


The current macroeconomic environment is associated with a number of risk factors such as unconventional monetary policy and its normalization, very high levels of private and public indebtedness, political uncertainty, and the possibility of infrequent but major shocks. This situation poses **new challenges for decision-makers dealing with macroeconomic risk and for research.**

The SCOR-PSE Chair aims to investigate these issues, and more broadly to promote the development and dissemination of macroeconomic risk research. 

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Researcher Award

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2019 Young Researcher Award

The SCOR-PSE Chair is proud to announce the laureate of its 2019 Young Researcher Award. This prize distinguishes **outstanding research in the field of macroeconomic risk conducted by a junior economist** less than ten years after the Ph.D.

A selection committee headed by Gilles Saint-Paul, scientific director of the SCOR-PSE Chair, has decided to award this year's prize to Maryam Farboodi for her recent work on intermediation and voluntary exposure to counterparty risk, for which a summary is provided in the next section.



Maryam is an Assistant Professor of Finance at the MIT Sloan School of Management. Her research interests are in the areas of **financial frictions, corporate finance, macroeconomics, and mechanism design.** Previously, she was an Assistant Professor at the Bendheim Center for Finance at Princeton University.

Maryam holds a B.Sc. in computer engineering from Sharif University of Technology, an M.Sc. in computer science from the University of Maryland, College Park, an M.Sc. in economics from the University of Texas at Austin, and a **joint Ph.D. in financial economics from the Booth School of Business and the Department of Economics at the University of Chicago.**

The international community painfully learned during the 2008 crisis that specific events affecting a firm or a sector may spread to the entire economy. **Transmission of shocks from a firm to its suppliers and customers, or between financial institutions connected through portfolio investments, has been identified as a key channel of macroeconomic risk.**

The literature has analyzed how the geometry of such networks determines whether or not a micro shock is likely to trigger a contagious cascade and from there cause a global crisis. **Maryam Farboodi's key contribution is to study the conditions under which the network of joint financial relationships will self-organize so as to endogenously increase the risk of contagion.** +



EVENT

Maryam will present her paper and receive her prize in Paris during the next SCOR-PSE Chair annual conference on July 2, 2019. The conference will feature some of the best international specialists presenting and discussing research-frontier papers on macroeconomic risk. +





Intermediation and Voluntary Exposure to Counterparty Risk

Farboodi, Maryam, *Intermediation and Voluntary Exposure to Counterparty Risk*, Working Paper, October 2017. [+](#)

In the aftermath of the financial crisis, the degree of interconnectedness in the financial sector has been heatedly debated and argued to generate excessive systemic risk. **How may systemic risk emerge in equilibrium and what are potential regulatory responses?**

The paper develops a model of the financial sector in which endogenous intermediation among debt financed banks generates excessive systemic risk, which is measured as the distribution of total value lost due to bank failures. Financial institutions have incentives to capture intermediation spreads through strategic borrowing and lending decisions. By so doing, they tilt the division of surplus along an intermediation chain in their favor, while at the same time reducing aggregate surplus. It is shown that a core-periphery network (few highly interconnected and many sparsely connected banks) endogenously emerges in the model.

In other words, the model predicts that there is a small number of very interconnected banks that trade with many other banks and a large number of banks that trade with a small number of counterparties. **There is overwhelming recent evidence that interbank markets exhibit a core periphery**

structure. Moreover, banks at the core have high gross exposures and low net exposures among themselves. The model not only provides a theoretical framework that jointly explains these empirical stylized facts; its main contribution is to do so by explicit modeling of intermediation among banks and its frictions.

The financial network consists of banks and their lending decisions. Banks need to raise resources for investment either from households or from other banks. The model endogenously generates indirect lending and borrowing in the interbank market, which is a prominent feature of both the federal funds market and over-the-counter market for derivatives. If the investment fails and the borrowing bank does not have sufficient funds to pay back her lender(s), it fails and potentially triggers a cascade of failures to the lenders, lenders of lenders and so on.

