



The Master of Big Data



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What is your own research about?

I am working at the intersection of developing empirical methods for policy analysis and applying such methods to labor economics, health economics and sports economics. The overarching goal is to come up with empirical studies that are credible and trustworthy. I hope that our empirical studies have some pilot character in the sense that they show how a particular economic question can be analyzed empirically in a credible way. If my research is successful, these approaches are then used by others, i.e. policy consultants or fellow researchers, who analyze similar problems.

How does your teaching connect to it?

I am currently teaching econometrics at the Master and PhD level. In econometrics, understanding the difference between associational studies and causal studies is key. While the former studies are a way to describe the data, the latter studies are what is needed to estimate 'effects'. In my classes, we try to understand the necessary methods and apply them to economic examples.

Are you recommending Master thesis work on these topics?

I believe there is no professor who does not recommend that students should work on the field she or he likes. Same for me ...

You have been influential in the big data debate at HSG. How is big data and digitalization relevant in your own research and teaching?

Not sure I have been influential. Anyway....

In short, various aspects of Big Data and Digitalization are 100% relevant in our current research. This new world of abundant data, better algorithms, and massive computing power brings wonderful opportunities for us as empirical economists to look at new research topics. One example, among many, is the possibility of coming up with 'personalized' policy effects. This means we become able to understand which type of



individual or firm a particular economic policy works for while some other policy doesn't. Concerning teaching, we are starting to integrate these new methods into the curriculum of existing econometrics courses. I guess it is fair to say our students of MECON and MiQEF will be very well equipped to benefit from this 'new world' as we try to stay close to the rapidly shifting research frontier.

What should students learn and how could they prepare to be successful in the digital revolution of the coming decades?

Decades? I guess nobody really knows. 30 years ago, nobody would have been able to predict the current state of digitalization and data availability. It is however clear that data will become far more important for the working of the economy. Therefore, skills related to all sorts of data-based analysis will become more important. This requires obtaining better statistical and programming skills than in the past.

In your opinion, how should modern teaching programmes in economics adjust to train digital skills? Should we forget about old style economics?

There needs to be a shift to invest more time in learning data related skills. As the available time of all of us is limited, this has to come at the expense of something else. However, it would be a grave mistake to proclaim consequently the 'end of theory', although the relevance of theory will decline. Actually, understanding effects (as opposed to just predictions) is impossible without at least some theoretical guidance. Data are just not informative enough on (causal) effects without the additional structure that comes from theory. This is what econometrics is all about. Economics proper needs to change as well and incorporate the new topics. However, this is something economists are used to. So yes, let us forget about old style economics and adapt, as we always have done in the past.

You are the President of the HSG research commission. Is the university investing enough in academic research? Some people ask for excellence in teaching and more policy relevance and public outreach.

These are difficult trade-offs. Obviously, without the reputation of excellence in research, the weight of HSG voices in the public debate and in business and policy consulting would be lower. Research excellence is the foundation of every university. It is also the key factor to attract good students and good faculty. However, teaching and public outreach are also very important. How are we doing in this trade-off? Not that bad, I believe. We are on a good path to increasing our research quality. We should continue on that road. In any case, research done at HSG is applied, at least compared to other universities, which makes it easy to combine it with teaching and outreach. Finally, big data and digitalization will bring huge opportunities for us to be at the forefront of newly developing research fields. Let's not waste that opportunity! Let's be early movers!