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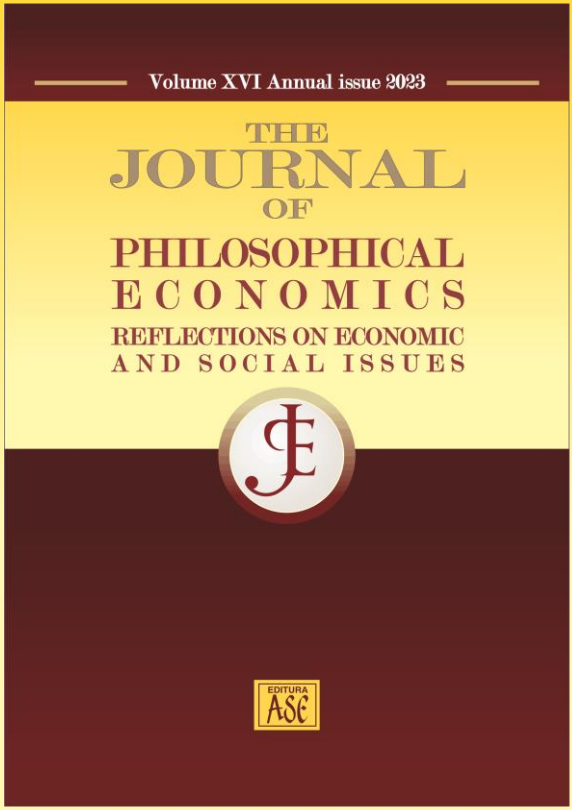

The future of heterodox economics

Teresa Ghilarducci, Zachary Knauss, Richard McGahey, William Milberg, and Drew Landes

EDITURA ASE

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Abstract: This paper assesses economics research and teaching frameworks in the United States by examining how knowledge is produced; the strengths and flaws of heterodox economic theory; and how students are trained, especially for careers in economic policy. We challenge the meaning of established terminology such as 'heterodoxy' and 'mainstream.' Three major reasons are suggested for the disappointing reality that pluralist economics among academic institutions, the broader public, and a new generation of economists has not happened: 1) neoclassical hegemony; 2) weakness in heterodox theory, and 3) rigidity of pedagogy and training in economics.

Keywords: heterodox economics; pedagogy and training; cross discipline synthesis

Introduction and goals

This study considers how the field of economics has developed to help the public understand capitalism. Challenges to orthodox theory need to be analytically sound and many economists, in and out of the so-called mainstream, want their work to be the basis for economic justice, democracy, and environmental sustainability. Despite a record length of economic recovery since the trough of the Great Recession in 2008, there is concern about a repeat of the financial crisis. All of this *angst* is reflected in a wave of nationalism, xenophobia, protectionism and a deep political divide. (Stiglitz 2019 has argued that this divide has itself exacerbated existing economic inequities.) Economics should be a tool both to understand and address these problems, but in spite of successful individual analyses around issues like minimum wage, climate change, trade, inequality, and discrimination, the methodological core of modern economics is relatively untouched. Alternative or 'heterodox' visions have achieved little traction in most economic departments, and modern economics is isolated from other social sciences and fields of inquiry.

Given the inadequacies of mainstream economics, understanding *why alternative visions have not been more successful is of paramount importance*. This ambitious project is approached by focusing on what is perceived to be barriers to the success of existing alternative economic theories and policies. Three types of barriers are considered: (1) the hegemony of neoclassical economics within the economics profession; (2) limits of heterodox economics itself; and (3) weaknesses in pedagogical practices of heterodox economics from high school and community college teaching through graduate training.

The Great Recession, which threatened a worldwide depression, along with a historic rise in income and wealth inequality, a stagnation of median incomes, ongoing race and gender discrimination, growing vulnerability in areas of health, economic security in aging and the cost of education, and the growing threats from climate change, has led to a wave of public questioning of the relevance of neoclassical economics and a renewed attention to the systemic nature of the economy, thus an interest in 'capitalism.' There has been a backlash against the classical liberalism that is so fundamental to neoclassical economics and its notion of social welfare, contributing to the emergence of illiberal, anti-democratic, nationalistic regimes around the world (Rodrik 2018).

