



A Financial Supervision and
Technology Compliance Training
Programme

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The open-source L^AT_EX template, `AMCOS_booklet`, used to generate this booklet is available at
https://github.com/maximelucas/AMCOS_booklet

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About

- Financial Technology (FinTech) are “technologically enabled financial innovations that could result in new business models, applications, processes, or products with an associated material effect on financial markets and institutions and on the provision of financial services” (FSB, 2017)
- Peer to peer lending, Robot advisors and Blockchain payments are examples of Financial Technologies, enabled by Big data analytics, Artificial intelligence and Blockchain technologies.
- Fintech services bring opportunities: e.g. competitive prices, better financial inclusion, improved user experience. They may also bring risks: e.g. contagion risks, cyber risks, fraud risks.
- There is a strong commitment to improve the competitiveness of the European fintech sector, introducing a common fintech risk management framework.
- Development of a European fintech risk management framework that can encourage innovations while protecting consumers and investors.
- A framework that can close the gap between technical and regulatory expertise, providing risk management procedures common to Regtech and Suptech, and uniform across countries.

Deliverables

Production and dissemination of use cases, that describe new fintech risk management methods, obtained through the partners' research activity and the received feedback in four types of events:

- Six research workshops, targeted to academics and international regulators;
- Twenty nine suptech (training) sessions, of 48 hours each, targeted to the national supervisors in 29 European countries.
- Continuous time access to the project web platform <https://www.fintech-ho2020.eu>, where use cases are replicable anytime by means of open-access data, code and papers.

