

The fourth annual lecture of the Macroeconomic Risk Chair was held online on October 20, 2021, with **Ricardo Reis** (London School of Economics and Political Science) as special guest speaker. Furthermore, on March 24, 2022, the chair awarded the **2021 Junior Research Prize** to **Edouard Schaal** (CREI, ICREA, UPF, BGSE and CEPR) and **Mathieu Taschereau-Dumouchel** (Cornell University) for their paper entitled “Herding Through Booms and Busts”.

This newsletter includes interviews of Ricardo Reis and of the 2021 laureates and a brief description of their presented research. [+](#)



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Macroeconomic Risk

2021 Macroeconomic Risk Chair Annual Lecture: Is an inflation disaster around the corner?

On October 20, 2021, **Ricardo Reis** (London School of Economics and Political Science) gave an online lecture on the theme of the return of inflation. Following this lecture, we had the opportunity to interview him about his research.

For the last 20 years, the advanced economies have been characterized by low and steady inflation rates. As the central banks' objective of price stabilization was close from being achieved, central banks increasingly shifted their focus towards new goals, e.g. preserving financial stability, financing the environmental transition, etc. However, the recent surge in the inflation rate puts all that in question, reviving interest in good old-fashioned central banking. Why is the inflation back? How persistent will the current rise in inflation rates be?

Ricardo Reis stresses that, from February/March 2021 onwards, every macroeconomic theory of inflation dynamics predicted high inflation rates. For example, New-Keynesian theory would predict that closing output gaps (the discrepancy between aggregate supply and demand) leads to higher inflation, while Monetarist theory would also predict

that increases in the volume of money circulating in the economy (due to the lump-sum cash transfers) leads to higher inflation. Other theories, such as the Wicksellian theory, the fiscal approach or the supply-side approach yielded similar conclusions. The shared success in predicting high inflation rates is comforting for macroeconomic theory, but at the same time prevents us from identifying the main cause behind the recent surge in inflation rates.

In fact, Ricardo Reis argues that the more difficult question is rather whether the rise in inflation rates is temporary or not. In this presentation, he focuses on one of the main determinants of inflation persistence, namely the anchoring of

inflation expectations around the central bank's inflation target. He estimates the distribution of inflation expectations from financial market data, once properly corrected from some bias, or from household surveys. He finds that average inflation expectations have increased only moderately, but that the perception of a risk of inflationary catastrophe has increased substantially (from 1% to 13%). The comparison with historical episodes of inflationary crisis (the United States in the 1960s, Brazil or Turkey in the 2010s) shows disturbing similarities.

In conclusion, the inflationary risk is still moderate but increasing, and Ricardo Reis believes that central banks should not delay too long in acting against inflation.

**Why is the inflation back?
How persistent will the current rise in inflation rates be?**



Interview: Ricardo Reis

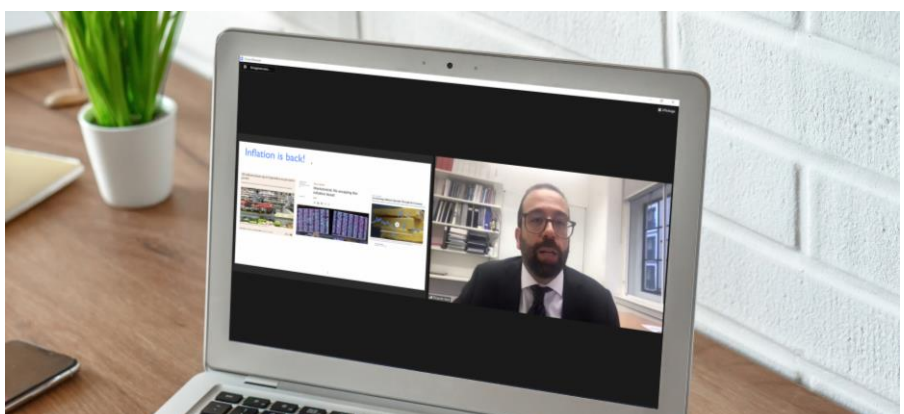
FOR TWENTY YEARS, INFLATION HAD BEEN STAGNANT AND HENCE ALMOST A NON-ISSUE FOR POLICY MAKERS AND ACADEMICS ALIKE. WHAT ARE THE MAIN FACTORS DRIVING THE RECENT INCREASE IN INFLATION?