The economics profession, embedded in the deeply liberal traditions of Smith, Bentham and Pareto has ignored the limits of its liberal lens and in the process blinded itself to the economic trends and social forces that have brought an *illiberal* turn in politics. Rodrik sees economists as partly responsible for this turn today, commenting in an interview with Washington Post that:

> There was a curious disjunction between what economists know and the way they represented the discipline to the rest of the world…[E]conomists, who thought that freer trade was a direction that was worth moving in and were happy, by and large, to act as cheerleaders for the kind of globalization that we have experienced. Economists lent their expertise and their prestige to particular interest groups [financial interests and exporters], who used economists to advance their case (Swanson 2017).

It would be easy to dismiss the problem as one of ideology. Critics of neoclassical economics have referred to it variously as 'bourgeois economics' and 'vulgar economics,' to signal its role in legitimating the status quo (see Milberg 1998). But the real point is that the 'operating manual' of capitalism – economics – has stopped working in support of more just and *secure* economic outcomes.

In the runup to the 2007-2008 financial crisis, economics had turned inward, no longer seeing capitalism as a system. As Krugman wrote in 2009 about the financial collapse:

> Few economists saw our current crisis coming, but this predictive failure was the least of the field's problems. More important was the profession's blindness to the very possibility of catastrophic failures in a market economy... *There was nothing in the prevailing models suggesting the possibility of the kind of collapse that happened last year* (Krugman 2009, emphasis added).

The failure of neoclassical economics to identify the warning signs of the financial crisis of 2007-2008 and the subsequent Great Recession has led to little change in the way economists think about markets and states and almost no change in the way economics is taught in high schools and universities, from the introductory economics class all the way to the training of new PhDs. Certainly, there has been no fundamental rethinking along the lines that Keynes provided in the 1930s in response to the Great Depression (Spiegler and Milberg 2013).

In the face of this questioning of the value of neoclassical economics in recent years, and the substantial institutional support for alternatives one must ask, why hasn't heterodox economics been more successful in providing a coherent alternative to neoclassicism and visibility for its policy conclusions? And what can be learned from this lack of success to make economics both analytically stronger and more relevant to addressing the major problems facing us now and in the future? Answering these questions will help build an economic framework that supports a policy agenda for shared prosperity, greater social equality, and a sustainable planet, while avoiding past errors that often diverted critical economists into isolated, self-referential conversations that did not engage either mainstream economics or the critical policy issues.

It is easy to blame a powerful opponent – in this case neoclassical economics – and its apologism for free-market capitalism. Any sociology of economic knowledge must indeed take this into account. This is too narrow an answer. A critical eye must be cast on the practices of heterodox economics as well. This paper focuses on three questions that reflect possible barriers to the success of heterodox economics.

Question 1: Is neoclassical economics hegemonic?

Question 2: What is the status of heterodox economics?

Question 3: Why has the teaching of heterodox economics not made greater inroads at all levels of education and among activist groups and policy makers?

Question 1: Is neoclassical economics hegemonic?

The first challenge is the possible hegemony of neoclassical economics within the economics profession. The influence of neoclassical economics is also reflected in the influence of neoclassical thought into other social sciences and law. The hegemony is likely to manifest itself in the leading research journals of the profession, in the way economics is taught, the way the economy is described in the popular media, and the way that political leaders think about policy alternatives.

Economics' protective belt

Neoclassical economics has been the dominant paradigm in economics since the late 19th century and certainly since the emergence of mathematical general equilibrium theory in the 1950s and 1960s. Philosopher Thomas Kuhn noted that it is the formation of a dominant paradigm that allows for the progress of 'normal science,' the 'technical and puzzle-solving' which involves the use of widely accepted norms and beliefs in research. Normal science need not explain everything, Kuhn notes – 'anomalies' often arise, and as long as they are minor or side issues, they can be ignored, and normal science can continue. A shift in paradigm requires that anomalies are broadly recognized as important, that they remain unexplained except in ad hoc ways, and if an alternative paradigm is available that can explain the anomalies (Backhouse 1998, Kuhn 2012).

One reason for persistence of the dominant paradigm was explained by philosophers of science Imre Lakatos, who proposed that scientific research programs often have a 'protective belt,' whereby anomalies can be ignored for long periods of time if the theoretical core of the paradigm continued to generate useful findings (Lakatos 1976). The protective belt of the post-War era in economics promoted the hyper-mathematization that became normal economics, and this was associated with an insularity from broader social and institutional forces. As Krugman (2009) puts it, 'the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth'.

One might have imagined that the surprising, and enormously consequential, financial collapse would itself have triggered a shift in economic theory. There were some efforts to bring the analysis of finance more closely into the picture, and there was homage paid to the Keynesian economist Hyman Minsky who, twenty years prior, had elaborated a theory of 'financial fragility' that seemed to accurately theorize the system-wide and endogenous nature of the risks.

