the Economics Department at Holy Cross, is also being translated into Vietnamese.

Microeconomics in Context defines economics as the study of a particular part of human behavior - namely how people try to achieve their goals, especially through production, resource allocation and socially sanctioned forms of exchange, operating within a physical context that includes ecology and technology and a social/psychological context that includes human motivations, politics, culture, institutions, ethics and history.

While "production, resource allocation and socially sanctioned forms of exchange" are found in standard descriptions of what economics is about, our definition diverges sharply in emphasizing goals, as well as the physical and the psychological/social contexts. Those emphases turn out to provide a reasonable start to a new paradigm: one that we are calling *contextual economics*.

The project of constructing this alternative has been like putting together a patchwork quilt. It began at a 3-day meeting in 1994 which included Peter Dorman, Susan Feiner, Neva Goodwin, Jonathan Harris, Kelvin Lancaster, Wassily Leontief and Tom Weisskopf. (Frank Ackerman joined us a couple of years later, at a time when Tom Weisskopf was obliged to turn most of his attention elsewhere.) Goodwin and Weisskopf initially worked with this group to mark the outlines of a quilt in which perhaps as much as 40 per cent could be composed of patches taken from the neoclassical system, as represented by Lancaster and Dulany. Much else that was needed could be found in various alternative approaches. The list of non-standard patches would be enormously long: the following are a few of the most obvious.

-- From *ecological economics* we adopted Herman Daly's seminal observation, that the economic system exists within, and is dependent upon, the ecological system. This is the

starting point for many important ideas: e.g., the natural resource constraints attendant on economic activity, and the necessity to pay close attention to long-run effects of current activity; and the notions that there may be a naturally enforced limit to the size of the global human economy, and that there are limits to the substitutability between what human beings can derive from natural and produced capital. Natural capital itself is another idea to which the ecological economists have given wide currency.

-- *Feminist* writings have supplied, among other things, a focus upon caring labor and the non-monetized economies of the household and community. This is something that Goodwin is now pursuing in work with the activist, Edgar Cahn - the inventor of an especially constructive local currency system called Time Dollars. Having recognized, thanks to the ecological economics movement, the essential interactions between the market economy and the natural economy, we may now be ready to recognize the equally essential contributions of what Cahn and Goodwin - building on feminist thinking - are calling the "core economy". The concept of human capital has been around for a while; social capital is a newer term. Recognition of at least three major economies allows us to see that, while the market economy is responsible for much produced capital, as well as many final goods, its production and distribution depend upon the natural, human and social capital that come out of the natural and the core economies. (The term, "core economy" is an innovation worked out while observing some real-world situations in the Time Dollars context; it will get into the current, evolving edition of *Microeconomics in Context* before it is published in this country.)

-- The *Marxist* emphasis on social reproduction feeds into our conception of the core economy. Other critical contributions from *radical economics* also show up in the emphases of contextual economics. Many economists have given the issue of equity a more central place than it has in neoclassical theory, but the radical groups have been especially consistent in their attention to this value. Another, related emphasis is on power. Yet another example is a focus on the quality of the worker's life - an important antidote to the neoclassical tendency to judge economic success solely in terms of the choices available to consumers.

-- *Institutionalist* ways of thinking are especially congenial to contextual economics. The institutionalists have noted the ways in which economic outcomes both affect and are affected by all the other elements of what we have called the psychological/social context. They have contributed an enormous number of valuable insights into the social, cultural, historical, etc. context of economic activity; but these insights have never been woven together into a cumulative discipline. Recognizing this danger, we have moved cautiously, trying not to throw out critical connecting elements of the neoclassical paradigm until we could at least dimly see what might be used to replace them. This has resulted in the problem that has been criticized by users of the early drafts of the textbook which have been informally circulating in the U.S. for the last year: that is, that we have not moved far enough away from the neoclassical methodology. We have made some - only a little - progress on this front; it remains one of our greatest challenges.

-- There are also the many elements that contextual economics recycles, sometimes reconfigured, from *neoclassical economics*. These include observations about how prices are set, including a not obvious focus on marginal changes. The well-known demand/supply

diagram has not been replaced, though it has been hedged around with warnings - especially adjurations to remember that "demand" means "effective demand". Other practical features include, for example, information on some aspects of what is involved in production; and concepts such as externalities, or the distinctions between stocks and flows; or measurement tools such as the Gini coefficient and the Lorenz curve.