Almost everything in the economy over the last 24 months has been driven by the pandemic, and inflation is no exception. Some of the sharp increase in prices in 2021 is a correction from the sharp fall in those same prices in 2020. Some of it is due to 2021 factors, such as the fact that demand for goods (partly stimulated by fiscal policy) has risen faster than supply (partly limited by global supply chains). And much of it has to do with monetary policy: see the next question.

IN YOUR OPINION, CAN THE POLICY MAKER HAVE A DIRECT INFLUENCE ON THESE FACTORS?

Monetary policy is the most important determinant of inflation. Therefore, even though it cannot directly prevent the 2020 and 2021 shocks that affected inflation, it can choose how strongly to respond to them, weighing the benefits for inflation

control against the losses for financial stability or economic activity. But there is no worse mistake in central banking than to believe that monetary policy cannot do anything about inflation.





DURING YOUR TALK, YOU STRESSED THAT ALL ECONOMIC THEORIES ARE PREDICTING TODAY'S HIGH LEVEL OF INFLATION. YET SOME OF THOSE THEORIES FAILED TO PREDICT YESTERDAY'S LOW LEVEL OF INFLATION. SHOULD WE TRUST THE PREDICTIONS FROM SUCH THEORIES? DOES IT MEAN WE MAY NEED DIFFERENT THEORIES FOR HIGH AND LOW INFLATION ENVIRONMENTS?

Economics is a young science, and we still have a series of competing theories to explain what drives inflation, as well as even some new ones being fully developed. I noted that the inflation developments of 2020-21 were predicted by most of the leading theories, so we do not need a new theory coming out of these recent data. As for why inflation in the eurozone was relatively low 2016-19, some theories do better with that, some a little worse. As always, with more data, we get better at refining our theories, and they are still far from perfect. But the behavior of inflation in the last 5 years is not a complete puzzle that would force some radical rethink.

TODAY, THE CENTRAL QUESTION IS ABOUT THE PERSISTENCE OF THE CURRENT RISE IN INFLATION. A KEY DETERMINANT OF FUTURE INFLATION DYNAMICS IS TODAY'S LEVEL OF INFLATION EXPECTATIONS - BY FINANCIAL ACTORS, FIRMS OR CONSUMERS. CAN YOU EXPLAIN HOW YOU ELICIT THE DISTRIBUTION OF INFLATION EXPECTATIONS FROM FINANCIAL MARKET DATA? BASED ON YOUR RESEARCH, WHAT IS TODAY'S LEVEL OF TAIL RISKS ACCORDING TO THE MARKET?

Traders today buy and sell inflation options that pay off if inflation lies above a certain cutoff. One pays off only if, for example, inflation lies above 3%. Another option pays off if inflation lies above 4%. Using both, we can calculate the probability that inflation lies between 3% and 4%. If inflation is lower than 3% neither contract pays anything and if inflation is above 4% both contracts pay off. The reason they are different is because sometimes inflation lies between 3% and 4%. If both options have a price that is similar, market participants view the probability of inflation

lying between 3% and 4% as small, but if the prices are very different from each other, then the probability of lying in between is large. This is a classic insight but that must be adjusted when dealing with thinking about inflation disasters, and this is what I have done. My most recent estimates are that the market-implied probability of an inflation disaster in the Eurozone in the sense of inflation on average above 4% between 2026 and 2031 is only about 4-5% (it is two or three times higher in the US.)

WHAT IS THE PREDICTIVE POWER OF INFLATION EXPECTATIONS FROM MARKET DATA? THAT IS, RETROSPECTIVELY, ARE THEY ABLE TO CORRECTLY PREDICT FUTURE ACTUAL INFLATION?

This turns out to be a difficult question because markets in which to trade inflation risk really grew in the last twenty years, but this has also been a time where inflation has been very steady at 2%, with little variability, and so quite easy to forecast. But, it is important to note that market prices are very noisy measures of most fundamentals, so you should be careful using them, and

“Many people have quite dramatically revised their inflation expectations upwards...”

especially should always combine them with other sources of information.