Most of the economics profession has not yet recognized that the anomalies of our era strike at the very heart of our understanding of capitalism. Not surprisingly, then, there has not been an effort to reformulate economics in any way like that which occurred in the 1930s. Keynes's *General Theory of Employment, Interest and Money*, published in 1936, challenged the dominant paradigm of the day at its core. It was not individual choice or individual frugality (saving) that created full employment, but their opposites: spending by business, households and governments created employment and these were driven in part by the 'animal spirits' of businesses operating in a fundamentally uncertain world where the future is not knowable.

The protective belt of economic theory also provides a defense of the status quo in how economics is taught. So, it is not surprising that the teaching of economics has not changed with the financial crisis and the Great Recession. There was too much at stake professionally or scientifically speaking in overturning the status quo. Even Minsky's financial fragility thesis (Minsky 1992) was never integrated into the canonical thinking and certainly did not filter down into the undergraduate economics textbooks. This stasis in the profession – its departmental rankings, its teaching style and substance, and its methodology – was noted by a number of people in our recent interviews [1].

According to *Suresh Naidu*, Professor in Economics and International and Public Affairs:

> The ability to maintain a high intellectual culture is where it is really vibrant – having new ideas, producing stuff, and publishing all take second place to just preserving your status as a department and keeping resources. I think because American universities are grinding down their departments and are not willing to just let it happen. They worry about rankings, about revenue and about all this stuff.

David Colander, Professor of Economics at Middlebury College and author of a major economics principles textbook summed it up succinctly, noting that:

> Changing the conversation is difficult. There is a group of people at the top ten schools who think they are the profession, the complete profession, and that isn't going to change.

Michael Jacobs, Professorial Research Fellow in the Sheffield Political Economy Research Institute (SPERI) at the University of Sheffield and former Director of the IPPR Commission on Economic Justice, spoke explicitly about institutional barriers to change:

> Yes, the institutional barriers are huge and you will include in your report just how huge – and I think it's worse in the US, as I can see in the UK – just how institutionally inert academic institutions are [regarding] promotion, career promotion criteria, journal publications. And so the obstacles are enormous. I completely agree with that. One can only hope that if ideas seem to be good in effect they will catch on, but sociological barriers have got to be enormous.

More critical views were expressed by *Omari Swinton*, Chair of Economics at Howard University, who spoke about professional power and influence:

> I'm saying there's this tendency for mainstream economists to become marketing commodities for wealth and power that rebounds to their benefit in government positions, chairs, research consultancies etc.

And *William Lazonick***,** Professor of Economics at the University of Massachusetts-Lowell, the hegemony of neoclassical economics has even influenced the opponents of neoclassicism, indicating the need for a truly alternative economics paradigm. *Lazonick* told us that:

> Within academia, I think the bad has pushed out the good. Neoclassical economics, which in my view is almost total bullshit, just dominates. And it's not just the United States. You take someone in France, with Tirole, becomes a professor and totally dominates and they give him the stupid Nobel Prize...the deeper problem is that liberals have not challenged neoclassical economics. They've taken this myth of the market economy, this notion of the market ideal seriously, they have, what you might call 'trained incapacity' to think otherwise. And even when they start seeing inequality all over the place, and want to do something about it, they don't have a way of addressing it.

There are nuances in this narrative of hegemony that should be identified if one is to honestly assess the divide between orthodox and heterodox approaches. One is that it could be argued that standard Keynesian economics 'worked' in the Great Recession and that it simply wasn't applied with appropriate strength and speed. It is in the lead-up to the 2007-2008 crisis and in its aftermath of rising inequality and unshared gains that neoclassicism failed. Keynesianism is then workhorse model for popular discussions of economic growth, employment and policy, but not embraced in much of mainstream economics. Is Keynesianism part of heterodoxy? We think not, but even the need to pose this question puts into the usefulness of the phrase heterodox.

A second caveat is that neoclassical economics is less and less a homogeneous theoretical framework, as shown by the rise of behavioral economics, the increasing use of monopsony theory in labor, and the debates over macroeconomic 'secular stagnation' and the role of monetary policy with extremely low interest rates (Chetty 2015, Ashenfelter et al. 2010, Summers 2014).

