

Spring 2013

[Sabbatical Report]

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Sabbatical Report

Spring 2013

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During the sabbatical leave I collaborated with Dr. Ferhan Atici of the Mathematics department on a new theory of mathematical modeling called Time Scale Calculus (TSC). We developed an inventory management model for goods that deteriorate overtime. Our paper has been published online in the European Journal of Operational Research and is forthcoming in print in October 2013 issue of the journal (Volume 230, Issue 2, 16 October 2013, Pages 284–289). The title of the paper is “Inventory Model of Deteriorating Items on Non-periodic Discrete Time Domains”.

Dr. Atici and I are also working on another article that is currently under review in the same journal. The title of the article is “Cagan-type rational expectation model on complex discrete time domains.” We have received the article back from the journal with positive comments from reviewers (“revise and resubmit”) and are now making revisions suggested by the referees.

I have also made progress on a regime-switching model with limited memory. I am developing a model in which agents in an economy gradually “forget” economic events that happened in the past and use only recent information to estimate the probability of future events. This project proved to be more challenging than I anticipated but I hope to have a presentable paper by mid-fall 2013. I am planning to present this paper at a conference in the spring of 2014.

In addition to the above three projects, I have been working on updating a paper I started with Drs. Howsen and Borland (both at Economics department). In this project we analyzed 2008 MLB attendance data to see if attendance is affected by degree of competitiveness within divisions. I am updating the paper to include more data for years 2009-2012 and to conduct additional statistical tests of the model. I hope to have the project completed by the end of the fall 2014.

While on sabbatical, I travelled to Ukraine on a personal visit. While there, I met with faculty and administration of my *alma mater* –Ternopil National Economic University. I gave several guest lectures, including a presentation on differences between Ukrainian and American systems of higher education. I also met with the rector (president) of the University to discuss the possibility of the students and faculty exchange between TNEU and WKU.

During the sabbatical I have continued working with Colonnade Implementation Committee of which I am a member.

I am very grateful for the opportunity to spend time working on professional growth. The sabbatical gave me a chance to complete several projects and start working on new ones.