The Price of Precision: Consequences of Methodological Rigidity in Economics

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A year ago, I began working on a research proposal that, at the time, was supposed to become one of my PhD thesis chapters. It focused on local views surrounding the distribution of profits made from South Africa's mineral resources. It is a question that touches on what I believe to be a fundamental question in economics: who owns natural wealth? However, developing a strong proposal proved difficult, even beyond the usual challenges of balancing novelty and feasibility. A key constraint was that my PhD requires quantitative research that establishes causality, which severely narrowed the scope of both questions and methods I could consider.

I have since learnt that such requirements are quite unique to economics. And while I love my field and never regretted my choice, this methodological rigidity has bothered me since the beginning of my studies. Over time, I have come to see it not just as a personal frustration, but as a symptom of a deeper issue. Unlike many other sciences, economics defines itself not by the questions it seeks to answer, but by the methods it uses to answer them. This implicit definition comes with consequences that go far beyond the frustrations of one PhD student. It does not just restrict what kind of research gets done, but also undermines the relevance of our research to real-world issues.

In the following, I explain why economists value quantitative methods so strongly. I argue that this focus has led to a dismissiveness toward non-quantitative methods and the disciplines that use them. This is problematic because many of today's pressing questions require insights and tools from beyond the boundaries of mainstream economics.

Understanding Economics' Method-First Mindset

Economics has not always been a quantitative discipline. Adam Smith's *Wealth of Nations* (1776), often regarded as the foundation of modern economics, does not contain a single equation. Instead, it offers a pure verbal description of how economies and markets function. However, the discipline began to change in the 19th century, with economists such as Jevons, Walras, and Menger. As Jevons himself put it: "To me it seems that our science must be mathematical, simply

because it deals with quantities" (Jevons, 1904, p. 3). He has a point, of course. Ultimately, economics is concerned with the allocation of resources in society. However, before we can think about the mechanisms that allocate different resources to different actors, we need to know their amount and value. Amounts must be counted, and value must be measured—and we simply cannot do that without numbers. It is therefore quite intuitive that many sub-disciplines of economics are quantitative by nature.

That said, I think there is another reason why economists are so drawn to mathematics. Our discipline is largely concerned with a holistic view of society. We want to abstract from individual examples to uncover patterns and understand how they interact within the larger economy. Mathematics offers a convenient and precise way to describe and analyse these patterns and interactions. This is why many economists liken the discipline to physics. They view the economy as a system of resources and markets governed by mathematical laws, much like how physical laws govern the natural world.

There is a crucial difference between the two disciplines, however: unlike physics, economics is a social science. Markets are no forces of nature; they are human-made institutions shaped by millions of individual decisions. Resources have value because we assign value to them. While the natural world forms the basis of our physical system, we are the foundation of our economic systems. Therefore, economics is deeply intertwined with other social sciences and the humanities, including psychology, sociology, political science, law, and philosophy.

This is not a controversial statement; most economists agree that insights from these disciplines are important to our own. However, economists have a very distinct way of approaching such interdisciplinary research. Take psychology as an example: psychologists usually rely on qualitative models that describe internal emotional and cognitive processes. Economists, on the other hand, aim to capture similar insights but translate internal reasoning into quantitative terms, using tools like utility functions to model a person's satisfaction. There is nothing inherently wrong in this approach; as mentioned above, maths offers an elegant way to model such patterns. Using a quantitative framework also helps to align these insights with the broader body of economic models, which are usually quantitative. Such re-shaping therefore translates findings from other fields into our own, building important bridges between economics and other social sciences. This is evident not only in psychology, but across many other social sciences and humanities. Another example is the concept of social capital, which originated in sociology and political science before being adapted by economists and formalised in quantitative, often network-based models.

The problem is that these bridges explicitly exclude other disciplines' methods. Economists may quantify concepts from elsewhere and incorporate these insights into their own models, yet we rarely invite other modes of reasoning into our field. This key problem has two implications. First, there is a dismissal of qualitative approaches and, to an extent, the disciplines that apply them. Second, this dismissal results in a tendency to sideline key questions within economics that cannot be answered using quantitative tools. Together, these factors limit collaboration across

disciplinary boundaries while focusing on a narrow set of questions, which may increasingly become disconnected from the real world. Taken together, these implications might be one reason why economics fails to answer many of the pressing, often interdisciplinary, questions of our time. It might also explain why economics as a discipline has lost trust in recent years.

Problem 1: The Gatekeeping of Economics

When looking at academic job postings in economics—particularly early-career positions such as masters, PhD, or postdoc opportunities—a background in quantitative fields is typically required. This often means economics but can also include hard sciences like physics, mathematics, or computer science. There is usually no requirement for a formal background in other social science disciplines—interest alone is considered sufficient. The same does not apply in the opposite direction: a formal background in another social science, paired with a mere interest in maths, is generally not enough. As a result, economics departments tend to be populated by people trained in economics or the hard sciences, with very few from other, more qualitative backgrounds. A similar pattern appears in academic publishing: economists regularly publish across a variety of social science journals, but it is rare to see non-economists publishing in economics outlets. These examples are just two ways in which our discipline tries to differentiate itself from other social sciences, building borders that, in my opinion, are not naturally there. This approach ensures that anyone entering the field thinks about problems in a certain (quantitative) way and, as a result, tends to look for certain types of questions and solutions.