A third nuance is that theoretical modeling has taken on a chameleon-like quality. With the introduction of asymmetric information, increasing returns to scale and strategic (game theoretic) and stochastic considerations to the models, a new degree of flexibility has entered that, while at times *ad hoc*, has permitted a broader array of economic outcomes to be modeled. This has been prominent in industrial organization and international trade theory, but also to some extent in macroeconomics and econometrics (Milberg 2004). This has involved a move away from traditional notions of greater mathematical generality as a criterion for theoretical advance, but it has given the mainstream an ability to explain a wider variety of economic outcomes.

A related development in mainstream economics is a turn away from theory entirely, what Milberg (2004) calls a 'pragmatist turn.' It is focus on empirical data rather than abstract theory, leading to an ability to study the impact of tax and labor market policies, for example, that have traditionally not been in the purview of the mainstream and which are of great relevance to heterodox economics.

Nancy Folbre, Professor Emeritus at the University of Massachusetts, noted the nuance in the terrain of mainstream economics, providing some examples:

> David Autor is a good example of somebody who is totally methodologically conventional but he chooses research topics and explores issues that matter, as does David Card. You especially see this among labor economists and that's one reason that LERA (Labor and Employment Relations Association) is a very strong organization.

Finally, one of our interviewees (who has asked to remain anonymous) described the damage that neoclassical hegemony can have on the ability of heterodox economists to build a more interdisciplinary approach to understanding capitalism. They noted that:

> Economics is of course, as we all know, one of the only disciplines where there is a large mainstream that is of one ideological bent and there's no real debate...You have all of these other disciplines where scholars are frustrated with economists, and they think that all economists are neoclassical 'homo-economotons.' And they are just frustrated that economists aren't useful. And yet there is this rich alternative set of ideas, and you're kind of sitting there going, 'well that's not what economists do, we do this...' I think what could be useful is more of that, being able to connect heterodox economics to these other disciplines.

Question 2: What is the status of heterodox economics?

Neoclassical economics continues to dominate the profession and the public's narrative about capitalism, despite its failures around the financial crisis, the Great Recession and the historic rise in inequality. Kuhn's notion of a paradigm shift has one very stiff requirement beyond the recognition of anomalies: the presence of a viable alternative paradigm that can account for the anomalies and provide a general and operational approach to the scientific project. Heterodox economics has not been effective in providing that alternative, that is, in its current state heterodox economics does not provide the full Kuhnian alternative paradigm.

This paper proposes heterodox economics is challenged in three ways. First, the term 'heterodox' represents a wide variety of approaches to understanding the economy. *Deirdre McCloskey***,** Professor Emeritus from the University of Illinois-Chicago defines heterodoxy as

> anything outside the orthodoxy, itself being Samuelsonian economics, micro and macro – so anything except Samuelsonian.

But it appears that the very term 'heterodox' signals a separation and disengagement from economics, with some heterodox scholars perhaps preferring not to engage with the mainstream.

Second, although there are many critiques of mainstream economics, heterodox theorizing is uneven and sometimes weak, relying on stock concepts without always working through the details. De-emphasizing empirical work and policy applications and debates has further isolated heterodox economics.

There have been major advances in a variety of directions in the Kaleckian framework, introducing income distribution into the analysis of economic growth (see an overview in Blecker and Setterfield 2019). Minsky's model of financial fragility has been widely cited. And a wave of research has explored issues of gender and race (e.g., Seguino and Braunstein 2019, Braunstein et al. 2020; Toney et al. 2022). Mazzucato (2015) has done important rethinking of the role of the state in the process of innovation. And Lazonick's (2009) work on the corporation debunks the notion of rising costs with firm size. These are all important advances, and there are others but they have not been integrated and they have not been rendered in holistic ways for introductory students.

Third, it is a major intellectual project to develop and combine theories of institutions, power, racism, sexism, both within economics and in cooperation with other fields. And that often is coupled with a weak capacity to speak and teach and collaborate across disciplines.

Should the term 'heterodox' be dropped?

More than half of the people interviewed objected vehemently to the marginalization that the name heterodox evokes. Below are some of their quotes:

David Colander:

> I strongly discourage the use of the term 'heterodox' economics – it undermines the sale of heterodox ideas – you're attacking it instead of trying to change it from within. They're not heterodox [ideas], they're ideas that all good economists should be having and thinking about at all times.

Omari Swinton:

> [The term 'heterodox'] lumps together a lot of things that don't necessarily go together in a group...A lot of people do research in a unique, different way and they approach questions from different angles. [For instance] some people might bring things in from sociology and psychology – do they become heterodox then? I think people who come up with interesting and testable [ideas] that you can validate, and ways of solving the problem are what we should be looking for and not sticking to these rigid rules in economics.