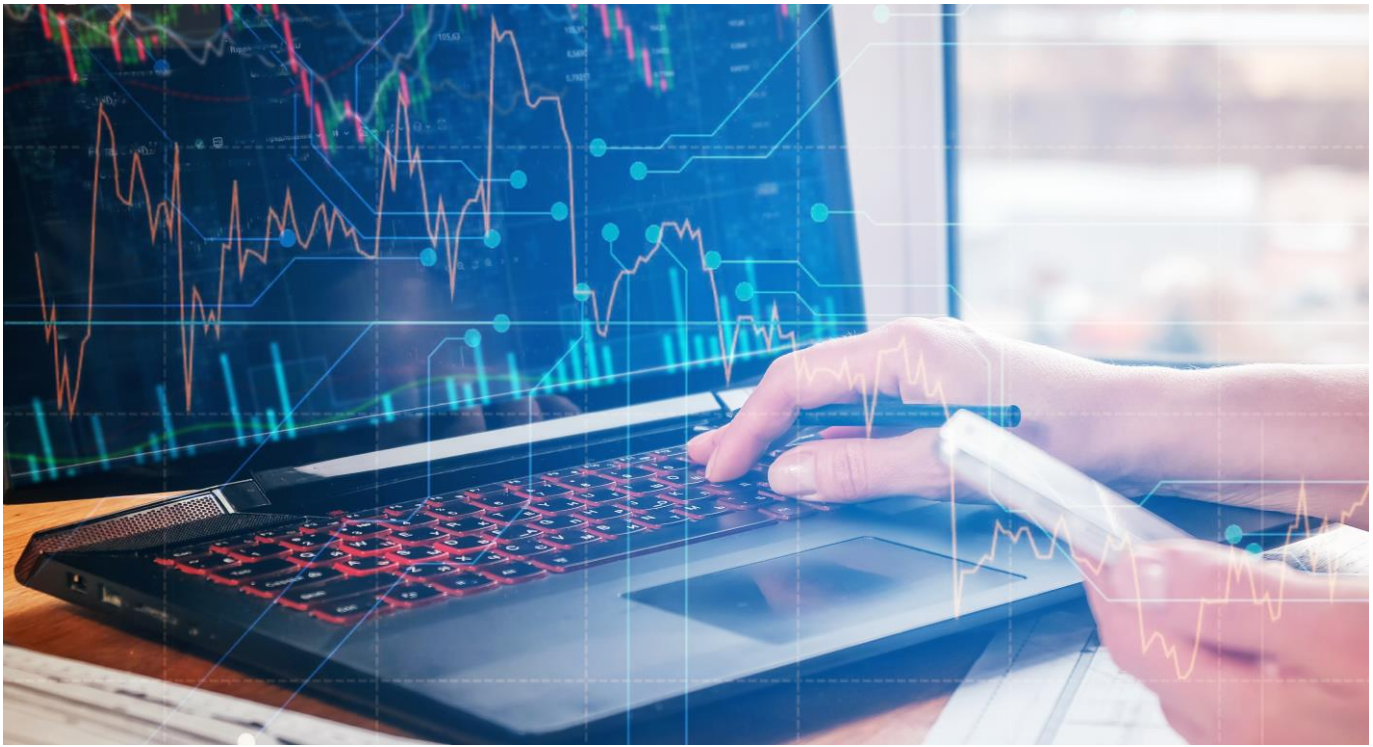
HOUSEHOLD SURVEYS ALSO REFLECT IMPORTANT INFORMATION ABOUT INFLATION EXPECTATIONS. CAN YOU TELL US HOW THE DISTRIBUTION OF CONSUMER INFLATION EXPECTATIONS HAS EVOLVED IN THE LAST MONTHS? HOW DOES IT COMPARE TO SIMILAR HISTORIC EPISODES?

In the United States there has been a very clear shift starting somewhere in the summer. Many people have quite dramatically revised their inflation expectations upwards leading to some increase in the mean across people, but especially to an increase in standard deviation and skewness. Historically, this is what was also seen in the last 1960s, and the reverse of what we saw in the 1980s when inflation came down. So, the data looks like what we saw in the last 2 major shifts in inflation regime in the US. In the Eurozone, the data showing a shift is just coming in, with it being more pronounced in Germany. But we need a few more months to see it for sure (or not at all).

