A new PhD specialization: money and finance

We are very excited to announce that, beginning the academic year 2021/22, Stockholm University's PhD program in economics is offering a new specialization in *monetary policy and financial stability*. This endeavor is the result of a generous grant from the Sveriges Riksbank Tercentenary Foundation. Formally, a new research center – the ***Center for Monetary Policy and Financial Stability, CeMoF*** – is being created and it will govern and coordinate the money-finance track. CeMoF is a collaboration between the Department of Economics, the Institute for International Economic Studies, and Stockholm Business School, all at Stockholm University. A center webpage will be launched shortly.

Students interested in this specialization should simply apply to the SU PhD program in economics: taking the money-finance track in short means following the regular program, with money-finance elements from year two and on. Students interested in financial stability and financial markets should also apply to SU's PhD program in business administration with specialization in finance, which offers the same money-finance track. Apply to the PhD program in business administration here. Applications to either program do not have to include a statement of interest in this specialization – in fact, it is available to all students admitted – but we welcome it.

We believe that, given the profiles of our faculty and close cooperation with Sveriges Riksbank (the Swedish central bank), we are in a unique position to offer a forward-looking research specialization that is on the international frontier. In fact, over the last several years many of our graduate students have already chosen a money-finance specialization akin to the one that will be the trademark of the new track. These students have written highly successful dissertations, and obtained great jobs within these fields at universities as well as in central banks. The creation of CeMoF and the new money-finance track implies that we will be able to offer even more courses, that we will engage international top scholars as guest professors, and that we will formalize our commitment to excellence in monetary policy and financial stability.

Research background

To those of you who are interested in the background to CeMoF and the new track, let us convey some key ideas. The area of central bank research, including monetary economics and the areas pertaining to credit markets, banking, and household finance, has undergone radical change over the last 10-15 years. There are two broad reasons for this, and these were initially unrelated but have become gradually intertwined. Below we describe the evolution of the field in more detail, and the role of SU researchers in these developments.

The first reason research on monetary economics has changed fundamentally is a set of scientific breakthroughs beginning in the 1990s. These breakthroughs involve heterogeneous-agent macroeconomics, which enables us to analyze the vast disparities in behaviors among households and firms. Only fairly recently has this breakthrough had an impact on monetary economics, not least through the class of Heterogenous Agent New Keynesian (HANK) models.[1] We now understand that when a central bank implements its policies there are sound empirical grounds for thinking that some households, and some firms, are not affected at all, whereas others are affected greatly. The empirical work underlying this insight uses novel micro data on households and firms. Scandinavian registry data have been crucial here. The micro data sets reveal that households' consumption responses to shocks are not only highly heterogeneous but also suggest some departures from the key channel considered

[1] For a review of the HANK literature, see for instance Ahn et al. (NBER, 2018), Kaplan, Moll, and Violante (American Economic Review, 2018), and Kaplan and Violante (Journal of Economic Perspectives, 2018).

in traditional models of monetary transmission (the intertemporal substitution channel).[2] The traditional models used by central banks – RANK models, R for "representative" – have relied on a single type of household and a single type of firm and thus neglect the effects of heterogeneity for monetary transmission. On the one hand, these models capture many important dynamic general equilibrium aspects of the economy. In that sense, they serve policy making at central banks very well. On the other hand, they rely on mechanisms we now realize are only part (and maybe even a small part) of the whole transmission mechanism from monetary policy to the real economy. HANK models can thus be viewed as ambitious and important extensions of the traditional framework. The new models are still at an early stage of development, but research on them within the monetary-economics field is intense and broad. Central banks need to stay abreast of these developments and are currently working to incorporate HANK insights into their policy models. In the medium run we therefore expect the RANK model to be replaced by some appropriate HANK version. Another important aspect of HANK models is that they allow policymakers to better understand how inequality is affected by policy. Concerns that inequality – in incomes and wealth – is growing in an uncontrolled manner have also risen on central banks' research agendas, especially since e.g. quantitative easing has been argued to hurt poor households while benefitting the rich.

The second reason for the drastic change in focus in central-bank research is the global financial crisis of 2007-09. The crisis had origins in the workings of financial markets, including those involving housing and mortgages.[3] These markets have now become a strong focus of central-bank study and monetary and regulatory policies to prevent similar crises in the future are at the top of policy agendas. Moreover, it has become clear that in order to understand the key mechanisms at work it is necessary to coordinate empirical analysis of households and firms and theoretical modeling of heterogenous households and firms. As a result of these developments, we think differently about the macroeconomy today. Macroprudential policy has become a novel policy domain. This policy branch, and its interaction with monetary policy and measures aimed at promoting financial stability, remain scientifically unexplored. Our understanding is improving fast, however, making it important for central banks to stay tightly attuned to the research frontier.

