Emmanuel Farhi (1978-2020)

At the time of his premature death, Emmanuel Farhi was almost certainly the greatest macroeconomist of his generation. At 41 years old, he was still just approaching the full and terrifying heights of his intellectual power and energy.

The first thing any economist would have told you about Emmanuel is how smart he was. In the aftermath of his death, this is quickly followed by the observation that underneath that, he was compassionate as well. While both are true, neither fully does justice to his intellectual or his moral qualities.

Economics is a discipline obsessed with smartness, in the sense of superficial cleverness – high IQ, hard math, quick facility. In this, Emmanuel very obviously towered over everyone around him, to the point of intimidating not only his students, but even his senior colleagues. As a teenager growing up in France, he ranked first in the country in a series of national exams that would be unfamiliar or meaningless to Americans, but are of immeasurable prestige and significance within France (e.g. coming first in the nation in the *Concours General* in Physics at the age of 16; prior winners of the *Concours General* in various fields includes names like Poincaré, Cauchy, Galois, and Pasteur).

Emmanuel's early research consisted of an impressive series of papers in macroeconomics and in public finance, often taking some paradigm like the New Keynesian model or a Ramsey optimal tax problem, and pushing it in some interesting new direction. These papers were written with the tremendous formal elegance his early education equipped him with, and were more than enough to secure tenure, publications in prestigious journals, and a welldeserved reputation as the leading macroeconomist of his cohort.

But what economists in other subfields might not fully appreciate is the extent to which, in the final two or three years of life, Emmanuel had started to embark upon an entirely new research agenda, of even greater originality and depth than his earlier work. A growing body of empirical research across macro, labor, IO, and trade, is all now in the midst of confronting the fact that firm heterogeneity is becoming increasingly fundamental to our understanding of the most basic questions of economics. While newspapers and politicians give huge attention every day to the income inequality between individual workers, the inequality between firms – a small number of large, productive, capital-intensive firms, and the long tail of smaller, less productive, more labor intensive firms – is becoming increasingly significant in understanding everything from the dynamics of long-run economic growth to the transformation of the business cycle.

Much of the empirical work investigating the role of firm heterogeneity and inequality, across different subfields of economics, has rested on questionable theoretical foundations. Economists would rely on crude formulas for aggregating firm-level changes to aggregate

economy-wide changes – formulas from the 1970s and 1960s, which often turned out to be invalid outside of a set of extremely restrictive and unrealistic assumptions. Emmanuel saw both how important the deeper structure of the supply side of the economy was, and how unsatisfactory our entire theoretical foundation of investigating this structure was. At the time of his death, he was in the process of unleashing a storm of new papers – most with his co-author and former student, David Baqaee – that attempted to place the deep structure of the supply side of the economy at the center of economic theory, and on rigorous foundations. These new papers emphasized things like network structure, heterogeneity of returns to scale, factor intensity, markups, productivity, etc.; directly and substantively related them to ongoing empirical investigations into growth, trade, etc., and gave empirical researchers a much stronger framework for their own study of firm inequality.

Emmanuel uniquely saw how much this new work urgently needed to be done, and was uniquely equipped to execute it. Schopenhauer remarks somewhere that talent is the archer who hits a target others cannot reach; genius is the archer who hits a target others cannot see. The moment of his death was the moment Emmanuel was transforming from the first into the second; a fact that makes his death even more incomprehensible and tragic.

In the same way that his intellectual qualities extended far beyond simply being "very, very smart," his moral qualities extended far beyond simply being "very compassionate." As one of his graduate students, I surely only saw some tiny fraction of them (vs. the far richer experience of moral communion he would had with his peers, his family, his friends outside academia), but I speak here to this tiny window anyway.

It is a common experience for academic advisors to try to turn their students into miniversions of themselves (and perhaps even more common to not really try anything at all). One of Emmanuel's defining features as an advisor was his explicit opposition to this. He had a real and uncommon understanding of the subjectivity of other people. He wanted each of his students to flourish as the truly distinctive economists and human beings he knew they were capable of becoming, whether or not the final result resembled him, substantively or methodologically. He cared only that we try to resemble him in passion and in rigor. When discussing some part of a project with him, he would often interject with, "well, this is how I might do it – but that doesn't mean you have to do it that way! You can disagree with me!" And it was always an entirely real invitation, devoid of any trace of irony. (This total commitment to the autonomy and independence of his students extended even into territory other faculty members might regard as reckless; when other advisors would counsel complete focus on the all-important job market paper throughout graduate school, Farhi would grin, and say something like, "you're a big boy; you can do as you please!").

At one point last year, after some minor external setback (the subject of which I have now entirely forgotten), I went to his office dejected. He leaned back in his chair, and after discussing the practical details of the matter with me, said: "But at the end of the day, none of this other stuff matters. The most important thing is that you're actually having fun with the work you're doing; stick to the big questions and enjoy them." He was totally indifferent to the fads around him, totally unworldly, totally committed to the vocation of science in its highest sense, totally committed to seeing his students join it with him. In the shocking aftermath of his death, someone shared a blurry, recent photo of Emmanuel in Milan, standing alone in the refectory of the Convent of Santa Maria delle Grazie, dressed in black, gazing out at Da Vinci's mural of the Last Supper. Above him, Christ is preparing to depart his disciples. The Gospel of John records Christ as telling his stunned disciples, "You will weep and lament, you will grieve, but your grief will be turned into joy." Emmanuel's legacy in economics, as in the world, will be manifest in many different ways. But hopefully one of them will be the powerful example of someone who consecrated his life to the joyful and uncompromising work of science at its highest level, and who wanted us all to join him in this.