A CRITIC OFTEN MADE AGAINST HOUSEHOLD INFLATION EXPECTATIONS SURVEYS IS THAT CONSUMERS' EXPECTATIONS ARE IRRATIONAL AND PLAGUED BY VARIOUS BEHAVIOR BIASES. YOU ANSWER THAT THIS DOES NOT MATTER, BECAUSE “WRONG” EXPECTATIONS WILL EVENTUALLY SHOW UP AS ACTUAL INFLATION, THROUGH WAGE RISES. IN LIGHT OF THE RECENT FLATTENING OF THE PHILLIPS CURVE, DO YOU THINK THERE STILL EXISTS A CHANNEL FROM WAGES TO INFLATION?

Higher wages can reflect higher productivity. But, if the higher wages are given to workers to compensate them for the increase in the prices of goods and services, then firms will also want to raise their prices to keep up with an increase in not just their wages, but also the prices of their other supply and of their competitors. So, yes, in a spiral scenario where workers demand higher wages because they expect high





inflation, that should normally lead to higher prices for firms as well.

EXPECTED INFLATION INFERRED FROM SURVEYS OFTEN DIFFERS FROM MEASURES OF EXPECTED INFLATION COMING FROM MARKET PRICES. HOW SHOULD WE THINK ABOUT THESE DISCREPANCIES? WHAT ARE THE GENERAL IMPLICATIONS FOR MONETARY POLICY?

They are reflecting different information. Households are poorly informed, but we observe many of their answers and can use the wisdom of their crowds to extract some valuable signals. Traders in markets are better informed, but the price reflects the beliefs of the marginal trader and are contaminated by noise. Again, using models, we can extract valuable signals.

“There is so much room to cut the size of the balance sheet, and to raise interest rates, that there is no problem of lack of tools.”

More important

than figure out which is better or worse is to combine these different signals to come up with the best possible measure of where inflation expectations are heading.

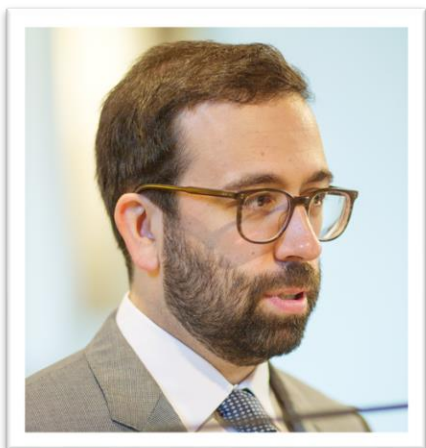
HOW HAS THE CENTRAL BANK IN THE US AND IN THE EU RESPONDED TO THE RECENT RISE IN INFLATION AND INFLATION EXPECTATIONS? IN YOUR OPINION, WHAT SHOULD CENTRAL BANK DO? WHAT COULD THEY DO AFTER YEARS OF QUANTITATIVE

EASING, WHICH INCREASED THE RISK OF FISCAL DOMINANCE AND PAINFUL DELEVERAGING FOR FIRMS?

As of now, they have responded very little, if at all. Partly because they did not put enough weight on the data, in my view, and partly because it has been judged that the costs of trying to move aggressively against

inflation would be too high since we are

still recovering from the last recession. There is so much room to cut the size of the balance sheet, and to raise interest rates, that there is no problem of lack of tools.



Ricardo Reis is the A.W. Phillips Professor of Economics at the London School of Economics. Recent honors include the 2016 Bernacer prize for best European economist under the age of 40 working in macroeconomics and finance, and the 2017 Banque de France / Toulouse School of Economics junior prize in monetary economics, finance, and bank supervision for a researcher of any nationality based in Europe. Professor Reis is an academic consultant at the Bank of England and the Federal Reserve system, he directs the ESRC Centre for Macroeconomics in the UK, is a recipient of an ERC grant from the EU, and serves on the council or as an advisor of multiple organizations. He has published widely on macroeconomics. His main areas of research are inflation expectations, unconventional monetary policies and the central bank's balance sheet, disagreement and inattention, business cycle models with inequality, automatic stabilizers, sovereign-bond backed securities, and the role of capital misallocation in the European slump and crisis. His public service includes writing a weekly column for the Portuguese press and developing European Safe Bonds (ESBies). Professor Reis received his PhD from Harvard University, and was previously on the faculty at Columbia University and Princeton University.

