

Majid M. Al-Sadoon



CONTACT INFORMATION University of Cambridge *Voice:* +44 (0)789 429 1492
Wolfson College *Fax:* +44 (0)122 333 5908 (attn: Majid Al-Sadoon)
Barton Road *E-mail:* mma48[at]cam.ac.uk
Cambridge, CB3 9BB *WWW:* www.econ.cam.ac.uk/postgrad/mma48/

PLACEMENT DIRECTOR Professor David Newbery *Voice* +44 (0)122 333 5248
E-mail: david.newbery[at]econ.cam.ac.uk

PLACEMENT ASSISTANT Louise Cross *Voice* +44 (0)122 333 5206
E-mail: louise[at]econ.cam.ac.uk

PERSONAL **Date of Birth,** 10th of November, 1978.

Nationality, Dual Mexican and Saudi Arabian

EDUCATION **University of Cambridge,** Cambridge, United Kingdom.

Ph.D., Economics, (expected date of submission: June, 2010).
Dissertation Topic: "Causality Along Subspaces."
Supervisor: Professor Sean Holly.

London School of Economics, London, United Kingdom.

M.Sc., Economics, 2005.

Columbia University, New York, USA

B.A., Economics–Mathematics, 2002.
B.S., Mechanical Engineering, 2001.

REFERENCES **Professor Sean Holly** **Professor M. Hashem Pesaran**
Faculty of Economics Faculty of Economics
University of Cambridge University of Cambridge
Cambridge, CB3 9DD Cambridge, CB3 9DD

Professor Richard J. Smith

Faculty of Economics
University of Cambridge
Cambridge, CB3 9DD

RESEARCH INTERESTS **Primary:** Time series Econometrics and Econometric Theory.
Secondary: Empirical Methods for Macroeconomics and Monetary Policy.

JOB MARKET PAPER **Causality Along Subspaces.**
This paper consists of the Theory paper and parts of the Inference paper.

Causality Along Subspaces: Theory.*Revise and resubmit, Journal of Econometrics.*

This paper extends previous notions of causality to take into account the subspaces along which causality occurs as well as long run causality. The properties of these new notions of causality along with the requisite restrictions are derived and extensively studied for a wide variety of time series processes including stationary and non-stationary VARMA. Using the proposed extension we also demonstrate that: (i) L^2 stability, a weaker form of stability than ρ -mixing, can be viewed as an instance of long run non-causality, (ii) when long run non-causality occurs along a subspace, what we call cotrendedness, it includes the concept of cointegration as a special case, (iii) controllability is also a special case of causality, providing us with purely econometric statements of two celebrated theorems in linear systems theory: the Kalman controllability decomposition and the existence and uniqueness theorem for optimal policies in linear quadratic control, and finally (iv) linear rational expectations entail causality restriction along subspaces in a large class of rational expectations models.

Causality Along Subspaces: Inference.

This paper extends the analysis of Dufour et. al. (2006) in the direction of the more general notions of causality introduced by Al-Sadoon (2009). In particular, we propose new tests for Granger non-causality along subspaces in VAR processes at various horizons. The methodology is illustrated by reexamining the Bernanke& Mihov (1998) data set for forecast horizons of 1–24 months. We find that monetary policy predicts output growth and inflation only along a single direction in output–growth–inflation space for most of the forecast horizons we consider. We also find that the variations of non-borrowed reserves and the federal funds rate along certain directions have no predictive power for output growth and inflation at most of the horizons considered. Thus there is substantial scope for subspace causality analysis in macro data.

Causality Along Subspaces: Identification, (in progress).

This paper considers the applications of subspace causality to the theory of identification in multivariate linear dynamic systems. We show how it suggests a general theory of identification of shocks with respect to their effects at various horizons as well as their cross sectional effects. In particular, it is shown that subspace causality restrictions with respect to policy shocks can be interpreted as policy tradeoffs and this connection is illustrated in the context of a DSGE. We derive the necessary and sufficient restrictions which impose subspace non-causality and find that these are mirror images of the subspace causality restrictions of Al-Sadoon (2009), suggesting a “duality” between Granger causality and SVAR identification. The methods are illustrated on US data.