To prevent financial crises, and to understand the workings of financial markets more generally, it is also important to understand how market participants adapt their strategies in response to changes in economic, technological, and regulatory shocks. In the field of financial market structure, such micro-level analyses of the interplay of traders, investors, and intermediaries are pursued in order to understand the determinants of market quality (measured in terms of liquidity, price discovery, and resiliency). With an increasingly complex and decentralized market structure in virtually all asset classes, this field helps us understand triggers of financial frictions, bubbles, freezes, and crises.[4]

In sum, recent research in monetary economics, macroeconomics and related empirical fields, such as household finance, has embraced heterogeneity. New theoretical and empirical strands have emerged and become central to how policy makers are beginning to think. The strong interest in these issues is reflected in the large fraction of central-bank conferences presently being devoted to research in these areas.

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[2] Key empirical evidence on large and heterogenous consumption responses to stimulus includes Parker et al. (American Economic Review, 2013) and the dynamic response documented by Fagereng, Holm and Natvik (2018).

[3] For a recent review of the relationship between credit, housing wealth, and business cycles, see Mian and Sufi (Journal of Economic Perspectives, 2018).

[4] The relevance of financial market structure was recently highlighted at the *Central Bank Workshop on Market Microstructure*, held at the Riksbank in November 2019.

Turning, finally, to the role of research pursued at SU, it so happens that SU hosts a set of international leaders in these areas, with expertise in both theoretical modeling and empirical work. In particular, some of the seminal papers in the heterogeneous-agent strand of literature (including studies of monetary and financial frictions) are contributions by SU researchers.

Further information about the training

As argued above, researchers at SU specializing in macro- and monetary economics, household finance, and some areas of financial stability broadly defined, are at the forefront of the new research, at the highest level of international comparison. Over the last few years, a significant fraction of the graduating macro and finance students from SU have indeed specialized precisely in central bank-relevant research and obtained prestigious positions at universities worldwide and at central banks and in international organizations.

In 2018, the European Central Bank (ECB) launched an exclusive, by-invitation-only, conference for PhDs seeking employment in December-January (the time when the employment market for PhDs takes place every year). Specifically, the ECB invited the six most promising PhDs worldwide, working in areas relevant to central banking. Both in 2018 and 2019, SU had one participant among the six (Jonna Olsson and Karin Kinnerud, respectively). This feat is evidence of SU not only harboring potential in training outstanding researchers in this area – the university is already a leading institution in this regard.

Our money-finance track highlights Stockholm University's unique overall capacity to train prospective PhD students and hence the attractiveness of the program more generally. The new funding will further consolidate the environment and the money-finance track will enable us to admit a larger pool of talented PhD students.

The new track features the following components:

1. Mandatory first-year courses in microeconomics, macroeconomics, mathematics, and econometrics that coincide with those followed by all other PhD students.

2. Second-year elective courses, where it is mandatory to take a minimum number of credits within the money-finance track, but where there is significant scope for choice. Tentative second-year course sequences to be offered are as follows:

	Money	**Finance**
Q1	Bootcamp in computational economics	Household finance
	Quantitative macroeconomic methods 1	Market microstructure: theory and data
Q2	Applied macroeconomic research (paper-writing course)	Financial markets and asset prices, empirical and theoretical
	Quantitative macroeconomic methods 2	
Q3	Monetary economics	Corporate finance, empirical and theoretical
		Liquidity and banking
Q4	International finance	Financial stability and prudential policy

3. An internship at Sveriges Riksbank of 1-3 months. These internships will be optional but strongly encouraged. Interns would spend time conducting their research while learning about the different functions of the bank and get to know both the research department and relevant policy groups.

Importantly, although the money-finance track is expected to draw students with a special interest in this area to the program, the money-finance specialization is voluntary, meaning that after entering

the program, students are free to opt out of, or in to, the track. Relatedly, we also strongly encourage PhD students on the track to take courses outside the money-finance field. In particular, SU houses exceptionally strong applied microeconomic researchers in different sub-fields and we believe that a broad training will not only give you larger toolboxes but also help you become better economists overall.

More information on the profiles and work of relevant faculty is provided on our webpages.

Students interested in finance are encouraged to also apply to the Stockholm Business School PhD program in business administration, with specialization in finance. Students admitted to that program can choose to follow the same money-finance track as described above.

We on the interim management team of CeMoF – Anna Seim and Roine Vestman (DE), Per Krusell and Kurt Mitman (IIES), and Björn Hagströmer and Lars Nordén (SBS) – we look forward to the money-finance activities within the center and very much hope that you apply to get a PhD degree at Stockholm University!