2021 Junior Research Prize: Edouard Schaal and Mathieu Taschereau-Dumouchel

On March 24, 2022, the Junior Research Prize 2021 was awarded to **Edouard Schaal** (CREI, ICREA, UPF, BGSE and CEPR) and **Mathieu Taschereau-Dumouchel** (Cornell University) for their work entitled “Herding Through Booms and Busts” during a conference organised online. We had the opportunity to interview them about their award-winning paper and their research path.

Herding through Booms and Busts

Edouard Schaal and Mathieu Taschereau-Dumouchel, Herding through Booms and Busts. Working Paper, July 2021. [+](#)

Business cycle history is replete with examples in which new technologies have led to periods of massive investment that ended in severe economic downturns. One salient example is the 1990s boom in information technologies that culminated in the stock market crash of 2001 (“dot-com bubble”). While extreme enthusiasm about new technologies was initially fueled by the high volume of investment and rising valuations of IT companies, a crash eventually followed as some of the expected returns failed to materialize. Recent technological advances have reignited the debate over the potential negative spillovers that innovations can have on macroeconomic stability.

A common view is that shifts in expectation play a key role in shaping boom-bust cycle episodes. In his seminal work on the origin of economic fluctuations, Pigou (1927) emphasized the importance of beliefs in shaping the business cycle. In his view, booms can be caused by waves of optimism among business executives, and crashes arise when their lofty expectations turn out to be mistaken. This hypothesis has been explored in modern business cycle theory by the *news-driven business cycle* literature, pioneered by Beaudry and Portier (2004). According to this view, investors receive news about the future profitability of their investments, which sometimes turn out to be false. Boom-bust cycles arise after an initial sequence of positive news is later contradicted by experience.

These theories, however, remain mostly silent on the technological, social and psychological determinants that drive the evolution of beliefs. In most of these studies, investors’ beliefs obey an exogenous law, and boom-bust cycles occur after a specific sequence of shocks—first positive, then negative. In other words, these cycles remain attributed to unexplained factors, precluding a deeper understanding of the key drivers of business cycle fluctuations. What explains that beliefs follow a particular—and perhaps systematic—pattern which evolves from a phase of rising optimism to all-out pessimism? Is growing optimism during the boom the consequence of luck or the

result of particular interactions between investors that lead to instability and inefficiencies? What causes precipitate the economy into a bust? Providing answers to these questions is essential for our understanding of business cycles and for the design of stabilization policies.

This paper explores the role of *rational herding* as a source of macroeconomic fluctuations. In the theory, investors learn about the quality of an investment opportunity by observing the decisions of their competitors and can be tempted to invest when they see other market participants expand their operations. The introduction of a new technology of uncertain quality can trigger a slow-rising boom followed by a sudden crash, in line with the experience of the dot-com era. In the boom phase, the initial optimism of investors translates into high levels of aggregate investment, and high investment, in turn, leads to further increases in optimism. This self-reinforcing

process can fuel a long-lasting expansion of the economy, which comes to an end when an overly optimistic view of the technology is no longer supported by the data. Investment collapses, taking down the rest of the economy.

The authors embed this mechanism into a dynamic stochastic general equilibrium model of the macro-economy, amenable for

quantification and policy analysis. The model is calibrated to the US economy, using in particular macroeconomic expectation surveys to discipline the learning block of the model. The theory is able to generate realistic boom-bust cycles in line with the experience from the dot-com era. The role of monetary policy and other macroeconomic stabilization tools are also studied. A key lesson emerges from the theory: rational herding provides a novel justification for the use of *leaning-against-the-wind* stabilization policies which reduce the incidence of boom-bust cycles and limit the severity of the ensuing crises.

