

# MARINE CARRASCO

## CURRICULUM VITAE

February 2018

Université de Montréal  
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### Personal

Languages: French and English.  
Married, three children.

### Education

University of Chicago, Post-doctorate, supervised by Lars Peter Hansen, 1995-96.  
University Toulouse I, Ph.D. in Applied Mathematics, 1992-95.  
University Toulouse I, M.A. in Mathematical Economics and Econometrics, 1992.  
University Toulouse III, M.A. in Applied Mathematics, 1992.  
University Toulouse I, B.A. in Economics, 1991.

### PhD Dissertation

Title: "Econometrics of dynamic models with breaks"  
Date of completion: December 1995  
Advisor: Jean-Pierre Florens

### Academic Positions

Full Professor, Université de Montréal, June 2012-present.  
Associate Professor, Université de Montréal, December 2005-May 2012.  
Visiting faculty, University of North Carolina at Chapel Hill, August 2010-June 2011.  
Research associate at Infometrics Institute (American University, Washington DC), June 2011-present.  
Researcher associated with CIREQ, December 2005-present.  
Fellow of Cirano, June 2006-present.  
Assistant Professor, University of Rochester, December 2000-December 2005.  
Researcher, Crest, INSEE, September 1998-November 2000.  
Assistant Professor, Ohio State University, September 1996-June 1998.

## **Teaching Experience**

Undergraduate level: Introductory Econometrics; Intermediate Macroeconomics; Statistics.  
Graduate level: Advanced Econometrics; Introductory Econometrics; Introductory Statistics; Time-series Econometrics.

## **Membership**

Member of the Econometric Society, Canadian Economic Association.

## **Awards, Research Grants, Scholarships**

Econometric Theory Multa Scripsit Award (2017).

NSERC Discovery Grant (\$85,000), April 2015-March 2020, “Functional linear regression”, principal investigator.

SSHRC Research Grant (\$146,140), April 2014-March 2019, “Inference and estimation with many moment conditions”, principal investigator.

SSHRC Research Grant (\$56,500), April 2010-March 2013, “Regularization Techniques in Econometrics”, principal investigator.

SSHRC Aid to research workshop and conferences in Canada (\$10,000), “Generalized Method of Moments conference”, Montreal, November 16-17, 2007.

MITACS team grant (\$14,000/year), April 2007-March 2011, “Mathematical and Statistical Methods for Financial Modelling and Risk Management”.

SSHRC Research Grant (\$45,000), April 2007-March 2010, “Method of moments with many moment conditions”, principal investigator.

National Science Foundation award, SES-0211418 (\$139,562), September 2002-August 2005, “Topics in Nonlinear Econometrics”, principal investigator.

Seed Grant, Ohio State University, 1997-1998.

*Fullbright* Scholarship, University of Chicago, 1995-96.

*Lavoisier* Scholarship, University of Chicago, 1995-96.

Dissertation Fellowship, University Toulouse I, 1992-95.

## **Editorial Activities**

Associate editor for *Journal of Financial Econometrics* since 2007.

Associate editor for *Econometric Theory* since June 2011.

Guest co-editor (with M. Caner, Y. Kitamura, and E. Renault) of the special issue of *Journal of Econometrics* entitled “Thirtieth Anniversary of Generalized Method of Moments”, October 2012.

Guest co-editor (with V. Chernozhukov, S. Goncalves, and E. Renault) of the special issue of *Journal of Econometrics* entitled “High Dimensional Problems in Econometrics”, June 2015.

Guest co-editor (with M. Moreira, B. Perron, and V. Zinde-Walsh) of the special issue of *Journal of Econometrics* in honor of Jean-Marie Dufour, in progress.