Anonymous interviewee:

> I actually never use the word, quite honestly, I never use it to describe myself. I don't know that by calling people that think about the economy 'heterodox economists' helps because people out there in the world think

> that economists know something about the economy. And if we know something about the economy then we are economists, and that's just it.

Kate Bahn, Director of Labor Market Policy and Economist At the Washington Center for Equitable Growth:

> I disapprove and [think] the term signals weakness, 'heterodox' defines itself by what it is not. That is weak. I just call myself an economist. But it depends on who I'm talking to.

Nancy Folbre:

> I generally describe myself as a heterodox economist. But I think it's sort of like defining yourself as a Socialist. It means a lot of different things. It means something different now than it meant five years ago. And I also think there is a real analogy with politics that is: part of the goal of heterodox economics is to move the center. And so, you can't look at it, just like 'how successful is it on its own, in terms of its numbers?' You have to look at it in terms of how it's changing the distribution of kinds of identification in the profession. It's also really important to note that the 'mainstream' is not nearly as unitary as it once was – it is also very divided into strains and that is really important because it's no longer kind of left versus right or heterodox versus orthodox. It's much more fragmented and de-centered. And in that sense, I sort of agree that if you focus entirely on the heterodox label you miss a big part of the story, that the field is becoming more differentiated methodologically.

The Institute for New Economic Thinking (INET) conducted a series of meetings around the country in 2017 on alternative economics curricula and teaching, and their final report did not use the term 'heterodoxy.' They instead used the term 'pluralism' to indicate exposure to multiple views of economics including, at times, interdisciplinary work. 'Heterodox' was used more narrowly to indicate 'fields of economics that are absent or marginalized from most introductory economics textbooks.'

Question 3: Why has the teaching of heterodox economics not made greater inroads at all levels of education and among activist groups and policy makers?

The third question related to the success of heterodox economics is pedagogical style and visibility. Heterodox economists have not developed pedagogy and curriculum that would help millions of students better understand systemic tendencies and power asymmetries in American capitalism. In short, heterodox economists have largely failed in efforts to remake Economics 101 – the first and last college economics course millions of Americans have taken and will take. Heterodox economists also painfully ignored high school curriculums or the Advanced Placement (AP) test.[2]

Second, Ph.D. training by heterodox economics departments often fails to consciously train scholars in policy analysis and for policy making. This would help lead graduates to potentially influential but non-academic careers, although many graduates from those departments even today go on to productive policy careers. But the flow could be increased if departments were more intentional and supportive of such career pathways.

Third, heterodox economics faculty have largely ignored the empirical revolution in economics research, where big data has become more useful, at times more so even than standard econometric methods based on limited samples. More creative approaches to the use and visualization of data should be supported.

These problems are compounded by the continuing lack of diversity in economics, summarized by one of our interviewees, 'Economics is the [discipline] women, minorities, and Americans don't want to be in.' One of the stunning aspects of economics is the lack of diversity. The president of the National Economics Association (as of 2019) told us the discipline is in real trouble because Americans, minorities and women don't want to take an economics class.

The percentage of undergraduate economics degrees awarded to women peaked at 35 percent in 2003 and has since hovered between 30 and 33 percent (Siegfried and Walstad 2014). Although the share of female college and university students has surged over recent decades, rising from 39 percent in 1960 to 57 percent today (Goldin et al. 2006), in economics the percentage has fallen to 33 percent.

Economics teaching does not connect to the lived lives and real teaching conditions of the modern college economics teacher. Nor does it include a strategy for students who take one course (high school and college) and want to understand the relationship among politics, law, sociology, anthropology, psychology, philosophy and history.

The way economics is taught in high schools, colleges, and universities shapes visions of what level of wealth, security, and growth is possible. Economics is the framework policy makers use to decide the role of government and that regular people use to understand their possibilities – who and what generates opportunities and obstacles to their economic success. Today's students are tomorrow's policy makers – and more importantly, citizens and political actors. Economic knowledge produced from high school courses can influence how economics is discussed at the Supreme Court. This is important because economics training leaves out many voices and citizens.

The numbers of high school students taking the advanced placement economics test in micro and macroeconomics reveal its popularity at that level. About 3.6 million students are expected to graduate from high school and in the 2017-18 academic year 236,705 took an AP Economics exam. This paper does not have independent data, but Paul Krugman has stated that his textbook, co-authored with Paula Wells, is the most popular AP textbook in the US. *Freakonomics* became the dominant extra book in high school classes as a 'gateway' book into Economics (Grove 2017).