This is not to say there are no dissenting voices, both inside and outside our discipline. Philosophers like Nancy Cartwright and Philip Mirowski have famously described what they call “physics envy” in economics, arguing that the discipline tries too hard to model itself on the natural sciences, particularly physics. In addition, a broad range of heterodox economists have long questioned the core assumptions of mainstream economics. One example is Steve Keen, who argues that economics functions as a “degenerative research programme” (Keen, 2011, p. 167). By this, he means that rather than generating new knowledge, the discipline focuses on constructing a “protective belt” of theories and assumptions to shield its foundational beliefs from falsification or revision (p. 165).

The problem is, therefore, not that no one has identified these issues. Rather, it is the lack of willingness in mainstream economics to seriously consider, engage with, or act upon this critique. This behaviour is not only alienating; it is inherently risky, creating an echo chamber and fostering a false sense of unity. Economics is a social science: it rests on social foundations. We therefore need to let go of the hope that we can neatly fit real-world patterns into a mathematical model, as physics often can. Doing so means approaching problems from a different angle when reality becomes too complex. Anthropologists, for example, seek a deep and comprehensive understanding of social relationships; psychologists investigate the cognitive and emotional

processes underlying individual actions and decisions; and political scientists analyse power dynamics and how they shape human behaviour. What these disciplines offer is not only insights that can enrich our models but also alternative ways of thinking about challenges, emphasising understanding over modelling. I believe economics could benefit greatly from drawing inspiration from such perspectives, even if this blurs the boundaries between our discipline and others.

If we fail to do so, we risk building our models on flawed assumptions about the patterns we attempt to model. This problem leads to a second challenge: when we keep other disciplines out, we gradually stop engaging with the very questions that lie at the heart of our discipline.

Problem 2: Focusing on Narrow Questions

Despite the above-mentioned quantitative core in economics, many of the most fundamental questions in our discipline are qualitative. Before we can measure the amount or value of resources—or model how they are allocated—we first need to grapple with a range of deeper, often philosophical questions. What exactly defines the value of a resource? What principles should guide its distribution? Once someone has been allocated a resource, does that mean they own it? And if so, how should that ownership be understood? Should ownership look the same for all resources, or might different rules apply depending on what the resource is?

These are not mathematical questions. They are normative, and their answers vary across cultures, time periods, and individual perspectives. The way we think about value, fairness, or ownership today may be entirely different from how people understood these concepts two hundred years ago or from how they are understood in other parts of the world today. Yet mainstream economics often treats these foundations as settled. The answers commonly built into economic models were typically formulated decades or even centuries ago (often by wealthy white men from the Global North) and have been carried forward without much re-examination.

The result is the tendency to limit analysis to the boundaries of the status quo, asking only a relatively narrow set of questions within those bounds. For example, when companies or industries move production to other regions in search of higher profit margins, the typical response is to ask about concessions which can be offered to make region X more attractive to businesses. What is not considered is a more fundamental question: is there a way to structure or regulate companies so that profit is not their overriding objective? Such questions imply challenging something deeply embedded in our current economic system—something that, realistically, often lies beyond the scope of change. This makes economics a very practical social science, one which focuses more on what is than on what could or should be. And that pragmatism may be one reason why economics influences policy more than most other social sciences.

But this practical strength also exposes a major weakness. Economics does not simply describe the world; it also shapes it. When we base our economic thinking on rigid assumptions, they influence real-world decisions. Over time, this creates a feedback loop: the core assumptions

embedded in economic models guide policy, which in turn reinforces those assumptions in practice, making them seem even more unquestionable.

Now, more than ever, it is time to challenge and reassess these tenets on which economics is built. In recent years, our world has only become more complex and, in many ways, more troubling. Inequality is on the rise globally, with climate change only deepening these divisions. Many countries have seen a stark inflation in the past years. AI is set to introduce a whole new wave of challenges for workers, with the real threat of widespread unemployment. In this context, the questions of how we distribute resources, and how we share the burdens of change, have never been more urgent. It has become even more imperative that we open up our discipline beyond the status quo, to revisit economics' core assumptions and make room for unorthodox ideas and more creative policy thinking. To do this, we must draw on other disciplines and embrace methods beyond the standard economic toolbox.

Where Does This Leave Us?

I do not pretend to have a ready-made solution to all of this. But a good start would be to take the critiques that already exists more seriously and start embedding them into the training of future economists.

Initiatives like *Rethinking Economics* are already pushing in this direction. They advocate for more pluralist and interdisciplinary economics education. But the truth is, very few economics programmes today actually reflect that. Most curricula remain narrowly focused, rarely encouraging or even allowing students to take courses in other disciplines or to learn qualitative research methods. Changing that would be a powerful first step. It could open the door to more inclusive and critical thinking, and ultimately, to more relevant and creative economics. Related to that, we also need to rethink what we consider valid work in the field. Whether it is the thesis that gets us our degree or the paper we wish to publish, the methods we use should not be the sole criteria for what "counts" as economics. The substance of the question should matter just as much, if not more.

Finally, one concrete step forward is to build more genuinely interdisciplinary research departments, that create space for sociologists, political scientists, anthropologists and others. To some extent, such changes are already happening. In my own field, development economics, economists often work alongside scholars from other social sciences. But even here, there is still a noticeable disconnect. These interdisciplinary departments often operate in parallel to traditional economics departments rather than in dialogue with them. In my own experience, despite having a large and active international development department just next door, there is remarkably little exchange: separate seminars, separate priorities, separate conversations. Creating more intentional links between these spaces would allow for greater diversity, both in terms of research approaches and in the kinds of questions we consider legitimate. This plurality would widen the

scope of economics and encourage more critical reflection on the tools and assumptions we take for granted. Perhaps then, we would begin to take criticism seriously—not as an attack, but as an opportunity to improve our discipline.

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