Suggestions for Incorporating Sustainability into the Macroeconomics Curriculum

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Paper Outline

- Introductory thoughts
- What is meant by sustainability
- The lack of sustainability discussion in the economics curriculum
- Specific suggestions to incorporate sustainability into the macro curriculum.
- Concluding thoughts.

My objective

- Integrate sustainability in my own principles of economics textbook: *Economics for a Better World*, Pluto Press/University of Chicago , 2016. (co-authors: Molly Scott Cato and Maria Madi)

Part One

- Commenting on the *Next Generation Science Standards* (about by 15 states to explain the truth about climate change, the NY Times editorialized (October 11, 2015, p. 8) ,

Part One : Introduction

- "Children today stand to inherit a climate severely changed by the actions of previous generations. They need to understand how those changes came about, how to mitigate them and how to prevent more damage to the planet. Schools can start by adopting science standards that deal extensively with human-caused climate change and that accurately reflect the scientific consensus."

- Worrisome is a lack of such an effort at the university level, especially in economics course.

- Students are very much interested in the effects of climate change, and are (sometimes) excited to take economics course. Instead,

- Are quickly disappointed to find a "branch of applied mathematics, where the aim is not to explain real process and outcomes in the economic world [giving] economics the perception as a technical and rarefied discipline, of questionable relevance and limited practical use" (Geoffrey Hodgson (1999) *Evolution and Institutions* Cheltenham, UK, Edward Elgar, p. 6 and p. 9.

Part Two: What is Sustainability?

- A multi-faceted word.
- Meaning different things to different people.

Bruntland Commission

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (Bruntland Commission 1987, p. 16).

Bruntland Commission

- "Meeting essential needs requires not only a new era of economic growth for nations in which the majority are poor, *but an assurance that those poor get their fair share of the resources required to sustain that growth*. Such *equity* would be aided by political systems that secure effective citizen participation in decision making and by *greater democracy* in international decision making" (Bruntland Commission 1987, p. 16).

Essence of Sustainability

- Living well for all species now and into the future within the means of the environment, where the environment includes living and non-living things.

- **Question**: How can societies be organized in ways that enable individuals and communities to thrive into the future while sustaining the ability of the environment to support life?

And even if one believes in sustainability, how does one implement it?

- **Business-as-usual:** Supporters might adopt the language of sustainability without changing underlying values and ideology;.
- **Social and Ecological Moderation:** environmental and social problems are acknowledged but they can be solved within the current economic system.
- **Radical Change:** our way of life is on a collision course with the environment

Peter Soderbaum (2008) *Understanding Sustainability Economics- Towards Pluralism in Economics.* London, Earthscan, pp. 14-15.

Sustainable development consists of three pillars:

- Economic development
- Social development
- Environmental protection

Weak v. Strong Sustainability

- **Weak:** if we deplete natural resources such as air, water, fisheries, ecological systems, etc, we can replace them with human-made resources.
- **Strong sustainability:** that nature's resources must be preserved and passed onto future generations

Part Two: Sustainability in the Economics Curriculum: MIA

- In the preface to his popular *Principles of Economics*, first published in 1890, Alfred Marshall wrote, "Economic conditions are constantly changing, and each generation looks at its own problems in its own way" (1946[1890], p. v.).

Why the reticence?

Perhaps because neoclassical economics "was conceived in the 19th century during an era of unlimited boundaries. . . in a world with empty land, shoals of undisturbed fish, vast forests, and a robust ozone shield"

(J.R McNeil, J.R. 2000. *An Environmental History of the Twentieth –Century World-Something New Under the Sun.* New York: Norton, p. 236).

Steve Keen Debunking Economics

"Think of the many revolutions in our understanding of the physical world which have occurred in the twentieth century: from Newtonian to Einsteinian physics; from Mendelian genetics to DNA and the human genome; from determinism to chaos theory. Any scientist from the nineteenth century would be bewildered by what is commonplace today in his [sic]discipline – save an economist" (Keen, 2011, *Debunking Economics* p. 169).

- Tom Green (2012) "Introductory Economics Textbooks: What Do They Teach about Sustainability? *International Journal of Pluralism and Economics Education*, Vol. 3, No. 2, pp. 189- 223.

- Since the only formal course in economics for most students will be at the introductory level, integration of sustainability across the curriculum implies that environment-economy linkages and sustainability should be covered at the Econ101 level" (Green 2012, 191).

Green's Conclusion

- The lens of choice results in the textbook's content and the students' attention being heavily weighted towards issues of market exchange, price formation and to exploring the implications of marginal changes. It limits attention to environment-economy linkages, the sources of natural resources, how resources are utilised and where waste products go" (Green 2012, p. 215).

Discussion of Sustainability from Mankiw and Gordon

- Mankiw's *Principles of Economics* (2015): the index contains no sustainability entries and only one entry on climate change. In his chapter on economic growth, he asks a loaded question, "Are natural resources a Limit to Growth?" (p. 532).

- Robert Gordon's *Macroeconomics*, (2012): sustainability, energy, and the environment is completely absent.

