

# MISTRA FINANCIAL SYSTEMS

MISTRA FINANCIAL SYSTEMS IS A RESEARCH PROGRAM EXPLORING HOW FINANCIAL SYSTEMS MORE EFFECTIVELY CAN WORK FOR SOCIAL AND ENVIRONMENTAL SUSTAINABILITY

## ANNUAL REPORT

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MISUM



# HOW CAN FINANCIAL SYSTEMS PROVIDE BENEFITS WITH FEWER DOWNSIDES?

The MFS grant provides critical input to the long-term efforts of answering the important questions, says Bo Becker.

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The critical functions the financial sector performs for the economy are of immediate importance not just for the households, firms and institutions directly involved, but also for broad societal outcomes. The financial sector is critical for positive outcomes such as funding innovation and experimentation with new ideas, providing rewards for entrepreneurship and allowing households to invest with good returns, limited risk and perhaps a limited negative impact on the earth's climate. But the financial sector is also implicated in financial crises – think of losses on “structures securities” in 2008 – potentially rewarding socially inefficient

behavior in corporations, moving polluting activities to less regulated jurisdictions and as a scene of fraud (for a Swedish audience: think of the reports of losses to households related to fraudulent asset manager Allra inside the government-run pension system). How can the financial system be constructed to provide all the benefits with less of the downside? Are there policies or regulations that can support a financial system which provides more benefits? Are there new practices in the financial system, cleaner measures, more efficient structures or new insights which can lead to this? These questions constitute the research topic, broadly construed, of Mistra Financial Systems.

Academic research plays a unique role in the policy debate around these issues. First and foremost, where the scientific method can be brought to bear research can provide a better underpinning for policy by laying out the



mechanisms and causal relationships that characterize the financial system and its role in the economy. The scientific answer to “how does it work?” is the gold standard for modern society, when available. Second, by rigorously assessing the outcomes of policies and rules, academic studies help answer “what works?”.

Getting the answers to with the scientific method is often slow and unpredictable. The process through which scientific research answers questions often seems meandering and indirect. Understanding the issues, producing ideas for new studies, collecting and cleaning data, modelling and refining tests, explaining

and debating results in seminars and conferences, and finally exposing the results to the exacting standards of the scientific community through peer-reviewed journals often takes years and fails to provide conclusive answers more often than it succeeds. Yet this long and arduous process is the best way we have of producing hard, reliable truths. It is the antidote to wishful thinking, ideological posturing or sloppy assumptions. It is the long road to better answers.

The implementation of this process requires years of dedication by faculty to learning and refining the methods and tools of research. This obviously puts demands on resources and support of various kinds. Grants such as MFS provide a critical input to this. By supporting long-term efforts of talented, dedicated researchers, this grants stimulates the production and dissemination of new knowledge on these critical issues. Thanks Mistra!

## FIVE RESEARCH AREAS

Mistra Financial Systems is a Mistra-funded research program on how financial systems can be supportive of the Sustainable Development Goals. The program is divided in five different research areas. The overarching research question “How can financial systems be put to better work for the sustainable development of society?” trickles down into questions that investigate the overall research question from different perspectives.

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### GREEN MACRO

What are the large-scale dynamic links between financial systems and the prospect of a circular economy? Our aim with Green Macro is to explore the role of the financial system in supporting the transition to a sustainable economy and, conversely, the potential implications of climate change and climate/energy policies on financial stability. Using a suite of numerical macroeconomic models, the project will:

- address the repercussions of having “stranded assets”
- study the role of financial regulation in supporting the low-carbon transition
- investigate the implications of a long-term decline in growth rates – a “secular stagnation” – on the achievement of a circular economy

#### Research Projects:

- The modelling framework
- Numerical calibration and simulation
- Open-access analytical tool
- Stranded assets and financial risk
- Green financial regulation and monetary policies
- The implications of secular stagnation

### POLICY

How can policy and institutional arrangements facilitate a transition to more sustainable financial systems? Our aims are to develop a better understanding of the interplay between public policies and the practices of financial institutions, to evaluate some of the policy suggestions for sustainable finance currently on the table (in collaboration with the United Nations), and to develop policy solutions for controlling so-called financial innovations.

#### Research Projects:

- The role of policy and finance in green transitions
- Contemporary leverages for financial transitions
- “Green” Innovative Financial Instruments: Insurance and Bonds
- Innovative Biodiversity Financing Mechanisms: Offsets and Ecological compensation
- Earth System Finance

## MARKET DRIVERS

What are the central market drivers of sustainable finance (in the real economy), and how are they best supported and/or controlled? We will here focus on central drivers such as technology and innovation. Our aims are to develop a better understanding of the role of the financial sector in supporting and promoting green technological change and to develop a better understanding of the links between finance and innovation in the real economy.

### Research Projects:

- The financial sector in endogenous growth models with clean technologies
- Investments in innovation
- Access to finance, energy subsidies and technical change
- The role of fintech in facilitating the transition towards green growth
- Practical tools

## PRACTICAL TOOLS

What can financial institutions do here and now, within the current system, to work for sustainable development? Our aims are to develop useable tools for sustainable investors. The concrete results will include a tool to better track the effectiveness of engagement activities, a tool to measure citizens' interest in sustainable development goals, a tool that allows better benchmarking of Swedish ESG activities, and a tool to better measure overall financial market health.

