MARIO MILONE October 2018

Université Paris-Dauphine

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## Professional Experience

Visiting Scholar, Imperial College Business School, 2018–2019 Research Assistant, Imperial College Business School 2015–2018 Temporary Lecturer (ATER), Université Paris Dauphine, 2016–2018 Research Intern, Laboratoire de Recherche en Informatique (LRI), 2011, 5 months Software Designer Summer Intern, Tokyo 2010

#### Education

Ph.D. candidate in Finance, Université Paris Dauphine, 2012-2018

Dissertation submitted. Thesis Committee: Gilles Chemla (Advisor), Denis Gromb, Jérôme Dugast,

Christopher Hennessy, Kathy Yuan. Expected Defense: December 3, 2018

Visiting Student, Harvard University, 2013–2014, Sponsor: Oliver Hart

M.Res. in Finance, Université Paris Dauphine, Ranked  $1^{st}$ , 2012

M.Res. in Artificial Intelligence, Université Paul Sabatier, Toulouse, Ranked 2<sup>nd</sup>, 2011

M.Eng. in Computer Science, Institut National des Sciences Appliquées (INSA), Toulouse 2011

Exchange Student, Hong Kong University, 2009–2010

## Research Interests (Theory and Emprirical)

Financial intermediation; Corporate Finance

Technology; Fintech; Big Data

Financial Analysts; International Trade

## Working Papers

Smart Lending

This paper investigates the impact of data-based lending on financial intermediation. I show that a data-based screening technology can increase financial frictions. Since borrowers that belong to groups that were less financed historically are under-represented in the data, the technological lender's screening efficiency differs in the cross-section of borrowers and is higher for borrowers with greater historical lending data. I show that this dispersion effect is mitigated when the lender can acquire soft information. In equilibrium, the borrowers about whom data can provide precise information raise funds from technological lenders while those with less informative historical data choose traditional lenders who can make up for the lack of hard data-based information by acquiring soft information. Traditional borrowers may have incentives to limit or even ignore data. The intermediation cost to traditional borrowers is increased by the existence of technological lenders. I identify conditions under which traditional borrowers benefit from restricting their own access to data processing technology.

Assessing Transit Rents (with Katrin Tinn)

Trading frictions due to inevitable transportation costs are fundamentally different from those due to rent extraction by transit countries. We propose a theoretical and empirical methodology to disentangle these two types of costs and assess the presence and global magnitude of a hold-up problem. We construct a new measure of distance based on a global network of the most likely trade routes. While

transportation costs make all countries worse off, rent extraction benefits transit countries. Further, we show that in general equilibrium, countries that are neither landlocked nor transit countries bear a large share of the cost of distortions due to rent extraction. While free trade agreements with transit countries do not appear to mitigate the problem, customs unions do.

Bank asset structure and the risk-taking implications of capital and liquidity requirements

In addition to risky loans, banks hold risky securities that provide uncertain future liquidity. This leads them to choose an asset structure with their desired correlation between liquidity and long term asset returns. We show that liquidity management and risk management concerns lead to a trade-off that creates an inverse relationship between security holdings and aggregate asset risk. Capital requirements mitigate liquidity risk in all future states of the world, thereby reducing the cost of liquidity risk and leading banks to increase aggregate asset risk. Liquidity requirements such as the Liquidity Coverage Ratio (LCR) affect high liquidity shock states and mitigate aggregate asset risk-taking. These results highlight the tension between capital and liquidity regulations in addressing the risk taking incentives of financial intermediaries.

#### **Publications**

Oliver Hart, La finance vue à travers la théorie des contrats incomplets (with Gilles Chemla) publié dans Michel ALBOUY, Les Grands Auteurs en Finance, Editions EMS, 2017, p. 529 à 554

Continuous Rapid Action Value Estimates (with M.Sebag, O.Teytaud, A.Couetoux, H.Doghmen and M.Brendel) 3rd Asian Conference in Machine Learning (ACML), 2011

Consistent Belief State Estimation, with Application to Mines (with O.Teytaud and A.Couetoux) International Conference on Technologies and Applications of Artificial Intelligence, 2011

Q-Learning with Double Progressive Widening : Application to Robotics (with O.Teytaud and N.Sokolovska)  $18th\ International\ Conference,\ ICONIP\ 2011$ 

### **Seminars and Conferences**

Finance Theory Group (FTG) summer conference, *June 2018* London Business School, London

CEPR Third Annual Spring Symposium in Financial Economics, April 2018 Imperial College Business School, London

Second Workshop on Corporate Governance, *June 2017* ESCP Europe, Paris

Adam Smith Conference in Finance,  $March\ 2017$  HEC Paris

EFA Annual Meeting (43rd), August 2016 BI Norwegian Business School, Oslo

1st Microstructure Conference, *June 2016* Université Paris Dauphine, Paris

9th Financial Risks International Forum, March 2016 Institut Louis Bachelier, Institut Europlace de Finance, Paris 8th Annual Hedge Fund Research Conference, *January 2016* Université Paris Dauphine, Paris

Seminar Presentation - DSF/TI PhD seminar serie, June~2014 Timbergen Institute - Amsterdam

## Teaching Experience

Teaching Assistant for Professor Gilles Chemla, 2015–2018 Imperial College Business School Advanced Corporate Finance (GMBA, FTMBA, WEMBA) Mergers & Acquisitions (FTMBA, WEMBA)

Lecturer in Corporate Finance (Master level), 2013, 2016–2018 Université Paris-Dauphine

Lecturer in Programming for Finance (Master level), 2013 Université Paris-Dauphine

Topics: VBA

Lecturer in Computer Science (Undergraduate), 2012 Université Paris-Dauphine

Topics: Programming

Teaching Interests

 ${\bf Corporate\ Finance\ ;\ Financial\ Intermediation\ ;\ Investment}$ 

FinTech; Big Data; Machine Learning for Finance

# Languages

Fluent in French, (mother tongue) High proficiency in English, (TOEIC (925/990), TOEFL IBT (114/120), GMAT (710/800)) Spanish to be refreshed

## Extra-curriculum activities

Graduated in Recorder and Music Theory, Conservatoire de Musique et de Danse du Tarn. Advanced level in Ballet, Contemporary and Jazz Dance.

### References

## Gilles Chemla (Advisor)

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# Denis Gromb

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## **Christopher Hennessy**

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