Referee for the following academic journals: *ACM Transactions on Mathematical Software*, *American Economic Review*, *Annales d'Economie et de Statistiques*, *Annals of Statistics*, *The B.E. Journals in Macroeconomics*, *Canadian Journal of Economics*, *Computational Statistics & Data Analysis*, *Econometrica*, *Econometrics*, *Econometrics Journal*, *Econometric Theory*, *Econometric Reviews*, *Economics Letters*, *Empirical Economics*, *International Economic Review*, *Journal of Applied Econometrics*, *Journal of the American Statistical Association*, *Journal of Business & Economic Statistics*, *Journal of Econometrics*, *Journal of Financial Econometrics*, *Journal of Multivariate Analysis*, *Journal of Statistical Planning and Inference*, *Louvain Economic Review*, *Manchester School*, *Review of Economics and Statistics*, *Review of Economic Studies*, *Siam Journal of Financial Mathematics*, *Statistica Sinica*, *Statistics and Probability Letters*, *Studies in Nonlinear Dynamics and Econometrics*.

Proposal referee for the *National Science Foundation*, for *Fonds pour la Formation de chercheurs et l'Aide à la Recherche*, for *Fonds québécois de recherche sur la société et la culture*, for *SSHRC*, and for *MITACS*.

Member of the grant selection committee for *SSHRC* in 2009 and 2011.

Member of the grant selection committee for Marcel Faribault grant (UdeM) from 2014 to 2017.

### **Seminar and conference organization**

Member of the program committee of the European Econometric Society Meeting, Vienna, August 2006. Member of program committee of SOFIE conference, Oxford, June 2012, Singapore, June 2013, Toronto June 2014, Aarhus June 2015, Hong-Kong June 2016, and New York June 2017.

Co-organizer of Montreal Econometrics Seminar (2007-2010 and 2011-2017)

Organization of CIREQ Time Series conference, in collaboration with Nour Meddahi, Montréal, December 8-9, 2006.

Organization of CIREQ conference on Generalized Method of Moments, Montréal, November 16-17, 2007.

Organization of the Third CIREQ Time Series conference, in collaboration with Silvia Goncalves, Montréal, May 22-23, 2009.

Organization of the Fourth CIREQ Time Series conference, in collaboration with Silvia Goncalves, Montréal, May 14-15, 2010.

Organization of the Fifth CIREQ Time Series Conference, in collaboration with Silvia Goncalves, Montreal, May 27-28, 2011.

Organization of CIREQ Conference on “High Dimensional Problems in Econometrics”, in collaboration with Silvia Goncalves, Montreal, May 4-5, 2012.

World Congress of the Econometric Society, member of the local organizing committee, Montreal, August 17-21, 2015.

Organization of CIREQ Econometrics Conference in honor of Jean-Marie Dufour, in collaboration with Victoria Zinde-Walsh, Montreal, May 7-8, 2016.

Organization of CIREQ Econometrics Conference on Inference in Large Econometric Models, in collaboration with Prosper Dovonon, Montreal, May 5-6, 2017.

Organization of CIREQ Econometrics Conference on Recent Advances in the Method of Moments, in collaboration with Prosper Dovonon, Montreal, April 27-28, 2018.

### **Papers published or accepted for publication**

"Efficient estimation using regularized Jackknife IV estimator" (with Mohamed Doukali), *Annals of Economics and Statistics*, 2017, N.128, 109-149.

“Functional linear regression with functional response” (with David Benatia and Jean-Pierre Florens), *Journal of Econometrics*, 2017, 201, 269-291.

“Efficient Estimation Using the Characteristic Function” (with Rachidi Kotchoni), *Econometric Theory*, 2017, Vol 33, 2, 479-526.

“In-sample Inference and Forecasting in Misspecified Factor Models”, with Barbara Rossi, *Journal of Business & Economic Statistics*, 2016, Vol. 34, N.3, 313-338 (with comments and rejoinder).

“Efficient estimation with many weak instruments using regularization techniques” (with Guy Tchuente), *Econometric Reviews*, 2016, 35, 1609-1637.

“Regularized LIML for many instruments” (with Guy Tchuente), *Journal of Econometrics*, 2015, 186, 427-442.

“Editorial: High dimensional problems in econometrics” (with Silvia Goncalves, Victor Chernozhukov, and Eric Renault), *Journal of Econometrics*, 2015, 186, 277-279.

“Adaptive Realized Kernels” (with Rachidi Kotchoni), *Journal of Financial Econometrics*, 2015, Vol. 13, N.4, 757-797.

“Asymptotic Normal Inference in Linear Inverse Problems”, with Jean-Pierre Florens and Eric Renault, in the *Handbook of Applied Nonparametric and Semiparametric Econometrics and Statistics*, Oxford University Press, February 2014, 65-96.