### Research Projects:

- Evaluating Engagement Effectiveness
- Data Science for Sustainable Development Goals
- Enhancing sustainable market infrastructures: the case of incomplete carbon reporting
- Industry Benchmarking of rating agencies on best practice
- Unexpected, systematic risks within and outside of markets: towards a measure of market health

## GOVERNANCE

What structures of financing, governance and practice within the financial industry can make it more conducive to sustainable development? Our aims are to better understand how financial institutions themselves reason about externalities and short- versus long-term governance, to profile "angel" investors who are ready to invest in risky but progressive sustainable technologies, and to propose ways in which the culture of the financial industry can be influenced by such things as gender equality and bonus programs that are more equitable. We will also investigate the how consumers can become more knowledgeable and active in financial decisions.

### Research Projects:

- Cost of capital and sustainable development
- Are behavioral biases and social structures affecting access to finance in cleantech?
- Angel Financing
- Sustainability and entrepreneurship
- Financial sector attitudes towards long-termism
- Gender equality
- The ethics of executive compensation programs: philosophical and psychological perspectives
- Financial knowledge of individuals
- Investing in complex financial products
- Influencing financial planning



## THE FINANCIAL SECTOR IN ENDOGENOUS GROWTH MODELS WITH CLEAN TECHNOLOGIES

Interview with Gustav Martinsson, Associate Professor in Financial Economics at Royal Institute of Technology (KTH) and a Visiting Research Fellow at Swedish House of Finance.



How can firms shift corporate investment from dirty to clean production technologies? The main purpose of our research is to explore that. Recent research shows that technological change is path dependent and therefore highlights the need for policy tools like pollution taxes,

to accelerate the shift toward cleaner production technologies. We test how the investment strategies of global companies respond to air pollution taxation. Do they shift investment away from existing, polluting technologies toward investment in research and development (R&D) and new technologies? And do firms with different financing capacities respond differently?

### What are the most important findings so far?

– The results indicate that air pollution taxation affects corporate investment policy. We find that firms do respond to higher taxes on air pollution by increasing investment in R&D and reducing tangible assets-

in-place. These effects are relatively stronger in high-pollution industries and only appear after taxes are introduced. However, the increase in R&D is concentrated in profitable firms. We also find that pollution taxes lead to a significant increase in the country-level stock of pollution abatement technologies.

### What are the broader implications from an economic and environmental perspective?

– The obvious implication is that taxing activities with high environmental costs can re-direct technological change. Our results provide empirical evidence that pollution taxation can be effective. However, our results also show that financing considerations can influence the extent to which environmental policies encourage new innovation. They show that successful and established firms are more inclined to respond to pollution

taxes, which indicates that complementary policies may be needed to re-direct technological change amongst younger and less established companies as well.

“Successful and established firms are more inclined to respond to pollution taxes.”

# GENDER EQUALITY IN THE FINANCE SECTOR

Interview with Pernilla Bolander and Kajsa Asplund,  
researchers at Stockholm School of Economics and  
Swedish House of Finance

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For one and a half years years, Pernilla Bolander, Assistant Professor at Stockholm School of Economics, and Kajsa Asplund, PhD student at SSE and a psychologist, have researched how talent management practices and procedures of different organizations affect employees' opportunities and careers. More specifically, how such practices affect men and women differently and thus operate to include or exclude women.



The findings differ significantly between the two companies in the study, a private equity firm and a commercial bank. The former has a strong and sincere will to promote gender equality and diversity, but the work nonetheless seems to require a very specific profile.

– We call this surface-level diversity. In this particular case, traits such as race, gender and age may differ, but deep-level traits like values, beliefs and attitudes are often shared. In summary, employees with a different background than the traditional PE profile and with different views on e.g. work-life balance often find it more difficult to adapt, says Kajsa Asplund.

In contrast, the bank has a different work culture largely built on traditional managerial careers. Female representation in senior management is poor, which is often

explained internally with women “pausing” their careers for parental leave.

– We find, however, that an equally important explanation has to do with the view on competence. Not least, the manager role is construed in clearly masculine terms.

**Are there any areas that you would like to further explore?**

– It would be interesting to continue exploring perceptions and assessments of future talent in the financial sector. Previous research has shown that people tend to judge men's future potential as higher than women's, even if current performance is equal. Why is this so? Another area that needs to be investigated further is the role of middle managers in the talent management and career advancement of women.

“People tend to judge men's future potential in the financial sector as higher than women's, even if current performance is equal. Why is this so?”





**Bo Becker**, Professor in Finance at the Stockholm School of Economics, is Program Director with overall responsibility for Mistra Financial Systems.



**Peter Norman**, former Minister for Financial Markets, is the Chairman of the Mistra Financial Systems Program Board and a member of the Misum Board.



**Emma Sjöström**, PhD and manager for the Misum research platform Sustainable Finance at Stockholm School of Economics.

Mistra Financial Systems is hosted by Misum, The Mistra Center for Sustainable Markets at Stockholm School of Economics. Program partners are: Swedish House of Finance, KTH Royal Institute of Technology, The Royal Swedish Academy of Science, Stockholm Environment Institute, Gothenburg University, Vienna University, Kingston University and University College Dublin.



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