

Impact by and on individuals: the job market, and how we do mathematics

The job market

With inevitable pressure on the job market as a result of the collapse of public budgets as well as the economy more generally, the priorities of the profession will come into question in a way that has not been seen since the 1950s. Even before the financial crisis of 2008 the internal contradictions of the model of the reproduction of the humanities through graduate programs were widely recognized (as early as the 1970s). In mathematics, the imbalance between entering graduate classes and the job market (but why do we accept the "job market" as a fact of nature?) has been mitigated by the possibility of employment in toxic "old normal" industries such as finance, surveillance, and data mining.

A [recent Intercept article](#) by Naomi Klein spells out how the tech industry, in partnership with local governments, plans to cash in on installing "smart" technology in the wake of the crisis. She quotes Eric Schmidt:

Congress should meet the president's request for the [highest level of defense R & D funding in over 70 years](#), and the Defense Department should capitalize on that resource surge to build breakthrough capabilities in A.I., quantum, hypersonics and other priority technology areas."

Jobs in these sectors may well help PhDs in mathematics and the sciences survive the loss of stable university positions. And this need not be a social and political disaster. Klein asks the right questions:

Will that technology be subject to the disciplines of democracy and public oversight... If public funds are paying for so much of it, should the public also own and control it?

Besides, even colleagues with flexible consciences should realize there's no guarantee that these industries will be able to absorb the surplus of mathematics PhDs when the crisis is over.

Suppose you agree that radical changes are needed, but doubt that mathematicians have the necessary skills. Then consider how Tim Gowers's pledge in 2012 to boycott Elsevier inspired the Cost of Knowledge statement that quickly collected over 10000 signatures (17000 by 2018) Even if Elsevier is still standing, that campaign had a massive and visible impact on publishing. We shouldn't underestimate ourselves.

How we do mathematics

I'll skip the part about remote seminars and conferences vs. carbon-intensive traveling and consumption of exotic foods and champagne receptions. If you want the profession to survive, we have to ask ourselves what we find important and valuable about the mathematical vocation, and then to acknowledge that much of this is likely to come under attack, precisely

for the reasons that we find it appealing, and that preserving what is important and valuable is really up to us. Ultimately this means placing the economic model and political justifications that sustain higher education under scrutiny; drawing the appropriate conclusions; and then doing whatever is necessary in order to preserve whatever attracted us to the mathematical life in the first place.

In other words, if the values of mathematics are important to us, we will have to become activists.