“On the asymptotic efficiency of GMM” (with Jean-Pierre Florens), *Econometric Theory*, 2014, Vol 30, Issue 2, 372-406.

“Optimal Test for Markov Switching” (with L. Hu and W. Ploberger), *Econometrica*, 2014, Vol 82, N.2, 765-784.

“A regularization approach to the many instruments problem”, *Journal of Econometrics*, 2012, 170, 383-398.

“Editors’ introduction: Thirtieth Anniversary of GMM” (with Mehmet Caner, Yuichi Kitamura, and Eric Renault), *Journal of Econometrics*, 2012, 170, 251-255.

“A spectral method for deconvolving a density” (with Jean-Pierre Florens), *Econometric Theory*, 2011, Vol. 27, issue 03, p. 546-581.

“Nonlinearity and Temporal Dependence” (with Xiaohong Chen and Lars Peter Hansen), *Journal of Econometrics*, 2010, Vol 155, 2, 155-169.

“Detecting Mean Reversion in Real Exchange Rates: Evidence from a Multiple Regime STAR Specification” (with Frédérique Bec and Mélika Ben Salem), *Annales d’Economie et de Statistique*, 2010, Number 99/100, 395-427.

Translation (in collaboration with Josef Perktold) of the textbook “Econometric Modeling and Inference” by J.-P. Florens, V. Marimoutou, and A. Peguin-Feissolle, *Cambridge University Press*, 2007.

“Efficient estimation of general dynamic models with a continuum of moment conditions” (with M. Chernov, J. P. Florens and E. Ghysels), 2007, *Journal of Econometrics*, 140, 529-573.

“Method of Moments” in *The International Encyclopedia of the Social Sciences*, 2d edition, Thomson Gale, 2007.

“Linear Inverse Problems in Structural Econometrics” (with Jean-Pierre Florens and Eric Renault), in *The Handbook of Econometrics*, Vol. 6B, edited by J.J. Heckman and E.E. Leamer, 2007, Chapter 77, 5634-5751, Elsevier.

“Redundancy of Lagged Regressors in a Conditionally Heteroskedastic Time Series Regression”, 2004, *Econometric Theory*, Problems and Solutions section, Vol 20, 228-229.

“Tests for unit-root versus Threshold specification with an application to the PPP” (with Frédérique Bec and Mélika Ben Salem), 2004, *Journal of Business & Economic Statistics*, Vol. 22, No. 4, 382-395.

“Mixing and Moment Properties of Various GARCH and Stochastic Volatility Models” (with Xiaohong Chen), 2002, *Econometric Theory*, Vol. 18, No. 1, 17-39.

“Misspecified Structural Change, Threshold, and Markov-Switching Models”, 2002, *Journal of Econometrics*, Vol. 109, No. 2, 239-273.

“Simulation Based Method of Moments and Efficiency” (with Jean-Pierre Florens), 2002, *Journal of Business & Economic Statistics*, Vol. 20, No. 4, 482-492.

“Policy Evaluation in Macroeconometric Doubly Stochastic Models” (with Stéphane Grégoir), 2002, *Annales d’Economie et de Statistiques*, 67-68, 73-109.

“Generalization of GMM to a Continuum of Moment Conditions” (with Jean-Pierre Florens), 2000, *Econometric Theory*, 16, 797-834 (lead article).

“ $\beta$ -mixing and Moment Properties of RCA models with application to GARCH(p,q)” (with Xiaohong Chen), 2000, *Comptes Rendus de l’Académie des Sciences*, t.331, Serie I, 85-90.

### **Papers under review**

“Testing distributional assumptions using a continuum of moments” (with Dante Amengual and Enrique Sentana), submitted to *Journal of Econometrics*.

### **Work in progress**

“Optimal Portfolio Selection using Regularization” (with Nérée Noumon).

“Regularized Generalized Empirical Likelihood Estimators” (joint with R. Kotchoni).

“Chi Square Tests for Parameter Stability”.

“Time Deformation and Dependence” (with Xiaohong Chen and Lars Peter Hansen), University of Chicago.