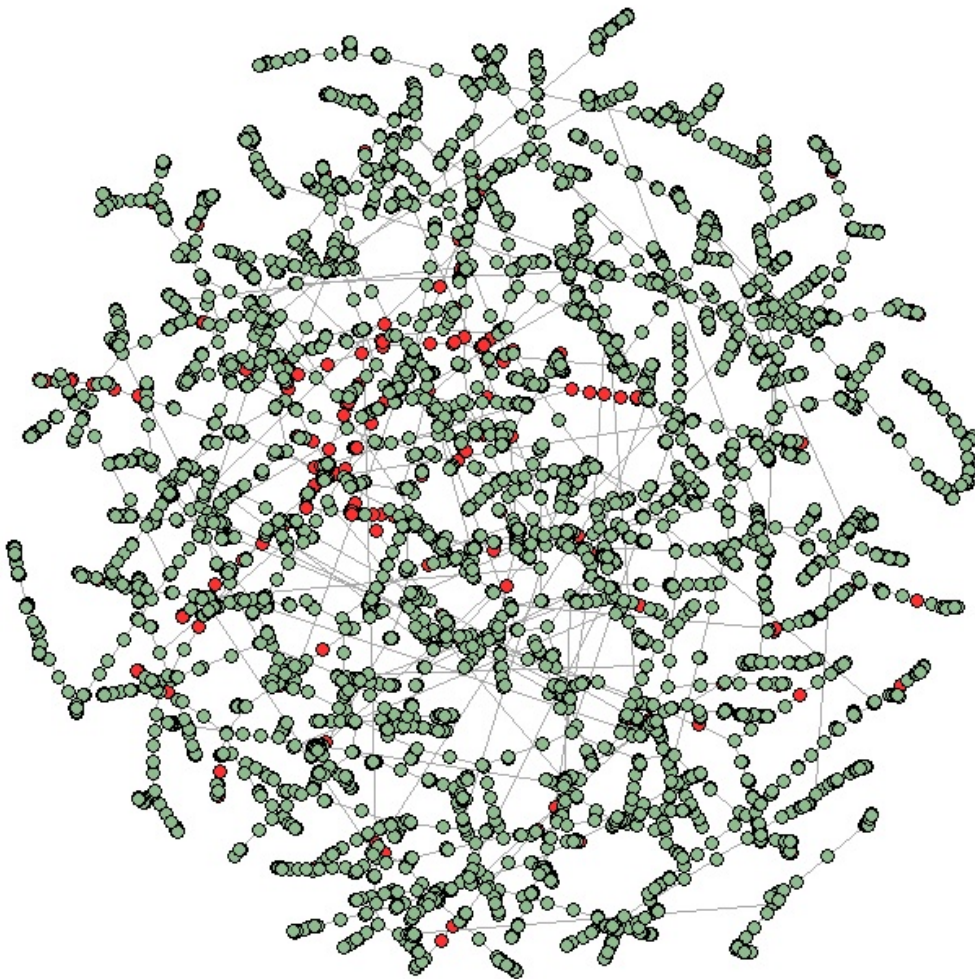
Methodology

- Most fintech services are delivered through a platform which, akin to social networks, generates interdependence and contagion among users.
- We use network models, which are eXplainable AI methods, to explain the contagion effects generated by fintech platforms
- In P2P credit risk management, we employ network models to measure and explain contagion between borrowers, improving credit default prediction.
- In robot advisory market risk, we employ network models to measure contagion between asset returns, and include it in portfolio allocation algorithms that reduce financial risks.
- In blockchain payments operational risk, we employ textual network models that improve the measurement of cyber and fraud risks, improving their control.