This paper
explores the role
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as a source of
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Interview: Edouard Schaal and Mathieu Taschereau-Dumouchel

HOW DID YOU COME UP WITH THE IDEA OF THE PAPER? WHERE DO YOU USUALLY FIND INSPIRATION FOR RESEARCH IDEAS?

Edouard: Mathieu and I have been working for quite a while on the role of beliefs in driving or amplifying the business cycle. We have been particularly interested in the old idea of coordination failures as a theory of business cycle fluctuations. The paper actually came out as a by-product of an earlier paper called “Learning to Coordinate” in which we wanted to think about the way macroeconomic players learn to coordinate over time and how the economy can switch between different equilibria. A majority of the literature on coordination, with the notable exception of work by PSE professor Christophe Chamley, assumes that there are exogenous news or signals that people use to achieve this coordination. But little is known about the source of these news, where they come from, what generates them. A more natural idea is that people learn to coordinate by observing each other. We thus settled to write a stylized coordination game where people learned by observing the average action by other players. After a while playing with this model, we realized that the learning model itself was quite interesting even in the absence of strategic motives from the players: it could generate some form of herding, periods in which people would play the “wrong” equilibrium just because they were following the crowd. The model also generated what the literature has called



“We wanted to think about the way macroeconomic players learn to coordinate over time and how the economy can switch between different equilibria.”

“information cascades”, defined as periods in which macroeconomic news reveal very little information because people herd on the same action and stop acting on

their own private information. After understanding this, we realized we could write a paper solely exploring the implications of this learning model and the kind of interactions it generated. This is how the paper came about!

As for the way we find inspiration for research ideas: Back in the days when we were graduate students at Princeton, Mathieu and I always spent a bit too much time drinking coffee in

the lounge of the Economics Department, arguing about many things... I would say that this is where a lot of our papers were born!

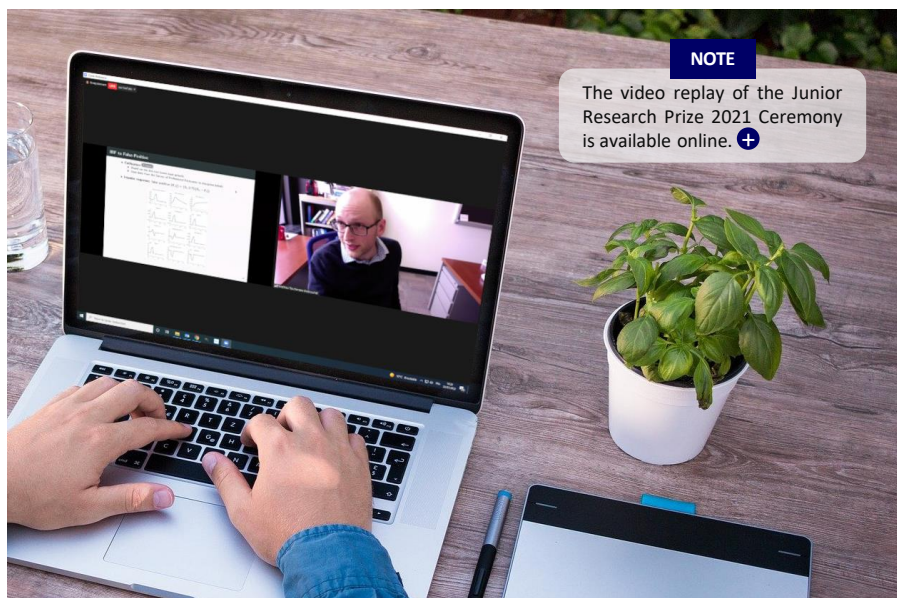
WE WANT TO KNOW MORE ABOUT THE PROCESS OF “WRITING A PAPER” IN ECONOMICS. HAS THE PAPER EVOLVED OVER TIME? AND, IF YES, HOW?

Mathieu: Oh yes! The paper has gone through many different phases. We have several sets of notes with different models that were discarded for one reason or another. For this project in particular, I don’t think we had a clear idea of where we were going when we started. We had some forces in mind that we thought might be important for the business cycles but it took us a while to think clearly through what was going on.