One of the appealing parts of *Freakonomics*, in contrast to Robert Heilbroner's classic *The Worldly Philosophers,* is that it introduces undergraduates to relatable paradoxes and solves them with economic analysis. For example: monetary incentives explain why young men would rather deal in drugs than be a manager at McDonalds. What seems irrational on the surface can be explained by economic incentives. *The Worldly Philosophers* had been popular because, in contrast, it described economists throughout history as people who dealt with economic freedom, productivity, and redistribution.

College training in economics

Post-secondary education in the U.S has three tiers: community college, non-research colleges e.g., liberal arts undergraduate colleges; and research universities. The students are about equally divided between the three groups with 5.9 – 7 million in each. About 1.7 percent of bachelor's degrees are for Economics, averaging 26,500 economics graduates per year. Second majors have soared, increasing by 75 percent, from 55,000 in 2001 to 96,000 in 2014. But the overall 'Business' major for BAs, which usually includes at least one economics course, was the largest major in 2015-16, comprising 19.4 percent of all majors (author's calculations from U.S. Department of Education).

The major is not where all the action is. Millions of students take one course in economics. About 40 percent of all undergraduates take at least a course in economics principles and a large fraction enroll in other economics courses (Allgood et al 2015). However, the main goal in these courses is to make students learn to 'think like an economist,' not to learn about the economy and economics. In our interview, *Suresh Naidu* noted that the focus should also be on raising the large questions and problematics. He stated:

> So [this was] my first year [teaching basic economics] but it's a blast and I think the students really like it in the sense that they get to see the high stakes questions in economics, which I think are not distinctively heterodox or mainstream. There's a set of classic questions that has always animated economics and the tools for answering them change with time and in different places but you know they're kind of always there.

Undergraduate economics is stadial – one must progress through sequences of courses with increasingly more mathematics. At selective liberal arts colleges, the introduction to the principles of economics class is more likely to be a one-semester introductory course that combines micro and macro. Courses in moral philosophy or public utility or economic history or the history of economic thought has disappeared. Courses on the economics of race and gender are rare. Economics is taught today in large classes on college campuses with a standard textbook, with pre-designed problem sets that can be graded by graduate assistants or machines. Often there is more math than students feel comfortable with and Economics 101 is hardly ever a student's favorite course. Very few go on to be economics majors, although they do get degrees in Business. Calculus and real analysis is required for an economics major.

College textbooks

Economics textbook market share data are not provided by publishers, but *The Principles of Economics Textbook* by Jane S. Lopus and Lynn Paringer (2012) cited a survey of 26 textbooks to find that two textbooks – McConnell et al. (2009) and Mankiw (2009) – far outsell others and represent over 40 percent of total sales in 2009. They conclude the other 24 titles are well below five percent of market share.

We analyzed economics textbooks according to five dimensions, considering two orthodox texts and two texts that describe themselves as non-orthodox. One issue was the treatment of the firm supply curve, since most heterodox economics view power stemming from the dominance of large firms that have downward supply curves (see Lazonick 2019), but yet that key insight was not demonstrated in the alternative textbooks. Every textbook, pluralist or heterodox, wrote almost exactly the same thing – there is no distinction between alternative and mainstream textbooks on the treatment of a supply curve.

The definitions of the corporation are varied and fascinating. Mankiw writes:

> '[Corporations] are guided in their decisions by the objective of profit maximization... The separation of ownership and control creates a principal-agent problem' (Mankiw and Taylor 2017, p. 485).

If this paper had to use one definition it would be from Colander:

> 'A growth-compatible [legal] institution... that gives owners limited liability and thereby encourages large enterprises (because people are more willing to invest their savings when their potential losses are limited)' (Colander 2013, p. 602).

Sherman et al is a bit polemical:

> 'The United States is a political democracy in which everyone has a single vote. Yet large corporations are able to use their immense wealth to influence the political process and set obstacles to the public interest' (Sherman et al. 2018, p. 337).

Krugman and Wells (2018) provide no definition of the corporation or business enterprise.