Banks are profit maximizers. There are two groups of banks in the model: those who have access to a risky investment opportunity, and those who do not. Each bank chooses its lending and borrowing relationships to get the highest expected possible rate on the funding it lends out and the investment it undertakes, net of cost of failure. When there

are positive intermediation rents in the system, profit maximization creates private incentives to provide intermediation, which in turn leads to a particular structure for the equilibrium network. Since intermediation is profitable per se, in equilibrium, competition implies that the banks who are able to offer the highest expected returns become intermediaries. These banks are exactly the ones who have access to the risky investment technology. On the other hand, a bank who is not an intermediary still wants to earn the highest possible returns, thus opting for the shortest connecting path to investing banks to avoid paying intermediation spread as often as possible. These two forces give rise to a core-periphery equilibrium network in which a subset of banks with risky investment opportunities constitute the core. **The interbank network generated by the model is socially inefficient. Banks who make risky investments overconnect, exposing themselves to excessive counterparty risk, while banks who mainly provide funding end up with too few connections.**

This paper suggests that explicitly modeling the interaction between banks' incentives to capture higher returns, with intermediation, a necessary mechanism to allocate liquidity within the financial system, jointly explains the stylized facts about global structure of interbank networks, interbank interconnectedness, and gross and net exposures among financial institutions. Moreover, by providing sharp predictions about sources of inefficiency in interbank relationships, the model contributes to the heated policy debate on how to regulate the financial market.

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Trading Ambiguity: A Tale of Two Heterogeneities

Mukerji, Sujoy, Han N. Ozsoylev, Jean-Marc Tallon, Trading Ambiguity:
A Tale of Two Heterogeneities, Working Paper, December 2018. [+](#)

The financial literature largely assumes that investors know the distribution of asset returns. In most real-world situations, however, decision-makers are uncertain about the data-generating process. This can have important implications for portfolio choice, because investors may prefer portfolio allocations that are robust across the set of return distributions believed to be possible. Mukerji, Ozsoylev and Tallon show that this so-called ambiguity of returns can potentially explain several puzzling empirical regularities in financial markets.

TRADING-OFF RETURN, RISK, AND AMBIGUITY

The authors' findings rely on two important heterogeneities. First, financial assets differ in how well their return distributions are known. For example, return ambiguity would be high for stocks of new-technology companies or companies exploring new markets whose risks have not fully been learned. Second, investors differ, additionally to their risk aversion, also in their tolerance for ambiguity. Taken together, these heterogeneities give rise to an extension

of the well-known mean-variance portfolio choice paradigm: investors chose their portfolios facing a three-way trade-off between expected return, variance, and ambiguity. For example, more ambiguity-averse investors aim to avoid ambiguity and invest a larger fraction of their risky portfolio in financial assets with better known distributions. This finding accords well with common financial planning advice encouraging conservative investors to hold more bonds, relative to stocks and potentially provides an explanation of Canner et al. (1997)'s asset allocation puzzle.

AMBIGUITY PREMIUM IN EQUILIBRIUM RETURNS

Since ambiguity affects investors' portfolio choice, it is also reflected in equilibrium asset prices. As in the standard capital asset pricing model (CAPM), a single factor – the excess return of the market portfolio – prices the cross-section of asset returns. Different to standard theory, however, factor loadings (CAPM-beta) are adjusted by the extent to which

the assets' ambiguity correlates with the ambiguity of the market portfolio. **Two uncertainty premia explain the cross-section of expected returns: a risk premium and an ambiguity premium.** The latter has the potential to explain the famous size and value premia documented by Fama and French (1992, 1993). For example, high book-to-market firms, which tend to be in financial distress, and small-cap firms, due to their over-reliance on external financing, likely carry a high ambiguity premium. Also the model's dynamic predictions are consistent with empirical regularities. For example, **public earning announcements or aggregate uncertainty shocks affect the ambiguity of financial assets and change investors' return-risk-ambiguity trade-off.** Since investors differ in ambiguity aversion, trade occurs after such signals in equilibrium, leading to very small price movements consistent with the empirical literature.

