Franck MORAUX

Professeur agrégé des Universités

Présentation

My research areas span different quantitative topics that are useful to understand the broad universe of financial securities and their related markets as well as the rationale of many corporate decisions in financing, investment, financial risk management, etc. My favorite set of financial assets are bonds and derivative securities such as options and CDS. Derivatives securities are very useful to model and design decisions & tools used by corporations such as structured products, flexible financing devices. Real options allow one to assess investment opportunities and price intangible flexibilities. The understanding of the uses, hedging strategies, valuation models and empirical properties of real data are key to capture the whole picture. I am used to explore real financial data at low and high frequencies and to consider very simple but open questions to solve challenging real-life problems.

> Laboratoire de recherche : CREM UMR CNRS 6211

Recherche et entreprise

Rayonnement scientifique

- Directeur de l'école doctorale SHOS (2014-2016)
- Co-éditeur-en-chef de Finance (revue de rang FNEGE A, CNRS cat. 2)
- Membre du Conseil d'Administration et Bureau de l'Association Française de Finance
- Membre de comité éditorial des revues The Accounting, Finance and Governance Review (Irlande), Review of Finance and Banking (Roumanie), Lahore Journal of Business (Pakistan, pour la finance)
- Membre du comité scientifique des conférences AFFI, de la conférence Forecasting Financial Markets (depuis Rennes, 2015) et plus ponctuellement de la Financial Management Association Annual Meeting
- Révision d'articles : Review of Finance, Journal of Banking and Finance, Finance, Applied Mathematical Finance, Applied Financial Economics, European Journal of Finance, Journal of Derivatives, Journal of Risk, Theory and Decision, Annales d'Economie et de Statistique
- 2nd vice-président de la conférence des directeurs d'Ecole Doctorale en sciences économiques et sciences de gestion

Interactions avec l'environnement social, économique et culturel

- Agence HCERES : Participation à des comités de visite pour l'évaluation de structures universitaires : EM Lyon-Recherche (2015, membre), ED 486 SEG Université de Lyon (2015, Président)
- Région Bretagne : Participation au groupe « Innovations sociales et citoyennes » évaluant les projets doctoraux dits SHS soumis à la Région Bretagne en 2015, 2016 pour obtenir un financement
- Diverses universités : Participation à des comités de sélection pour le recrutement de maîtres de conférences ou de professeurs des Universités : 2 à 3 comités par an

Thèmes de recherche

Finance

Gestion des risques financiers

Finance quantitative

Options et Produits Dérivés

Finance de Marché

Finance d'Entreprise

Mots-clés : Quantitative Finance, quantitative methods and models for Finance

Activités pédagogiques

Enseignements principaux

- Options and Derivatives
- Credit Risk Management
- Quantitative Finance

Publications

Pascal François, Franck Moraux. The mean–variance (in)efficiency of duration?based immunization. International Review of Finance, 2024,

Franck Moraux, Dinh Anh Phan, Thi Le Hoa Vo. Collaborative financing and supply chain coordination for corporate social responsibility. Economic Modelling, 2023, 121, pp.106198.

Gervais Essama Zoh, Franck Moraux. Marché de la Dette Souveraine Française : Tendances et Dynamique. Symposium « Dette publique et Policy Mix » à Nancy les 8 et 9 novembre 2023., LE CEREFIGE, LE BETA-NANCY, L'UNIVERSITE DE LORRAINE ET LA REVUE Française D'ECONOMIE, Nov 2023, Nancy, France.

Florina Silaghi, Franck Moraux. Trade credit contracts: Design and regulation. European Journal of Operational Research, 2022, 296 (3), pp.980-992.

Franck Moraux, Dinh Anh Phan, Thi Le Hoa Vo. Corporate Social Responsibility Investment Uncertainty and Risk Aversions in a Marketplace Platform. 22nd International Working Seminar on Production Economics, Feb 2022, Innsbruck, Austria.

Franck Moraux, D.A. Phan, Thi Le Hoa Vo. Financing and Cost Sharing for a Supply Chain Under CSR – Sensitive Demand. IFIP International Conference on Advances in Production Management Systems (APMS 2021), Sep 2021, Nantes, France. pp.139-148, Jerôme Detemple, Souleymane Laminou Abdou, Franck Moraux. American Step Options. European Journal of Operational Research, 2020, 282 (1), pp.363-385.

