

Atlantic—specifically the US and Europe—in terms of prestige, influence, and the ability to determine the content and direction of the discipline. The enormous knowledge, insights, and contributions to economic analysis that are made by economists located in global majority countries are largely ignored, because of the implicit assumption that “real” knowledge originates in the North and is disseminated outward.

Arrogance toward other disciplines is a major drawback, expressed for example by the lack of a strong sense of history, which should permeate all current social and economic analysis. Recently it has become fashionable for economists to dabble in psychology, with the rise of behavioral economics and “nudges” to induce certain behavior. But this too is often presented ahistorically, without recognizing varying social and political contexts. For example, the worm’s eye randomized tests that have become so popular in development economics are associated with a shift away from studying evolutionary processes and macroeconomic tendencies, to focus on microeconomic proclivities that effectively erase the background and context that shape economic behavior and responses. The underlying and deeply problematic underpinning of methodological individualism persists, largely because few contemporary economists attempt a philosophical assessment of their own approach and work.

These flaws have greatly impoverished economics and unsurprisingly reduced its credibility and legitimacy among the wider public. The mainstream discipline is sorely in need of greater humility, a better sense of history and recognition of unequal power, and active encouragement of diversity. Clearly, much has to change if economics is really to become relevant and useful enough to confront the major challenges of our times.

Diane Coyle

Fundamental economic changes require a departure from simplistic economics

The economy of the 2020s is a world away from the economy of the mid-20th century, when much of the standard toolkit economists still use was first developed.

The formalization of economics in the 1950s and ’60s occurred in the context of a manufacturing sector that drove growth and employment, producing standardized goods, and trade was dominated by finished goods rather than components. Keynesian economics shaped the categories of statistics gathered in the System of National Accounts and in the linear input-output models and macroeconomic models newly built by econometricians.

Many of those in prominent policy roles today learned their economics from textbooks and courses based on that relatively orderly economy. In particular, the framework for evaluating policies relied on the basic theorems of “welfare economics,” the branch of the discipline that asks whether economic outcomes are desirable or not. The theory states that market outcomes are the best that can be attained—if certain key assumptions hold.

Needless to say, they rarely do. For example, for the theory to be valid, people need to have fixed preferences—including for things that do not yet exist. All goods need to be “rival,” or able to be consumed only by one person, yet many are nonrival—from the atmosphere to public roads to digital movies. There must be no externalities such as pollution or CO₂ emissions. No firms can have market power—there must be perfect competition—and there must be constant returns to scale as production levels increase. What’s more, in the 1970s Nobel laureate Kenneth Arrow proved his “impossibility theorem,” which shows that it is never (on very reasonable assumptions) possible to determine the welfare of society as a whole by adding up the welfare of individuals.

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Time for change

So for at least the past 40–50 years, the absence of solidly grounded welfare economics has been an uncomfortable vacuum in economics. Policymakers must choose what they think will be the best course of action for their society, using



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the best tools economics can provide. One of these, widely used, is cost-benefit analysis. Another is simply to aim to increase economic growth, as this drives up living standards. As the old joke goes, the economic tools work in practice even though they don't work in theory.

But they have reached their limits. It is time for a reboot of welfare economics. And that means moving away from the simplistic set of assumptions that have shaped the worldview instilled in generations of economics policymakers. Why now? The answer is that the economy has changed so fundamentally that the discipline must follow suit.

One obvious change is the urgency of addressing the environmental crisis. Both climate change and loss of biodiversity put future economic prosperity at risk—and pose potentially existential threats. In the mid-20th century the binding constraint on economic growth was the shortage of physical and human capital, which both needed major postwar investment. In the middle decades of the 21st century, nature will be the binding constraint. Economists must make a major effort to develop natural capital statistics, devise new ways of measuring the social cost of nature's services, and above all integrate the analysis of the human economy and nature

in a meaningful way rather than relegating the issue to isolated “externalities.”

Less obvious, but just as fatal for the currently prevailing default mental model of a constant returns, competitive economy of manufactures, is the structure of production today. It is highly globalized even after the shocks of recent years. It is increasingly intangible (in terms of economic value added, material inputs matter as much as ever). Global production is enabled by digital communications and logistics, and digital platforms are becoming the preeminent business model.

This means there are pervasive economies of scale, even more powerful than in the case of older industries such as steel and aircraft manufacture. In many countries and many sectors, a small number of firms have significant market power. Pinpointing the location of value creation is next to impossible given the massive movement of data and ideas along fiber-optic cables. The continuing rapid development of artificial intelligence means that this technological transition will endure. There are no definitions and statistics to monitor the economy, and governments find it difficult to collect taxes and regulate corporate activities.

The new economics

Academic economists are well aware of the changing character of the economy, and there is a good deal of exciting research taking place. But there is not yet a 21st century version of the synthesis of Keynes' vision of how the economy as a whole works nor the statistics to measure and forecast it. This means that economists—especially if they work in the policy world, with its practical demands—default to the old mental model.

So this is the challenge for the economics profession (as I discuss in my book *Cogs and Monsters*). How should economists analyze the highly nonlinear, interdependent, intangible global economy, with its concentration of market power and new emerging inequalities? What do good outcomes in the digital, intangible, but nature-constrained economy look like? What needs to be measured so we can tell? Above all, if economics is to be useful, what new toolkit can economists provide to help policy decision-making?