The concept of automatic stabilizers, a key feature in Keynesian economics, are defined and discussed as politically controversial. For Colander, '[M]ost economists believe that automatic stabilizers have played an important role in reducing normal fluctuations in our economy... Other economists argue both that the apparent decrease in fluctuations is an optical illusion... The jury is still out' (Colander 2013, p. 741). Sherman's description is similar:

> Several other spending items also rise automatically in every recession. For example, welfare spending must rise if more people are living in poverty… These types of spending result from long-established laws called automatic stabilizers or non-discretionary fiscal policy… These types of discretionary spending policies in a recession used to be supported by both Republican and Democratic administrations... recently, however, such discretionary spending has become very controversial politically (Sherman et al. 2018, p. 186).

Standard economics teaches an imposed minimum or union wage must lower demand for workers. But decades of empirical work shows that minimum wage hikes are associated with little or no employment loss. How do these textbooks deal with the tension between orthodox theory and now broadly-accepted empirical work? They don't (Card and Krueger 1994, Munshi 2018, Lempinen 2021). Mankiw stresses the theory that minimum wages have negative consequences: 'Above-equilibrium wages, whether caused by minimum wage laws, unions, or efficiency wages... raises the quantity of labor supplied and reduces the quantity of labor demanded. The result is a surplus of labor, or unemployment' (Mankiw and Taylor 2017, p. 422).

Colander focuses on the incidence on consumers, producers, and workers:

> A minimum wage above equilibrium wage helps those who are able to find work, but hurts those who would have been employed at the equilibrium wage but can no longer find employment. A minimum wage also hurts producers who have higher costs of production and consumers who may face higher product prices (Colander 2013, p. 106).

Bowles et al.'s (2017) treatment is unique because it frames the analysis as a wage-led phenomenon, which may be too esoteric for some professors teaching a basic textbook.

Last, this paper examines a key concept underlying almost all international policy and trade regulation – free trade will increase world output because of efficiency gains from specialization and trade. Mankiw's definition is clear but hints at no controversy: 'When each person specializes in producing the good for which he or she has a comparative advantage, total production in the economy rises. This increase in the size of the economic pie can be used to make everyone better off' (Mankiw and Taylor 2017, p. 54). Bowles et al (2017) and Sherman et al (2018) both do not define comparative advantage. Goodwin et al provides a critical view: 'Ricardo's simple example of two countries and two goods... neglects issues of political, social, and environmental context that can sometimes offset gains from trade or eliminate them altogether' (Goodwin et al 2009, p. 203). Colander (2013) and Krugman and Wells (2018) are not critical and have their own elegant ways of describing comparative advantage hinting at institutional contingencies. In Colander's text:

> On a global perspective, if one believes in global income equality, trade is the way it comes about. Trade also leads to greater world economic growth... Trade expands the total pie, and even when a country gets a smaller proportion of the new total pie, the absolute amount it gets can increase (Colander 2013, p. 192).

Krugman and Wells:

> 'It's to the advantage of both countries if the poorer, lower-wage country exports goods in which it has a comparative advantage, even if its cost advantage in these goods depends on low wages. That is, both countries are able to achieve a higher standard of living through trade' (Krugman and Wells 2018, p. 224).

We asked all our interviewees how they would teach a principles class of 100 students. Most of the interviewees said they have always taught very large classes. Many of our readings and interviews identified that what teachers were trying to do in their Economics 101 classes is to teach 'thinking like an economist.' The aim is to admit that economists don't have definitive answers, but it can supply tools needed to discuss opportunity cost – which is a particular embodiment of the idea of trade-offs – with the idea of following the money, smoking out predators and economic self-interest, with the liberal democratic ideals of showing who wins and gains from a particular course of action.

College course content

After World War II the role of government to steward an unstable capitalism was widely accepted. Activist fiscal and monetary policy were non-controversial. The science of economics was based on the notion that consumption, investment, and government spending could be calibrated so that prices would be stable and every adult who wanted a job (under 65) would have one. This was the key takeaway from Samuelson's pioneering textbook, *Economics*, whose first edition was published in 1948. Alongside widespread acceptance of Keynesian economics in the 1950s and 1960s arose neoclassical economics, with the libertarian, free-market views of Hayek and Friedman being connected to big issues of democracy and freedom. To illustrate that economic systems are entwined with history and politics, economists added Robert Heilbroner's *The Worldly Philosophers* to the reading list alongside Milton Friedman's *Capitalism and Freedom.*

The consistency of the macroeconomics portion of Samuelson's text with its very standard microeconomics treatment of firms and consumers was never well established. This would later become subject of considerable debate among mainstream economists, but the heterodox critique focused on the inadequacies of both the macro and micro treatments. Lazonick (2016), for example, made a thorough examination of Samuelson's 19 editions, which consistently claim that policies about firms means the smaller the better. But small is often unproductive. A search of current textbooks, heterodox or mainstream, found nothing more extensive about the source of productivity increases.