The economics textbook

"textbooks fundamentally shape how [students] think about economics and economic issues for the rest of their lives. As such, these books are *a powerful* and *long-lasting cultural and political force*. And of course their influence extends to the economics profession itself, *because these textbooks also serve as the formative introduction to economics* of that small minority of students who go on to become economists"

Edward Fullbrook (2010)"How to bring economics into the 3rd millennium by 2020', *Real-world Economics Review*, 27 September, No. 54, pp.89–102.

Part Three: Specific Suggestions to Incorporate Sustainability

Part One: Thematic Concerns

(1) Treat sustainability as another unit in the course syllabus or fully Integrate it into the Course?

Objections to Incorporating Sustainability

(1) Confusing to students: presenting a cacophony of voices
(2) Adds to topics
(3) Detracts from overall content
(4) It moves us away from deductively, monist, linear thinking to: dialectical, dialogical, pluralism.
(5) Tradeoffs

(2) **The definition of economics** not only defines the course, but also informs about the methodology, ideology, course boundaries, and even possible topics.

The traditional definition found in most textbooks is the means/end, "economics is the study of how scarce resources are allocated between unlimited wants."

(2) The definition of economics: Economics as Provisioning

- "economics is provisioning, or how societies organize themselves to sustain life and enhance its quality" (Julie Nelson 2009, p. 61, "The Principles Course" in Jack Reardon, Ed., *The Handbook for Pluralist Economics Education.* London: Routledge.

- Since such a definition, "does not focus on individual rational choice, [it] can encompass social and economic institutions, real human psychology, and the actual unfolding of historical events" (Nelson 2009, p. 61).

(3) Emphasis on Justice

- Since by definition, sustainability is concerned with equity both intra and intergenerational, justice must be a central theme.
- But justice is another multifaceted term like power and democracy meaning different things to different people.

- Amartya Sen, a Nobel Prize Winner in economics, suggested that rather than searching for a universal (yet elusive) definition of justice, it might be easier to search for instances of injustice, since "what moves us, reasonably enough, is not the realization that the world falls short of being completely just- which few of us expect – but that there are clearly remediable injustices around us which we want to eliminate" (Sen 2009, p. vii).

Sen and Injustice:

- A fundamental objective of economics is "identification of redressable injustice" (Sen 2009, p. xiii).

(4) Emphasis on Power

- Focus on justice and sustainability also means a discussion of power: how it is defined and how it is used.
- Power: we can understand the obstacles preventing us from becoming sustainable.

(5) Need for Pluralism

- A simple definition of pluralism that captures its essence is, "Pluralism is the acceptance of the legitimization of diverse views."

(6) Key Concepts of Sustainability

- Diversity, Beauty, Community, Ecological Health, Equity, Ethics, Interdependence, Resilience, Well-Being, Systems-Thinking, Limits/Scale, Change.

- These concepts can connect courses across the disciplines, and can help lead as a driver for both interdisciplinary and transdisciplinary learning

- These concepts are mental constructs that are universal, abstract and broad, and thus transferrable across disciplines,

- **But** can be applied as a lens to explore specific topics such as unemployment, growth, poverty, energy.

- For each topic within the course, decide which criteria to emphasize and introduce each with big questions to raise, both on the syllabus and as part of the course pedagogy.
- This will guide active learning and our teaching
- Without these topics, learning about sustainability can be completely divorced from sustainability.
- Including these topics allows the instructor to reframe the topic in terms of sustainability and interdisciplinary learning.

Incorporating Sustainability: Part Two

(1) **Replace the Circular Flow Diagram and the Production Possibility Frontier**

Aspiring novelists are told to immediately hook their readers so that they stay interested. Economists should take a lesson when they design their curriculum and write their design and write their textbooks.

- Replace with and rewrite the opening chapter, an introduction to an ecosystem, such a barrier reef, and discuss the natural ecosystem and how human activity affects it.

(2) **Introduce the UN Sustainability Goals Immediately**

(3) **Water Shortages:** can be used to illustrate the concept of free goods, pricing of scarce resources, and allocating scarce resources.

(4) **Gross Domestic Product**: Numerous suggestions have been made to incorporate environmental depletion and each should be incorporated into the macroeconomics

- **(5) Reconceptualize the concept of sustainable economic growth:**. A good working model is provided by Van den Berg's extension of the Solow model to include environmental effects, which in turn allows the incorporation of the Jevons effect and the sustainable use of technology

Van den Berg, Hendrik (2012) 'Explaining Neoclassical Economists pro-growth agenda: Does the Popular Solow Model Bias Economic Growth?' *International Journal of Pluralism and Economics Education*, Vol. 3, No. 1, pp. 40-62.

(6) What is the Bottom Line?

- Every aspect of macroeconomics should be reexamined for its effect on energy and environmental discharge: open markets, flexible exchange rates, consumption , money, investment, savings, Phillips Curve, etc.

Part Four: Conclusion

- Goals of economic education: Interdisciplinary knowledge
- Inquiry, communication, problem solving, collaborations
- Democratic practices: equity, inclusion, community engagement
- Thinking critically and solving meaningful problems

- Danke!
- Comments/Questions