“Kernel Estimation of the Density of a Change-Point in the Mean”.

“Consistency of parametric bootstrapping in non-pivotal cases” (with Liang Hu and Werner Ploberger).

### **Proceedings**

“On the asymptotic efficiency of GMM” (with Jean-Pierre Florens), 2003, *Proceedings of the Joint Statistical Meetings*.

“Spectral method for deconvolving a density” (with Jean-Pierre Florens), 2005, *Proceedings of the International Statistical Institute*.

### **PhD dissertation supervision**

Co-advisor of Liang Hu (PhD completed in May 2006, University of Rochester) “Essays on Optimal Tests”. Current position: assistant professor, Wayne State University (USA).

Advisor of Rachidi Kotchoni (PhD completed in May 2010, Université de Montréal) “Efficient estimation using the characteristic function”. Current position: assistant professor at the Université Paris Nanterre (France).

Co-advisor of Neree Noumon “Optimal portfolio selection” (PhD student, Université de Montréal), completed in September 2013. Current position: economist at the IMF.

Co-advisor of Guy Tchunte (PhD completed in August 2014, Université de Montréal) “Essay in Econometrics and Economics of Education”. Current position: lecturer at Kent University (UK).

Advisor of Mohamed Doukali (PhD completed in October 2016, Université de Montréal) “Regularized Jackknife estimation with many moment instruments”. Recently obtained position: assistant professor at the Université M6, Rabat (Morocco).

Advisor of Ada Nayihouba (current PhD student, Université de Montréal) “Estimation of dynamic linear models”.

Co-advisor of David Benatia (current PhD student, Université de Montréal) “Analysis of energy market”.

Advisor of Ngolo Kone (current PhD student, Université de Montréal) “Optimal portfolio selection with transaction costs”.

Advisor of Idriss Tsafack Teufack (current PhD student, Université de Montréal) “Forecasting using the functional partial least squares”.

### **Master report and master thesis supervision**

Lonege Ogisma (finished in June 2007) “Monetary policy, political crisis and inflation in Haiti”.

Su Tan (finished in December 2007) “Investigating the law of one price by using a threshold model”.

Damien Chambre (finished in August 2008) “Loss functions and option pricing models”.

Bassem Elzeenni (finished September 2010) “Exchange rate prediction using the Taylor rule”.

Aurélie Gilles (finished April 2010) “Out-of-sample prediction of exchange rate using Taylor rule : Evidence from the GBP/USD pair”.

Mara Gloria (finished April 2010) “Exchange Rate predictability: Taylor Rule Fundamentals and Commodity Prices”.

Aoufi Houria (finished June 2010) “Essay on modeling exchange rate incorporating Taylor rule”

Maxime Luciéné (finished April 2010) “Forecast of Canadian exchange rate using models incorporating Taylor rule ”.

Eric Pouémé (finished April 2010) “Taylor rule and exchange rate : Out-of-sample long-term and short-term prediction ”.

Yvonne Niyomwungeri (finished December 2012) “Prévision du taux de change canadien à partir de la règle de Taylor et du prix du pétrole”.

Nicolas Gagnon (finished October 2012) “Modélisation et prévision du taux de change réel canadien”.

Jean Hans Garcon (finished August 2012) “Modélisation et prévision du taux de change canadien à l’aide du modèle ESTAR”.

Sergiu Luca (finished February 2013) “Le modèle SETAR et le taux de change”.

Karim Nchare Fogam (finished August 2015) « Analyse comparative de la pauvreté et de la structure de consommation des ménages dans la principale agglomération des États membres de l’UEMOA en 2008 », co-supervisor, master’s thesis.

Désiré Kédagni (finished August 2015) « Identification des mesures d’inégalité dans les modèles de sélection », co-supervisor, master’s thesis.

### **Services to the university**

Member of CONODIR, mathematics department, November 2016-February 2017.

Member of CONOM, July 2011-June 2014.

Graduate program director and placement director, June 2013-June 2016.