Supervisor of Studies, University of Cambridge, Cambridge, UK (2007 – present).

Second-Year Econometrics.

Second-Year Mathematics and Statistics.

Teaching Assistant, Columbia University, New York, USA (2000).

(Spring 2000) Dynamical Systems.

(Summer 2000) Introduction to Mathematical Analysis.

Volunteer Tutor, Columbia University, New York, USA (Summer '01 – Spring '02)

Tutored adult students in English-as-a-second-language and high school mathematics.

WORK
EXPERIENCE

Research Assistant, Research Assistant, Center for Economic Performance, London, UK (2004 – 2006).

Analyst, Corporate Planning – Saudi Aramco, Dhahran, Saudi Arabia (2002 – 2004)

(January '04 – June '04) Analysis and Forecasting of Global Economy and Oil Demand.

(January '03 – December '03) Process Engineering.

(June '02 – December '02) Oil Market Analysis and Modeling.

AWARDS

Scholarships and Fellowships

Yousef Jameel Scholarship (October 2006 – present).

OPEC Summer Fellowship (Summer 2004).

Saudi Aramco Scholarship (September 1997 – May 2002).

Honors

Honorable Mention, Columbia Human Rights Concentration Prize, 2002.

I. I. Rabi & Kann-Rasmussen Prize in Mathematics, 2000.

CONFERENCES

11th Workshop on Optimal Control, Dynamic Games and Nonlinear Dynamics, Amsterdam, 31 May-2 June, 2010.

Presented, “Causality Along Subspaces: Theory.”

Spring Meeting of Young Economists 2010, Luxembourg, 15-17 April, 2010.

Presented, “Causality Along Subspaces: Theory.”

Discussant for, “Identification problems in ESTAR models and a new model,” by Florian Heinen, Stefanie Donauer, Philipp Sibbertsen.

Macroeconomic and Financial Linkages: Theory and Practice, Peterhouse College, Cambridge, 15-16 December, 2008.

Discussant for, “External Shocks and International Inflation Linkages: a Global Vector Autoregressive analysis,” by Alessandro Galesi and Marco J. Lombardi.

TALKS

Causality Along Subspaces, Brown Bag Macro Seminar, University of St. Andrews, February 10, 2010.

Granger Causality Redux, PhD Econometrics Workshop, University of Cambridge, February 2, 2009.

Granger Causality Along Subspaces, PhD Macroeconomics Workshop, University of Cam-

bridge, May 20, 2008.

Structural VAR Modeling, Macroeconomics Reading Group, University of Cambridge, April 22, 2008.

Inferring Policy Preferences from the VARX* Model, First-year Viva, University of Cambridge, July 6, 2007.

Strategic Foundations of Social Networks, Economic Theory Seminar, University of Cambridge, November 30, 2006.

Stochastic Consensus, Shadow Talks, University of Cambridge, October 27, 2006.

WORKSHOPS
ATTENDED

Macroeconomics in Open Economies, Kiel Institute, August 2009.

DSGE Models: Methods and Problems, Financial Crises, Economic Growth and Development, Labor Market Frictions, Inflation and Monetary Policy, Universitat Pompeu Fabra, June 2009.

Expectations, Learning, Search and Labour: Royal Economic Society 18th Residential Easter School in Macroeconomics, University of Birmingham, April 2008.

Estimation of Dynamic Macroeconomic Models, Linear and Nonlinear Methods, Summer School in Economics and Finance at CEMFI, August, 2007.

Summer School in Rationality, Social Learning, and Complexity, GREQAM, September, 2006.

AFFILIATIONS

Member of the Econometrics Society, 2009 – present.

Bye-Fellow at Fitzwillian College, Cambridge.

SKILLS

Mathematica, Maple, Matlab, Microfit, EViews, C, HTML, UNIX, LATEX, Word, and Excel.

Fluent Arabic and Spanish.

INTERESTS

Middle Eastern Development and Politics, Mathematics, Physics, Jogging, Swimming, Yoga, Salsa.