D.A. Phan, Franck Moraux, Thi Le Hoa Vo, Anh Ngoc Lai. Impact of retail-platform loan programs on the SC performance under CSR dependent stochastic demand. 8th International Conference on Information Systems, Logistics and Supply Chain Interconnected Supply Chains in an Era of Innovation, ILS 2020, Apr 2020, Austin, United States. pp.9-18.

Olesya Grishchenko, Franck Moraux, Olga Pakulyak. Fuel up with OATmeals! The case of the French nominal yield curve. The Journal of Finance and Data Science, 2020, 6, pp.49-85.

Franck Moraux. On Bankruptcy Procedures and the Valuation of Corporate Securities. Finance, 2019, 40 (3), pp.141-191.

Franck Moraux. Valuing corporate liabilities when the default threshold is not an absorbing barrier. Dan Galai ,Zvi Wiener ,Michel Crouhy. World Scientific Reference on Contingent Claims Analysis in Corporate Finance, World Scientific Publishing Co Pte Ltd, pp.331-353, 2019, 978-9814730723.

Donatien Hainaut, Franck Moraux. A switching self-exciting jump diffusion process for stock prices. Annals of Finance, 2019, 15 (2), pp.267-306.

Donatien Hainaut, Franck Moraux. Hedging of options in the presence of jump clustering. The Journal of Computational Finance, 2018, 22 (3), pp.1-35.

Franck Moraux. René M. Stulz: latitude managériale et politique financière. Albouy Michel, Charreaux Gérard. Les grands auteurs en finance, EMS, pp.430-481, 2018, 978-2-37687-045-6.

Grégoire Leblon, Franck Moraux. Analytical Pricing of European Bond Options within One-Factor Quadratic Term Structure Models. Journal of Derivatives, 2017, 24 (3), pp.29 – 41.

Souleymane Laminou Abdou, Franck Moraux. Pricing and hedging American and hybrid strangles with finite maturity. Journal of Banking and Finance, 2016, 62, pp.112-125.

Franck Moraux, Vincent Hovelaque. De l’absence au dilemme de la diversification des fournisseurs dans la gestion du risque de rupture d’approvisionnement des supply chains. Presses Universitaires de Rennes. Collaborations et réseaux : approches transversales en management, pp.271-300, 2016, Le management des réseaux, 978-2-7535-4984-5.

Jessica Fouilloux, Franck Moraux, Jean-Laurent Viviani. Investing in finite-life carbon emissions reduction program under risk and idiosyncratic uncertainty. Energy Policy, 2015, 82, pp.310-320.

Carole Bernard, Franck Moraux, Ludger Rüschendorf, Steven Vanduffel. Optimal payoffs under state-dependent preferences. Quantitative Finance, 2015, 15 (7), pp.1157-1173.

Franck Moraux, Patrick Navatte. How do reservation prices impact distressed debt rescheduling?. Economic Modelling, 2015, 46, pp.269-282.

Maxime Debon, Franck Moraux, Patrick Navatte. Le coût du financement par obligations rachetables : une étude empirique. Finance Contrôle Stratégie, 2015, 18 (2), pp.17-35.

Franck Moraux, Arnaud Richard. What Moves Euro-Bund Futures Contracts on Eurex? Surprises!. Market Microstructure and Nonlinear Dynamics. Keeping Financial Crisis in Context, Springer International Publishing, pp.129-153, 2014, 978-3-319-05211-3.

Franck Moraux, Florina Silaghi. Inside debt renegotiation: Optimal debt reduction, timing, and the number of rounds. Journal of Corporate Finance, 2014, 2014 (27), pp.269-295.

Franck Moraux, Laurent Bironneau (Dir.). Recherches et innovations en sciences de gestion. PUR, 282 p., 2013.

Franck Moraux, Rivo Randrianarivony. La finance serait-elle devenue anormale au XXIe siècle ?. Recherches et innovations en sciences de gestion, Presses universitaires de Rennes, pp.75-98, 2013.

Franck Moraux, Patrick Navatte. Strategic management of private benefits in a contingent claim framework. Bankers Markets

Franck Moraux, Carole Bernard, Ludger Rüschendorf, Steven Vanduffel. Optimal payoffs under state-dependent constraints. 30th International French Finance Association conference (AFFI), May 2013, Lyon, France.

