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VISITING ASSISTANT PROFESSOR  
AT PORTLAND STATE UNIVERSITY, DEPARTMENT OF ECONOMICS

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*Dissertation Title:* "Two-Sided Learning in a Natural Rate Model"  
*Principal Advisor:* Prof. John Duffy, University of Pittsburgh  
*Completion:* June 2007

**DATE OF BIRTH:** August 19, 1974, **SEX:** M, **CITIZENSHIP:** Turkey (US Visa: H-1B).

**CURRENT EMPLOYMENT:** Visiting Assistant Professor at Portland State University, Department of Economics

<b><u>EDUCATION:</u></b>	University of Pittsburgh	Ph.D., Economics	2007
	Bilkent University	MA, Economics	2000
	Orta Dogu Teknik University	B.A. Mathematics Education	1997
	Ankara Science High School (AFL)	Science intensive curriculum	1993

**THESIS COMMITTEE AND REFERENCES:**

**Professor John Duffy (Main Advisor)** Graduate Director  
Department of Economics  
University of Pittsburgh  
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**Professor James Feigenbaum**  
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**RESEARCH AND TEACHING INTEREST:**

*Primary Fields:* Macroeconomics, Monetary Economics, Escape Dynamics in Macroeconomic Models  
*Secondary Fields:* Central Bank Policies, Role of Expectations in Economics

**TEACHING EXPERIENCE:**

**At Portland State University, Portland (Oregon)**

· Principles of Macroeconomics	Fall 2007 and Winter 2008	Instructor
· Macroeconomic Theory	Fall 2007 and Winter 2008	Instructor
· Money and Banking	Spring 2008, upcoming qtr.	Instructor
· Macroeconomic Theory	Spring 2008, upcoming qtr.	Instructor

**At University of Pittsburgh, Pittsburgh**

· Introduction to Microeconomics	Summer 2002, 2003	Instructor
· Introduction to Macroeconomics	Summer 2004, Fall 2004	Instructor
· Introduction to Economics	Fall 2003, 2005, Sum. 2005	Instructor

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· Econometrics 1 (Graduate class)	Fall 2001	Teaching Fellow
· Econometrics 2 (Graduate class)	Spring 2002	Teaching Fellow
· Advanced Macroeconomics 1 (Graduate class)	Fall 2002	Teaching Fellow
· Advanced Macroeconomics 2 (Graduate class)	Spring 2003	Teaching Fellow
· TA of Various Undergrad Classes	Spring 2004, 2005, 2006	Teaching Fellow

**At Robert Morris University, Pittsburgh**

· Survey of Economics (2 classes)	Fall 2006	Instructor
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**HONORS, SCHOLARSHIPS, AND FELLOWSHIPS:**

2000-2001 Reuben E. Slesinger Prize in Economics, University of Pittsburgh

2000-2001 FAS Fellowship, University of Pittsburgh

2000-2005 Full tuition scholarship and stipend from the University of Pittsburgh, 2000-2005

**LANGUAGES:**

Turkish (native), English (fluent)

**PAPERS AND PRESENTATIONS:**

- "Two-Sided Learning in a Natural Rate Model" under review at Journal of Macroeconomics.
- "Two-Sided Learning in a Natural Rate Model" Fall 2006 Midwest Economic Theory Meetings, October 13-15, 2006, Purdue University in West Lafayette, Indiana.
- "Two-Sided Learning in a Natural Rate Model" Department Seminar, September 28<sup>th</sup>, 2006, Department of Economics, University of Pittsburgh
- "Dual Learning in a Time Inconsistency Model" Pennsylvania Economic Association Annual Conference, June 1--3, 2006, Indiana University of Pennsylvania
- "Environmental Regulations, International Trade and Strategic Behavior" by Cem Karaman and Savas Alpay. Econometric Society 2004 Far Eastern Meetings
- "Learning the Efficient Equilibrium in OLG Models" Spring 2003 Midwest International Economics and Economic Theory Meetings, May 2003, Pittsburgh, PA
- "The Analysis of the Strategic Behavior of Governments and Producers in the Presence of Environmental Regulations, Innovation and International Trade" by Cem Karaman and Savas Alpay. Game Practice and Environment Conference. 12-13 April 2002, Alessandria Italy