The authors propose Bayesian techniques to estimate the ambiguity of individual financial assets.

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His research was published in journals such as the American Economic Review, Econometrica, Journal of Economic Theory, among others. [+](#)

From Microeconomic Favoritism to Macroeconomic Populism

Saint-Paul, Gilles, **From Microeconomic Favoritism to Macroeconomic Populism**, CEPR Discussion Paper No. DP13434, January 2019. [+](#)



Why would people support macroeconomic policies that are likely to lead to sovereign crises, balance of payments crises, and the like? A rational explanation is based on favoritism – an institutional feature of society implying that some social groups have better access to public goods than others. A favored group that bears a low fraction of the costs of a crisis but benefits in the short-run from unsound policies is likely to support fiscal indiscipline. **This paper formalizes the role of favoritism for public spending, indebtedness, and crisis** in an illustrative model based on Saint-Paul et al. (2017), **and studies support for political parties implementing it, so-called «populists».** It argues that favoritism shaped the recent history of French pension reforms and confirms its effect on macroeconomic policy across a panel of countries.

ENGINEERING CRISIS: STRATEGIC FISCAL INDISCIPLINE

Favoritism generates fiscal indiscipline if the decisive voter is favored relative to the mean in crisis times. When the government's

fiscal capacity is insufficient to cover its obligations and society enters a fiscal crisis, people's access to their entitlement of publicly provided goods must be rationed. Under favoritism, this adjustment is mostly burdened on unfavored groups. By pursuing unsound fiscal policies, the favored decisive voter can engineer future crisis and manages to have the public good on average financed by others. For example, increasing the level of public debt implies more rationing in crisis times but relatively less so for favored groups who also benefit from increased private consumption possibilities through higher debt. Absent crisis, Ricardian equivalence holds and debt has no effect on society. Thus, the incentive to raise more debt stems from states of fiscal crisis only. It becomes stronger the greater the probability of a crisis. Similarly, favoritism increases public spending.

Since favoritism need not be a structural property of society, **the paper then studies how favoritism arises as an outcome of collective choice between either a populist or a technocrat.** The populist implements favoritism regardless of fiscal and macroeconomic conditions. The technocrat sticks to anonymity and rations access to publicly provided goods only in a crisis. It is shown that the support for the populist is greater, the greater the likelihood of a crisis.

FRENCH PENSION REFORMS... FAVORITISM AT WORK?

The recent history of French pension reforms is used as an example for this paper's mechanisms. In particular, it was rational for French public sector employees to support the reduction in the retirement age from 65 to 60, implemented by the Mitterrand administration following

his 1981 presidential victory, despite overwhelming evidence that it was fiscally unsustainable. Civil servants, having their own special pension system, had good reason to anticipate that subsequent adjustments were likely to hit other social groups proportionally more. Indeed, the first attempt to balance the accounts of the pension system, the 1993 Balladur reforms, made it more difficult for private sector employees only to retire at the age of 60 by raising the duration of their contributions from 37.5 to 40 years.

Formal statistical evidence in favor of the model's predictions is provided by merging four country-level databases, the IMF's World Economic Outlook for macro indicators, the Institutional Profiles Database (IPD) for indicators of favoritism at the institutional level, the Database of Political Institutions (DPI) for indicators of party ideology, and the CRAG-Bank of Canada database of sovereign defaults to get proxies for fiscal crises. Overall, the results support the theory. Unequal treatment from administrations, a proxy for favoritism, is more likely to generate high debt, high public expenditures, and high deficits, as well as (indirectly through debt) sovereign default. Furthermore, **adverse fiscal conditions such as high public debt, high deficits, and low fiscal capacity are more likely to lead to a populist government.**

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The SCOR-PSE Chair on Macroeconomics Risk
is financed by the SCOR Foundation for Science
and is held by the Paris School of Economics



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