Samuelsonian economics was taught as a set of grim tradeoffs, if you wanted equity, you sacrificed efficiency. Arthur Okun's 1975 book, *Equality and Efficiency: The Big Tradeoff,* laid the groundwork for austerity economics that was nurtured in the 1970s, stressing that if society wants price stability, it has to trade off jobs. Jason Furman in 2016 writes that, 'Okun used a metaphor to illustrate the tradeoff in transferring money from the rich to the poor…the money must be carried from the rich to the poor in a leaky bucket. Some of it will simply disappear in transit, so the poor will not receive all the money that is taken from the rich' (Furman 2016).

The message was clear from Okun that if you wanted to redistribute wealth from the top one percent (who now own 35 percent of the wealth (Saez and Zucman 2020) the economy would have to suffer lower growth. In one economics class one of the authors (TG) had in the mid-1970s, students had to jump on big felt squares on the floor about what they cared about most: growth, productivity, efficiency, and equity to vote for what they wanted first, because there would be tradeoffs. She guessed right, jumping on to productivity got approving nods from the teacher.

Even after the financial crisis of 2008, the economics curriculum did not change. In an undergraduate macro class taught at an elite university in the Spring of 2009 when the global economy was in near meltdown, the professor started the first day with one equation in the far left corner of the blackboard and ended in May with 43 equations blanketing the board – the post-WWII economy and the financial crisis was reduced to a dynamic programming problem (based on personal correspondence with student). Blindness to the dynamics of financial collapse, income stagnation, social decline and historic increases in inequality signaled a deeper failure of economic thought and in teaching. (Spiegler and Milberg, 2013).

Conclusion

This study explored the diversity in economics research and teaching in the United States by focusing on the flaws and strengths of heterodox economic theory and how students are trained, especially for careers in economic policy.

This paper's findings were based on textbook market research, in depth interviews with 10 economists who have a particularly important role in heterodox economics, and examining the content of the most popular textbooks.

After a disappointing evolution in the propagation of pluralist economic theories among academic institutions, the broader public, and a new generation of economists, the difficult and necessary introspection of this paper is just a first step. The authors found three issues related to the success of heterodox economics at competing with and being seriously considered by mainstream economists: 1) neoclassical hegemony, 2) weakness in heterodox theory, and 3) the state of pedagogy and training in economics. A profoundly embedded neoclassical paradigm within the discipline is not enough to explain the failure of alternative theories to supersede it when it is most vulnerable, such as after the Great Recession. It is essential to encourage engagement with the mainstream, strengthen heterodox theory, encourage the use of large data and policy work, and combine theories of institutions, power, racism, sexism, within economics and in cooperation with other fields. To be clear, this paper finds fault with the heterodox community for not being pluralistic enough and creating narrow enclaves that, sometimes, are content with being different rather than focusing on progress in making economics relevant for solving problems facing humanity.

Finally, economists have neglected Economics 101 for too long. There has also been a lack of conscious training of PhD students in policy analysis and policy making, as well as supporting more creative approaches to the use and visualization of data. The combined effect of the above could influence a broader attraction of economics students, especially those who are underrepresented in the discipline.

Our hope is that these reflections can serve as a catalyst for thinking about the potential for interjecting alternative economic theory into the mainstream. The project, the authors propose, is not one of completely bringing on a revolutionary Kuhnian paradigm shift. Creating a scholarly eco-system of paradigmatic approaches that are accepted – rather than the current culture where certain paradigms (in separate camps) might be (temporarily) dominant – is more promising for the scholarly discipline of Economics to advance and thrive.

Endnotes

[1] Each of these quotations are from the series of interviews we conducted with each of the individuals mentioned.

[2] Two less orthodox textbooks from established publishers are Colander (2019) and Sherman et al (2015). A few recent popular books have tried to redirect the professions, for example *Doughnut Economics* (Raworth 2018), *Solidarity Economics* (2021), Bowles et al. (2017), Goodwin et al. (2009), and Chang (2014). A recent online effort by two of the authors of this paper (Teresa Ghilarducci and William Milberg) can be found on Coursera as 'Economics: Society, Markets, [In]equality.'

Conflict of Interest Statement

The authors declare that there is no conflict of interest.

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