Results

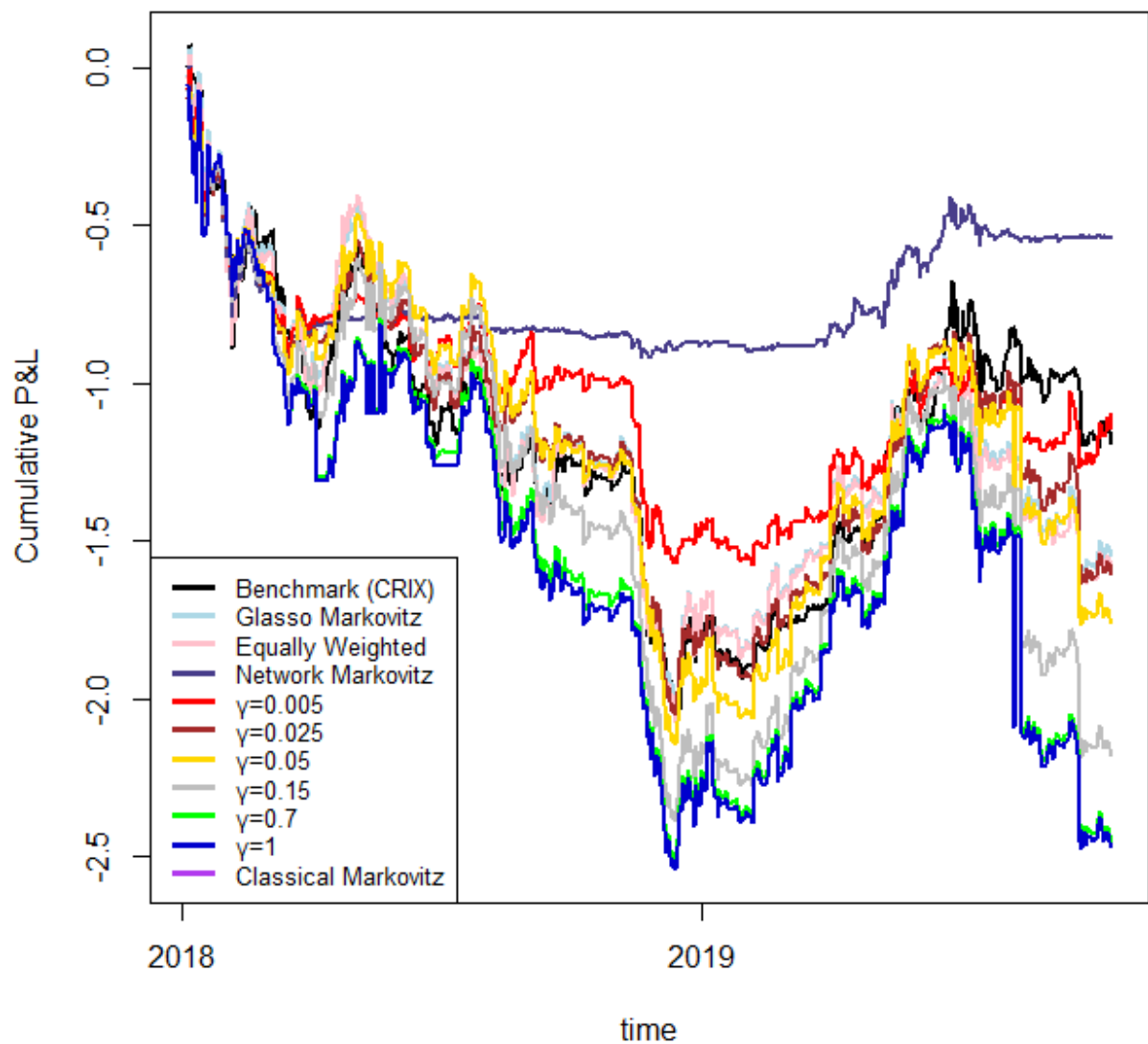
P2P lending networks

Estimated network of SME borrowers. In red: defaulted companies. Predictive accuracy of the model: 81% vs 79% AUROC with a standard logistic model.



Crypto assets

Estimated network of Crypto assets. Predictive performance: -0.54% cumulative loss of network-based portfolio vs -1.022% of classical Markowitz' portfolio



ICO Fraud Detection

Estimated networks of words employed in Telegrams' discussions: for failed (left), scam (center) and successfull (right) Initial Coin Offerings. Accuracy of the model, using about 200 ICOs: 63% vs 52% Adjusted R^2 with a standard logistic model.

The figure displays three word clouds, each representing the estimated networks of words employed in Telegram discussions for different types of Initial Coin Offerings (ICOs): failed (left), scam (center), and successful (right). The word clouds are arranged horizontally. The leftmost cloud (failed) features prominent words like 'hard', 'discord', 'worry', 'risk', 'confused', 'limited', 'mistake', 'unsuccessful', 'difficult', 'worry', 'should', 'support', 'wrong', 'misleading', 'concern', 'problem', 'investor', 'loss', 'fail', 'scam', 'fake', 'issue', 'limit', 'hard', 'discord', 'worry', 'risk', 'confused', 'limited', 'mistake', 'unsuccessful', 'difficult', 'worry', 'should', 'support', 'wrong', 'misleading', 'concern', 'problem', 'investor', 'loss', 'fail', 'scam', 'fake', 'issue', 'limit'. The center cloud (scam) features prominent words like 'scam', 'hard', 'discord', 'worry', 'risk', 'confused', 'limited', 'mistake', 'unsuccessful', 'difficult', 'worry', 'should', 'support', 'wrong', 'misleading', 'concern', 'problem', 'investor', 'loss', 'fail', 'scam', 'fake', 'issue', 'limit'. The rightmost cloud (successful) features prominent words like 'issues', 'wrong', 'limit', 'hard', 'discord', 'worry', 'risk', 'confused', 'limited', 'mistake', 'unsuccessful', 'difficult', 'worry', 'should', 'support', 'wrong', 'misleading', 'concern', 'problem', 'investor', 'loss', 'fail', 'scam', 'fake', 'issue', 'limit'. The word clouds are arranged horizontally, with the failed ICO cloud on the left, the scam ICO cloud in the center, and the successful ICO cloud on the right. The words are of varying sizes, indicating their frequency or importance in the discussions. The failed ICO cloud shows a high concentration of negative words, while the scam and successful ICO clouds show a mix of words, including some positive ones like 'issues' and 'limit'.

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Partners

- The project consists of 24 partners: 21 universities and 3 fintechs
- 6 european fintech hubs
- National supervisors of all 28 EU countries including Switzerland
- 8 international regulators and supervisors (BIS, IMF, OECD, EC, EBA, ESMA, EIOPA, ECB)
- A panel of international advisory board members

UNIVERSITIES and RESEARCH CENTRES	FINTECH HUBS and ASSOCIATIONS	REGULATORS and SUPERVISORS



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