## MUSTAFA KOROGLU

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## Office Contact Information

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| Nationality                   | Turkey; Canada (permanent residency)   |  |
|-------------------------------|--|--|
| Education                     | Ph.D., Economics, University of Guelph, June 2017, Canada  |  |
|                               | Dissertation: "Semiparametric Applications in Economic Growth"<br>Committee: Thanasis Stengos (Supervisor), Yiguo Sun, Alex Maynard, Miana Plesca  |  |
|                               | M.A., Economics, Marmara University, August 2012, Turkey   |  |
|                               | B.S., Mathematics, Middle East Technical University, June 2009, with honors, Turkey  |  |
| Research<br>Interests         | Applied Econometrics, Machine Learning Predictive Modeling, Spatial Econometrics, Growth and Development   |  |
| Peer-Reviewed<br>Publications | Functional-Coefficient Spatial Durbin Model with Nonparametric Spatial Weights: An Application to Economic Growth. Econometrics Vol 4, Article 6, 1-16, 2016, Special Issue on Nonparametric Methods in Econometrics. (With Yiguo Sun) |  |
| Working                       | Growth and Debt: An Endogenous Smooth Coefficient Approach.  |  |
| Papers                        | Nonparametric and Semiparametric Methods: How Well the Models Fit the Data?  |  |
| Teaching<br>Experience        | <ul> <li>Graduate Teaching Assistant;</li> <li>Advanced Mathematical Economics (F2012)</li> <li>Introductory Microeconomics (F2013)</li> </ul>   |  |
|                               | <ul> <li>Intermediate Microeconomics (S2013-distance education (DE), W2014,<br/>S2014-DE)</li> </ul>   |  |
|                               | • Introductory Mathematical Economics (F2014, W2015, S2015-DE)   |  |
|                               | • Introduction to Econometrics (F2015, F2016, W2017)   |  |
|                               | • Economic Statistics (W2016)  |  |
|                               | <ul> <li>Teaching Development;</li> <li>Certificate in Teaching Development Program, University of Guelph, 2016</li> <li>Graduate Student University Teaching Conference, 2014 and 2016</li> </ul>                                     |  |

| $\operatorname{Employment}$     | <ul> <li>Fellow at NYC Data Science Academy Bootcamp Program, June 26, 2017-September<br/>15, 2017</li> <li>Graduate Research Assistantship;</li> <li>Professor Thanasis Stengos (S2016)</li> </ul> |  |  |
|---------------------------------|---|--|--|
|                                 |   |  |  |
|                                 | • Professor Yiguo Sun (F2016)   |  |  |
| Conference<br>Presentations     | • The 8th Midwest Graduate Student Summit, Purdue University, April 11-12, 2015   |  |  |
|                                 | <ul> <li>3rd Annual Doctoral Workshop in Applied Econometrics, Ryerson University,<br/>May 9, 2015</li> </ul>   |  |  |
|                                 | • 49th Annual Conference of the Canadian Economics Association (CEA), Ryerson University, May 29-31, 2015   |  |  |
|                                 | • 32nd Meeting of the Canadian Econometric Study Group (CESG), University of Guelph, September 26-27, 2015 (poster presentation)  |  |  |
|                                 | • The 13th Biennial Athenian Policy Forum Conference, Athens University of Economics and Business, Greece, July 7-9, 2016   |  |  |
|                                 | • 33rd Meeting of the Canadian Econometric Study Group (CESG), Western University, October 15-16, 2016 (participant)  |  |  |
|                                 | • 51th Annual Conference of the C<br>St Francis Xavier University, June 2-4   | Canadian Economics Association (CEA),<br>4, 2017   |  |
| Scholarships and<br>Awards      | <ul> <li>Graduate Scholarship in Economics, University of Guelph, 2012-present</li> <li>High Honor Degree, Middle East Technical University, 2007 and 2008</li> </ul>                               |  |  |
| Affiliations                    | • Canadian Economics Association (CEA)  |  |  |
|                                 | • The Midwest Economics Association (MEA)   |  |  |
| Computer and<br>Language Skills | Computer Skills:<br>R, Python, MySQL, Stata, LaTeX  |  |  |
|                                 | Language Skills:<br>English (fluent), Turkish (native), German  | (basic)  |  |
| References                      |   |  |  |
|                                 | Professor Thanasis Stengos (Supervisor)<br>University Research Chair in<br>Econometrics<br>Department of Economics and Finance<br>Phone: +1 (519) 824-4120-ext.53917<br>Email: tstengos@uoguelph.ca | Professor Yiguo Sun<br>Department of Economics and Finance<br>Phone: +1 (519) 824-4120-ext.58948<br>Email: yisun@uoguelph.ca |  |
|                                 | Professor Alex Maynard<br>Department of Economics and Finance<br>Phone: +1 (519) 824-4120-ext.53014<br>Email: maynarda@uoguelph.ca  |  |  |

## **Research Papers** Growth and Debt: An Endogenous Smooth Coefficient Approach[Job Market Paper]

Is high public debt detrimental to all countries? Is the level of public debt primary reason for this concern? We employ a smooth coefficient approach that allows democracy to characterize the long-run relationship between public debt as well as other conditioning variables and economic growth, and parameter heterogeneity in the unknown functional form. We find some evidence of parameter heterogeneity in the growth effect of public debt with respect to institutional quality of countries. Our results are consistent with the previous literature that find significant negative effect of public debt on growth for the countries below a particular democracy level. However, we also find surprisingly strong evidence of adverse effect of public debt on growth for countries with high institutional quality.

Functional-Coefficient Spatial Durbin Models with Nonparametric Spatial Weights: An Application to Economic Growth with Yiguo Sun. Published version can be found here.

This paper considers a functional-coefficient spatial Durbin model with nonparametric spatial weights. Applying series approximation method, we estimate the unknown functional coefficients and spatial weighting functions via a nonparametric two-stage least squares (or 2SLS) estimation method. To further improve estimation accuracy, we also construct a second-step estimator of the unknown functional coefficients by local linear regression approach. Some Monte Carlo simulation results are reported to assess the finite sample performance of our proposed estimators. We then apply the proposed model to re-examine national economic growth by augmenting the conventional Solow economic growth convergence model with unknown spatial interactive structures of national economy as well as country-specific Solow parameters, where the spatial weighting functions and Solow parameters are allowed to be a function of geographical distance and countries' openness to trade, respectively.