### **Invited Seminars at Universities**

Aarhus University (Denmark), 2000. University of Austin, 2004. University of British Columbia, 2006. Boston University, 2008. Bank of Italy, 2000. Brown University, 2012. University of California, Los Angeles, 1998, 2003, 2008. University of California, Riverside, 2015. University of California, San Diego, 2008. University of California, Santa Barbara, 1998, 2015. California Institute of Technology, 2009. University Carlos III, 2010. Cambridge University, 2017. University of Chicago, 1996, 2006. University College London, 1999. Columbia University, 2004. Copenhagen University (Denmark), 2000. CORE (Louvain-La-Neuve, Belgium), 1994, 2000, and 2010. Cornell University, 1998. CREST (INSEE, Paris), 1994, 1999, and 2005. Duke University, The Fuqua, 2011. ENSAI, Rennes (France), 1999. Federal Reserve Bank of Atlanta, 2005. Georgetown University, 2011. Harvard-MIT, 2008. HEC Geneve, 2007. Indiana University, 2009. Institut for Advanced Studies, Vienna (Austria), 1999. University of Kent, 2017. Institut Henri Poincaré, Paris, 2005. ITAM, Mexico, 2002. Université de Laval (Canada) 1998. Université Lille III (France), 1999. London School of Economics, 1999. University of Michigan, 2002. Michigan State University, 2002. University of Montreal, 1995, 1998, 2000, 2001, and 2004. University of North Carolina at Chapel Hill (joint with NC State and Duke), 2004, 2007. UNC Chapel Hill, 2011. Ohio State University, 1996, 2003. University of Pennsylvania, 2012. Pennsylvania State University, 1998 and 2000. Pittsburgh University, 1996, 2000, and 2004. Princeton University, (1998, 2005). Queen’s University, 2001. Rice University, 2003 and 2013. University of Rochester, 2000, 2012. University of Southern California, 1998. Texas A&M, 2003 and 2013. Simon Fraser University, 2006.



Stanford University, 1996. Technische Universitat, Vienna (Austria), 1999. University of Toronto, 2001. Université Toulouse I (France), 1999, 2003, 2005. University of Venice (Italy), 2000. York University (UK), 2000.

### **Conference Presentations**

“Misspecified Structural Change, Threshold and Markov-Switching Models”, presented at the First ENTER Jamboree (Mannheim, Germany, May 1994); Econometric Society European Meeting, (Maastricht, Holland, August 1994); ASSET Meeting (Southern European Association for Economic Theory), Lisbon, Portugal, November 1994; Journées de Statistique (statistics meeting), Paris, May 1995; Midwest Econometrics Group, East Lansing, October 1997.

“Generalization of GMM to a Continuum of Moment Conditions” with Jean-Pierre Florens, presented at Jeunes Econometres (econometrics meeting), Lille, France, May 1995, North American Meeting of the Econometric Society, San Francisco, January 1996, Econometric Society European Meeting, Toulouse, France, August 1997.

“Kernel Estimation of the Density of a Change-Point in the Mean”, presented at the North American Meeting of the Econometric Society (New Orleans, January 1997); Third International Conference, Computing in Economics and Finance (Stanford, June 1997).

“Chi Square Tests when a Nuisance Parameter is Present Only Under the Alternative”, presented at the North American Meeting of the Econometric Society (Chicago, January 1998); Winter Meeting of the European Econometric Society (Rotterdam, Holland, January 1999); Econometric Society European Meeting (Santiago de Compostela, Spain, August 1999).

“Time Deformation and Dependence” with Xiaohong Chen and Lars Hansen, presented at the Sixth Workshop of Financial Modeling and Econometric Analysis (Lille, France, January 1999); Journées de Statistique (Grenoble, France, May 1999).

“Mixing and Moment Properties of Various GARCH and Stochastic Volatility” with Xiaohong Chen, presented at the conference Journées de Statistique (Fez, Morocco, May 2000).

“Policy evaluation in macroeconometric doubly stochastic models” with Stéphane Grégoir, presented at the conference entitled “Econometrics of Policy Evaluation” (Paris, January 2000).

“Efficient GMM Estimation Using the Empirical Characteristic Function” (with Jean-Pierre Florens), presented at the World Congress of the Econometric Society (Seattle, August 2000) and at the conference entitled “Paris-Berlin” (Garchy, September 2000).