So what is really new about contextual economics? We have put together many existing ideas into a somewhat novel framework. Perhaps the single largest innovation is the degree of emphasis accorded to the issue of goals - the goals of economics itself, as a discipline, and the goals that people have in relation to their economic behavior. When the text presents standard micro-economic concepts, they are always positioned in the relevant contexts, which are likely to include:

- The relationship between wealth, consumption, wellbeing and ecological balance
- Historical perspectives on capitalism
- Markets, industrialization and culture
- Household labor and child-rearing
- Trends in corporate growth and market power
- Wage differentials and income inequality
- Environmental externalities and intergenerational equity

We will conclude with examples of divergence from the neoclassical model in the two areas of consumption and production.

Consumption: In the contextual economics perspective, consumers are seen to play two quite different economic roles. One relates to the neoclassical assertion that final consumption is the ultimate purpose of all economic activity. In this view, production and distribution exist solely to increase the well-being of consumers. Here consumers are the *justification* for economic activity - and therefore also for economic theory. At the same time, consumers keep the economy going by generating demand for goods and services. Consumers as a source of demand are central to the *mechanism* that makes the economic system run.

Consumers themselves may have reason to feel differently about these two roles; and it may be in the interest of society at large to seek ways to reduce the importance of the second. A contextual economic understanding of consumers looks at what has been termed a "consumer society." This has emerged as part of an historical process which has created mass markets, industrialization, and cultural attitudes that ensure that rising incomes are used to purchase an ever-growing output.

Production: Many of the ways in which the contextual economics approach to production differs from the neoclassical approach stem from a refusal to depend upon the theoretical ideal of perfect competition. It is widely recognized that this ideal diverges

dramatically from the reality of modern markets. As a matter of positive science, it is time for theory to take the leap, to follow reality.

As a matter of normative science, it is necessary to distinguish between the *end products* of production, which derive their value solely from their contribution to the well-being of society and of individual consumers, vs. the *process* of production, which has other values, related to the goals of all those involved. In addition to providing a source of income, for many people work defines a significant part of their role in society. Work is not only about producing a product or service; it also creates and maintains relationships. It may be a basis for self-respect, or a part of what gives life interest and meaning. These values are ignored in the overt consumer orientation of neoclassical economics, as well as in the covert orientation to maximizing sales. The maximization of sales does not necessarily maximize the wellbeing of either consumers or workers.

Ongoing work

Aside from the obvious job of "de-Russification" of *Microeconomics in Context*, preparing a US edition also involves making the text culturally and academically appropriate for US undergraduates. To help with this process, we have raised funds to support a series of workshops in which faculty and graduate students with experience teaching economic Principles in a variety of settings evaluate mainstream and alternative texts, including the draft of *Microeconomics in Context*. The first of these was held in spring, 2000, at the University of Massachusetts at Amherst. The second was at University of Memphis in fall, 2000. (It is continuing, beyond the period of G-DAE support, since the faculty and students involved did not want to stop at the end of the semester.) A third is now ongoing at Bucknell University, PA: unlike the first two, which involved a majority of graduate students, the Bucknell workshop is faculty only.

We believe there is much potential for altering the teaching of introductory - and other - economics courses through the combination of approaches we have described. We would like to invite faculty members to participate in the effort, either by trying out our modules, by becoming involved in one of the workshops, or simply by visiting our website <http://ase.tufts.edu/gdae>, viewing and commenting on the materials.

The Global Development And Environment Institute (G-DAE) is a research institute at Tufts University dedicated to promoting a better understanding of how societies can pursue their economic goals in an environmentally and socially sustainable manner. G-DAE pursues its mission through original research, policy work, publication projects, curriculum development, conferences, and other activities. The "G-DAE Working Papers" series presents substantive work-in-progress by G-DAE-affiliated researchers. We welcome your comments, either by e-mail directly to the author or to G-DAE, Cabot Center, Fletcher School, Tufts University, Medford, MA 02155 USA; tel: 617-627-3530; fax: 617-627-2409; e-mail: gdae@tufts.edu; web: <http://ase.tufts.edu/gdae>.

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