FOR HOW LONG HAVE YOU BEEN WORKING TOGETHER? HOW DO YOU SPLIT THE WORK? ACCORDING TO YOU, WHAT IS KEY FOR A SUCCESSFUL COLLABORATION?

Edouard: Mathieu and I have known each other for a while since we were already together during our undergrad, although we barely knew each other at that time. The true beginnings were probably the many





NOTE
The video replay of the Junior Research Prize 2021 Ceremony is available online. +

afternoons spent together solving problem sets during our first year of PhD, which then naturally continued as we started writing our own papers.

There is very little specialization on our team. While with other coauthors a very natural distribution of tasks emerges, this is not the case with Mathieu. Our skill sets do not differ greatly, so both of us tend to work equally on all parts of the papers—especially on the theory, which we both particularly enjoy. It may not be the most efficient, but this is how we like it. A successful collaboration can rely on complementary skills and a good distribution of tasks, but not necessarily. I personally enjoy having a coauthor that shares the same obsessions as mine in academic research!

WHAT WERE YOU WORKING ON DURING YOUR PHD OR AT THE EARLY STAGES OF YOUR CAREER? HAS IT CHANGED OVER TIME? IF YES, WHY?

Mathieu: Both Edouard and I worked on labor economics for our thesis. My job market paper was on the macroeconomic impact of the threat of unionization. The key idea was that nonunion firms generally don't want their workers to unionize and might make hiring decisions that would make unionization less likely. These decisions are however distractions from the normal operations of the firm and might have adverse effects for the aggregate economy. But over time, I got to learn new interesting things! Edouard and I have started to think about the causes of aggregate fluctuations and that led to a

few papers on the topic. More recently I have been working on production networks. There are many things that I find interesting, and I tend to work on whatever interests me the most at the moment, regardless of fields. Given the returns to specialization in the profession, this is probably a suboptimal strategy to maximize the number publications!

WHAT IS YOUR RESEARCH PROGRAM IN THE COMING YEARS? IS THERE ANY TOPIC YOU THINK THE PROFESSION SHOULD GIVE MORE INTEREST TO?

Mathieu: Edouard and I have two joint papers about the role of coordination for business cycle fluctuations. The idea that economic agents fail to coordinate on a good equilibrium and that this might cause or prolong a recession has a long history in economics. I think there is still a lot of work to do on that topic. One of the challenges is to bring model of coordination failures closer to the mainstream models and to evaluate their performance quantitatively. Recently, I have also started to work on models of production networks. I believe that these models offer powerful insights about the propagation of micro shocks and the origin of macro fluctuations. That literature is still at an early stage and much more work remains to be done.

Edouard: Beyond what Mathieu just said, I think a lot of the topics that our papers relate to, including the role of complementarities, coordination, nonlinearities, or endogenous business cycles, remain way too marginal in mainstream macroeconomics. These are fascinating topics that deserve a lot more attention!

WHAT ADVICE(S) WOULD YOU GIVE TO OUR PHD STUDENTS ENROLLED AT PSE?

Edouard: One piece of advice I often give to my advisees is to start coauthoring early on. Not only with more senior people from whom one can learn a lot, but especially with fellow students. I think doing so is particularly valuable when you start: research can be a lonely activity and there is so much to learn about the process that I think it is great to do it with other people of the same level, people with whom one can discuss freely and not be afraid of asking naive questions or making mistakes! This is not only a nicer way to begin with research but also a great way to start thinking outside of the box.

Mathieu: Yes, I think that's good advice. I also advise students to take a step back and not focus on the literature too much. Are there real-world problems that interest you? What do you think are the main economic forces at work? Can you build a little model that capture these forces?

I think it's useful to reflect on these questions before turning to the literature. Students often learn about a topic by reading the famous papers in the literature. This tends to constrain their thinking and it leads to papers that are small deviations from previous work. It's better to keep a fresh mind! Maybe a different way to think about a problem can lead to new insights.

“The idea that economic agents fail to coordinate on a good equilibrium and that this might cause or prolong a recession has a long history in economics.”

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COMING NEXT

May 19, 2022

Lecture by Laura Veldkamp:

“Data and the changing economics of knowledge production”+

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