“Spectral method for deconvolving a density” (with J.P. Florens), presented at NBER-NSF CEME (Rochester, May 2001), at the Econometric Society Meeting (Atlanta, January 2002), at ISI conference (Sydney, April 2005), and at the conference in tribute of Jean-Jacques Laffont (Toulouse, July 2005).

“Tests for unit-root versus Threshold specification with an application to the PPP” (with Frédérique Bec and Mélika Ben Salem), presented at the Canadian Economic Association (Montreal, June 2001), at the Econometric Society Meeting (Los Angeles, June 2002).

“Detecting Mean Reversion in Real Exchange Rates: Evidence from a Multiple Regime STAR Specification” (with Frédérique Bec and Mélika Ben Salem), presented at the 10<sup>th</sup> Annual Symposium of the Society for Nonlinear Dynamics and Econometrics (Atlanta, March 2002), at the Midwest Econometrics Group conference (Chicago, October 2004).

“On the asymptotic efficiency of GMM” with JP Florens, presented at the Information and Entropy Econometrics conference (Washington DC, October 2003), at the Econometric Society Winter Meetings (San Diego, January 2004), and at the CIRANO and CIREQ Conference on Operator Methods (Montreal, November 2004).

“Optimal Tests for Markov Switching” (with L. Hu and W. Ploberger), presented at the Society of Economic Dynamics conference (Florence, July 2004), at the Econometric Study Group conference (Bristol, July 2004), and at the NBER-NSF Time Series conference (Montreal, September 2006), EC2 conference (Faro, December 2007).

“Instrumental Variables Estimators based on Principal Components”, renamed as “A regularization approach to the many instruments problem” presented at NBER-NSF CEME (Cambridge, March 2005), the European Econometric Society meeting (Vienna, August 2006), Canadian Econometric Study Group (Niagara Falls, October 2006), Econometric Society (Chicago, January 2007), the Econometric Study Group Conference (Bristol, July 2007), CIREQ conference on GMM (Montreal, November 2007), Operator Methods and Inverse Problems in Econometrics (Cowles Foundation, June 2008).

“Efficient Estimation using the Characteristic Function” (joint with R. Kotchoni), presented at Econometric Study Group conference (Bristol, July 2008).

“Assessing the Nature of Pricing Inefficiencies via Realized Measures” (joint with R. Kotchoni), presented at North American Summer Meeting of the Econometric Society (Boston, June 2009).

“Optimal Portfolio Selection with Regularization” (joint with N. Noumon), presented at the Fourth CIREQ Time series conference (Montréal, May 2010), CEA (Québec, May 2010), and NBER-NSF Time Series conference (Duke, October 2010), SOFIE conference (Chicago, June 2011), Conference on “Information Theory and Shrinkage Estimation” (Info-Metrics Institute, Washington DC, November 2011), CESC (Queen’s university, October 2012).

“Regularized Generalized Empirical Likelihood Estimators” (joint with R. Kotchoni), presented at the Info-Metrics conference (American University, September 2010).

“Regularized LIML for many instruments” (joint with Guy Tchuente) presented at the CIREQ conference on High Dimensional Problems in Econometrics (Montreal, May 2012), conference in honor of Jean-Pierre Florens (Toulouse, September 2012), CESC (Waterloo University, October 2013).

“In-sample inference and forecasting in misspecified factor models” (joint with Barbara Rossi) presented at the Canadian Economic Association (Montréal, May 2013), the Infometrics Conference (Washington DC, Octobre 2014), World Congress of the Econometric Society, (Montréal, August 2015).

“Testing Distributional Assumptions Using a Continuum of Moments” (joint with Dante Amengual and Enrique Sentana) presented at the CIREQ Econometrics conference in honor of Jean-Marie Dufour (Montréal, May 2016).

“A regularization approach to the dynamic panel data model estimation” (joint with Ada Nayihouba), poster presented at the NBER-NSF conference (Columbia University, New York, September 2016), presented at the NY Camp Econometrics (Lake Placid, April 7-9, 2017).

“Functional linear regression with functional response” (joint with David Benatia and Jean-Pierre Florens), presented at the CESC (Western University, October 2016) and workshop on “Inverse problems: theory and statistical inference”, Heidelberg University, Germany (October 2016).