Ghassen Nouajaa, Jean-Laurent Viviani, Franck Moraux. Foreign exchange risk management : evidence from French non-financial firms. 30th International French Finance Association conference (AFFI), May 2013, Lyon, France.

Laminou Abdou Souleymane, Franck Moraux. Pricing and hedging american strangles with finite maturity. 30th International French Finance Association conference (AFFI), May 2013, Lyon, France.

Grégoire Leblon, Franck Moraux. Analytical pricing of european bond options within one-factor quadratic term structure models. 30th International French Finance Association conference (AFFI), May 2013, Lyon, France.

Florina Silaghi, Franck Moraux. Debt renegotiation. 2013 Finance Management Association european conference (FMA), Jun 2013, Luxembourg, Luxembourg.

Franck Moraux, Florina Silaghi. Debt renegotiation. 29th spring International conference of French Finance Association, May 2012, Strasbourg, France.

Grégoire Leblon, Franck Moraux. Bond portfolio management with affine and quadratic term structure models : selection, risk management and performance. Nineteenth international conference forecasting financial markets : advances for exchange rates, May 2012, Marseille, France.

Franck Moraux, Patrick Navatte. Private Benefits in a contingent claim framework: Valuation effects and other implications. 2011 International AFFI Conference, 2011, Montpellier, France. 28 p.

Franck Moraux. How valuable is your VaR? Large sample confidence intervals for normal VaR. Journal of risk management in financial institutions, 2011, 4 (2), pp.189-200.

Franck Moraux, Patrick Navatte. Private Benefits in a contingent claim framework: Valuation effects and other implications. Northeast Decision Sciences Institute 2011 Annual Conference, Apr 2011, Montréal, Canada. 28 p.

Franck Moraux. Sensitivity Analysis of Credit Risk Measures in the Beta Binomial Framework. Journal of fixed income, 2010, 19 (3), pp.66-76.

Grégoire Leblon, Franck Moraux. Quadratic Approaches for Modeling Term Structures of Interest Rates in Discrete Time. Euro Working Group on Financial Modeling (46th EWGFM), May 2010, Istanbul, Turkey. 42 p.

Franck Moraux, Arnaud Richard. How do News Releases and their Information Content affect Bund Futures Prices? An HFD investigation. Seventeenth International Conference ‘Forecasting Financial Markets’, May 2010, Hannover, Germany. 28 p.

Maxime Debon, Franck Moraux, Patrick Navatte. Make-whole callable bonds :Covenant yield premium insights. Congrès AFFI 2009, May 2009, Brest, France. 13 p.

Grégoire Leblon, Franck Moraux. Examining Performance of Quadratic Models of TermStructure of Interest Rates. Congrès AFFI 2009, May 2009, Brest, France. 37 p.

Cédric Lesage, Franck Moraux. Should executive compensation rules govern Audit fees ? An anlysis of executive compensation driven frauds.. 2009 International Decision Sciences Institute Conference, Jun 2009, Nancy, France. 22 p.

Franck Moraux. Continuous barrier range options. Journal of derivatives

Franck Moraux, Patrick Navatte. On the Pricing and Design of Debt-Equity Swaps for Firms in Default. Bankers Markets

Anthony Miloudi, Franck Moraux. Relations between Corporate Credit Spreads,Treasury Yields and the Equity Market. International Journal of Business, 2009, 14 (2), pp.105-122.

Franck Moraux. On perpetual American strangles. The Journal of Derivatives, 2009, 4, pp.82-97.

Pascal François, Franck Moraux. The immunization performance of traditional and stochastic durations: a mean-variance analysis. EFMA 2008 CONGRESS, Jun 2008, Athènes, Greece. 33 p.

Franck Moraux, Patrick Navatte. Business risk targeting and rescheduling of distressed debt.. Finance, 2007, 28 (2), pp.43-78.

Franck Moraux, Patrick Navatte. Business Risk Targeting AndRescheduling of Distressed Debt. congrès international de l’AFFI 2007 « Ethique et Gouvernance », Jun 2007, Bordeaux, France. 33 p.

Franck Moraux, Patrick Navatte. Rescheduling of distressed debt and business risk targeting ex ante the reorganization. European Financial Management Association 2007 Annual Conference, Jun 2007, Vienne, Austria. pp.30.