**JOB MARKET PAPER** (for the latest version of my paper please visit [http://web.pdx.edu/~karaman/Karaman\\_JMP.pdf](http://web.pdx.edu/~karaman/Karaman_JMP.pdf) )

**"Two-Sided Learning in a Natural Rate Model"**, under review at *Journal of Macroeconomics* (November 2007)

Cho, Williams and Sargent (2002) consider a natural rate model in which the central bank has imperfect control over inflation and is uncertain of the actual laws of motion of the economy. They show that if the central bank uses a misspecified approximating model to determine inflation there can be endogenous cycling (escape dynamics) between the time-consistent Nash equilibrium outcome and the optimal Ramsey outcome of Kydland and Prescott (1977). They obtain these escape dynamics assuming the central bank and the private sector have the same information and beliefs about the economy. In this paper we assume these two actors have different beliefs about the structure of the economy. The central bank and the private sector learn the economy with their own models separately. If the private sector learns the economy with a fully specified model instead of having rational expectations, escapes disappear and the economy converges to the Nash outcome. With a reverse robustness check we find that escapes can reappear if the private sector uses a misspecified model and the central bank uses a fully specified model. Thus escapes can arise in a model where the central bank is better informed than the private sector. Moreover under certain conditions the difference in beliefs in a two-sided learning model allows the central bank to exploit the expectations of the private sector to achieve a lower than Nash equilibrium outcome level of inflation.

## **RESEARCH PAPERS:**

### **"Learning and Dynamic Inefficiency"** with Prof. John Duffy

We examine the question of the stability of equilibria under adaptive learning in Diamond's (1965) overlapping-generations model with productive capital and money. In particular, we are interested in whether dynamically inefficient equilibria, which are possible in this model, are stable under adaptive learning. This model has one more asset, capital, than the model considered by Lucas (1986), Marcat and Sargent (1989) and others. Lucas (1986) showed that if agents used a simple adaptive learning rule, they would converge upon the unique monetary equilibrium of a two-period pure exchange OLG model with money as the single outside asset. We show that adaptive learning does not eliminate the multiplicity of stationary equilibria in the Diamond overlapping generations model with money and productive capital; both dynamically efficient and inefficient equilibria are found to be stable under adaptive learning.

### **"The Central Banks' Influence on Public Expectation"**

Using a New Keynesian model, we show that a central bank with an extraneous instrument, "cheap talk" announcements, can influence the private sector to achieve better outcomes than could be obtained by manipulating the nominal interest rate alone. Announcements are effective only if the central bank has full knowledge of how private sector expectations are formed, in which case the central bank can achieve lower inflation and higher output. Otherwise the private sector learns to discount announcements, and we observe convergence to the Nash equilibrium levels of inflation and output.

### **"Environmental Regulations, International Trade and Strategic Behavior"**, with Dr. Savas Alpay

In this paper, the issue of strategic behavior in the presence of environmental regulations and international trade is investigated. In a two-country, one-good, two-producer model as in Ulph (1996), we analyze the Nash equilibrium of the game where governments may behave strategically in choosing their environmental policies, and producers may behave strategically in choosing their R&D investments. In the simultaneous-move game, there is a unique equilibrium and both governments and producers act strategically. In the sequential-move game, two equilibrium sets of actions are present; however, one of them welfare-dominates the other: first moving government acts strategically, the follower government will not act strategically, and none of the producers will behave strategically. Some of our results are in contrast with the implications of earlier papers in this literature

### **"On Escape Dynamics in Oligopoly Models"**

It is known that in adaptive learning models, misspecification of the approximating learning model may lead to endogenous fluctuations of the state variables. Williams (2002) builds methods for analyzing these endogenous fluctuations. In this paper we show that the endogenous fluctuations critically depend on the model and the distribution of the noises chosen. We show that when we match the Nash equilibrium and the Cartel equilibrium of the Bertrand competition and the Cournot competition models and use normal shocks, there are endogenous fluctuations of the state variables in the Bertrand competition model where there is convergence of the state variables to the equilibrium values in the Cournot competition model. But when we use binomial shocks instead of normal shocks, we observe the results reverse and we observe convergence of the state variables to the equilibrium values in the Bertrand competition model and endogenous fluctuations of the state variables in the Cournot competition model.