Franck Moraux, Patrick Navatte. Admissible Designs of Debt-Equity Swaps for Distressed Firms: Analysis, Limits and Applications. Congrès International de Finance, Dec 2007, France. 23 p.

Franck Moraux, Patrick Navatte. Rescheduling debt in default : the Longstaff’s proposition revisited.. Banque

Franck Moraux, Patrick Navatte. The active management of distressed debt. European Financial Management Association 2006 Annual Meeting, Jun 2006, 29 p.

Franck Moraux. Modeling the business risk of financially weakened firms: A new approach for corporate bond pricing. International Review of Financial Analysis, 2004, 13 (1), pp.47-61.

Florence André-Le Pogamp, Franck Moraux. Valuing Callable Convertible Bonds : a reduced approach. Applied Financial Economics, 2004, 14 (10), pp.743-749.

Franck Moraux, Patrick Navatte. Extending the Maturity of a defaulting debt : when it is worthwhile !. 21e Conférence internationale de l’AFFI, Cergy-Pontoise,, Jun 2004.

Franck Moraux, Anthony Miloudi. The relation between corporate credit spreads, treasury yields and the equity markets : new evidences from daily options-ajusted spreads indices. European Investiment Review Annual conference, E.I.R., London,, Sep 2004.

Franck Moraux, Christophe Villa. The dynamics of the term structure of interest rates : an independent component analysis. C. LESAGE M. COTTRELL. Connectionist Approaches in Economics and Management Sciences, Kluwer, 2003.

Florence André-Le Pogamp, Franck Moraux. Sur les obligations convertibles à clause de remboursement anticipé au gré de l’émetteur. Finance, 2003, 24 (1), pp.7-28.

Franck Moraux. Managing corporate liabilities of financially weakened firms. 32nd Meeting of the EURO working group in financial modelling, Londres, Apr 2003, 29 p.

Franck Moraux. A closed form solution for pricing defaultable bonds. Finance Research Letters, 2003, 1 (2), pp.135-142.

Franck Moraux. Empirical analysis of term structures of credit spreads indices : a Kalman filtering approach. 10e Rencontres Internationales de l'ACSEG, Nantes, Nov 2003, Nantes, France.

Franck Moraux, Patrick Navatte. Pricing credit derivatives in credit classes frameworks. Geman H., Madam D., Pliska S.R., Vorst T. Mathematical Finance. Bachelier Congress 2001, Springer, pp.339-352, 2002, Finance.

Franck Moraux, O. Renault. 30 ans de modèles structurels de risque de défaut. M. BELLALAH. Finance contemporaine. Analyse, évaluation et applications, Economica, pp.69-84, 2002.

Franck Moraux. On cumulative parisian options. Finance, 2002, hors-série Mathématiques financières (23), pp.127-132.

Franck Moraux. Valuing corporate liabilities when the default threshold is not an absorbing barrier. Actes «CREDIT 2002 – Assessing the Risk of Corporate Default», Sep 2002, Venise, 30 p.

Direction de thèses

Term structure of interest rates models, nominal government debt and inflation-protected securities
Doctorant : PAKULYAK Olga
Date de soutenance : 04/12/2019

Optimalité de la décision financière et la théorie des options américaines et exotiques
Doctorant : LAMINOU ABDOU Souleymane
Date de soutenance : 02/11/2016

Exposition au risque de change, politique de couverture et conflits d'agence
Doctorant : NOUAJAA Ghassen
Date de soutenance : 19/12/2014

Credit Risk Analysis under Normal and Extreme Conditions : Empirical Investigations on the European CDS Market
Doctorant : QI Ziqiong
Date de soutenance : 17/11/2014

Insights on debt renegotiation : Implications for the corporate and residential housing market
Doctorant : SILAGHI Florina
Date de soutenance : 27/10/2014

Modélisation et gestion sur les marchés obligataires souverains
Doctorant : MOUNGALA Wilfried Paterne
Date de soutenance : 29/04/2013

Quadratic term structure models of interest rates : theory, implementation and applications
Doctorant : LEBLON Grégoire

Date de soutenance : 26/11/2012

De l’usage d’une clause de rachat au gré de l’émetteur dans le contrat obligataire : déterminants et valorisation
Doctorant : DEBON Maxime
Date de soutenance : 26/11/2010