Rossella Argenziano

Home Address:
62, Livingston Street
New Haven, CT 06520

Office:
Department of Economics
Yale University
P.O. Box 208268
New Haven, CT 06520-8268
Fax: (203) 432-2128

Telephone: (203) 824-4107

E-mail: rosa.argenziano@yale.edu

Web page: http://pantheon.yale.edu/~ra96/

Citizenship: Italian

Fields of Concentration:
Microeconomic Theory
Game Theory
Industrial Organization

Desired Teaching:
Game Theory
Microeconomics
Industrial Organization

Comprehensive Examinations Completed:
May, 2002 (Oral) Microeconomics, Industrial Organization *(both with distinction)*
May, 2001 (Written) Microeconomic and Macroeconomic Theory

Dissertation Title: *Network Markets and Coordination Games*

Committee:
Professor Stephen Morris
Professor Dirk Bergemann
Professor Donato Gerardi

Expected Completion Date: May 2005

Degrees:

M. Phil., Economics, Yale University, 2003
M.A., Economics, Yale University, 2002
M.A. , Economics and Finance, University of Naples "Federico II" (Naples, Italy), 2000
Laurea *summa cum laude*, International Economics, Istituto Universitario Navale (Naples, Italy), 1999

Fellowships, Honors and Awards:

Robert M. Leylan Fellowship, Yale University, 2004
John F. Enders Fund Award, Yale University, 2004
Cowles Foundation Prize, Yale University, Summer 2004
Cowles Foundation Prize, Yale University, Summer 2003
John Perry Miller Award, Yale University, 2003
Yale University Graduate Fellowship, 2000-2004
Guido Magliano Award, University of Naples "Federico II" (Naples, Italy), (2000)
Angelo Costa Award, Rivista di Politica Economica, (2000)

Teaching Experience:

Teaching Assistant, Graduate Microeconomics, Yale University, 2002
Teaching Assistant, Intermediate Microeconomics, Yale University, 2003
Teaching Assistant, Introductory Microeconomics, Yale University, 2003

Papers:

"Differentiated Networks: Equilibrium and Efficiency" [job market paper], *mimeo,* Yale University
"Network Markets and Consumer Coordination" (with Attila Ambrus), *Cowles Foundation Discussion Paper* # 1481, (Submitted to *The Review of Economic Studies*)
"History as a Coordination Device" (with Itzhak Gilboa), *mimeo,* Yale University
"The Two-Way Access Pricing Problem in the Telecommunications Industry", *Rivista di Politica Economica*, Dec. 2000, year XC, 3rd series, No. XII, pp.241-261
"Non-parametric estimation of bidders' values in IPV auctions: Motivation and Methods for Testing for Asymmetry.", *mimeo,* Yale University

Conference Presentations:

Third bi-annual Conference on the Economics of the Software and Internet Industries (Toulouse, France), January 21-22, 2005
Winter Meeting European Union "Polarization and Conflict" Project (Barcelona, Spain), December 10-11, 2004
WISE, 1st Workshop for Italian Ph.D. Students in Economics, (Salerno, Italy), May 27-28, 2004
Conference on the Economics of Two-Sided Markets, CEPR and IDEI (Toulouse, France), January 23-24, 2004 (*as discussant*)
31st Research Conference on Communication, Information and Internet Policy, George Mason University School of Law, (Arlington, VA), September 19-21, 2003

Referee:

Telecommunications Policy

References:

Professor Stephen Morris
Department of Economics
Yale University
P.O. Box 208281
New Haven, CT 06520-8281
Phone: (203) 432-6903
Fax: (203) 432-6167
E-mail: stephen.morris@yale.edu

Professor Dirk Bergemann
Department of Economics
Yale University
P.O. Box 208268
New Haven, CT 06520-8268
Phone: (212) 854-8276
(203) 432-3592
Fax: (203) 432-2128
E-mail: dirk.bergemann@yale.edu
db2232@columbia.edu

Professor Donato Gerardi
Department of Economics
Yale University
P.O. Box 208281
New Haven, CT 06520-8281
Phone: (203) 432-6519
Fax: (203) 432-6167
E-mail: donato.gerardi@yale.edu

Professor Benjamin Polak (Teaching Reference)
Department of Economics
Yale University
P.O. Box 208268
New Haven, CT 06520-8268
Phone: (203) 432-9926
Fax: (203) 432-2128
E-mail: benjamin.polak@yale.edu

Dissertation Abstract

Several oligopolistic industries that play a crucial role in modern economies are "network industries": industries where the benefit that an individual consumer derives from consuming a good increases with the number of other people consuming the same good. Network markets can be one-sided or two-sided. An example of the first class of markets is telecommunication networks: the utility an individual derives from videoconference software is increasing in the number of people who own the same software. The second class of markets includes auction websites, credit card networks, directory services and all those markets where two groups of individuals or firms need a common platform to interact and one or more firms own platforms and sell access to them. In this case, the utility derived from accessing a platform is increasing in the number of potential counterparts who join the same platform.

Network industries face a regulator with a trade-off : if more than one network is available, and they offer differentiated products, is it better to have only one firm active in the market, so that all consumers join the same network and enjoy a high network externality, or is it better to have two active networks, so that each consumer can join the one he prefers? My dissertation investigates this trade-off and highlights two types of inefficiencies that typically arise in network markets.

A classic methodological issue related to network markets is that modeling the demand function is particularly challenging because the problem faced by consumers choosing which network to join, for given prices, constitutes a coordination game and typically coordination games have multiple equilibria. My dissertation explores three possible approaches to this problem. In the first essay, I model consumers' choice between two differentiated network goods as a private value global game and derive necessary and sufficient conditions for a well-defined demand function. In the second essay, a new equilibrium concept is introduced, to formalize the assumption that even if consumers of two-sided network products cannot communicate with each-other they can still achieve a minimum amount of coordination that rules out many sets of self-fulfilling expectations. Finally, the third essay focuses on the process of belief formation in general coordination games and shows how history can serve as a coordination device.

First essay: "Differentiated Networks: Equilibrium and Efficiency" [job market paper]

This essay investigates the efficiency of duopolistic markets with one-sided network externalities, where the goods are both horizontally and vertically differentiated. Modeling consumer choice as a global game with private values, it shows that if there is a large amount of horizontal differentiation or if consumers' private values of the goods are sufficiently correlated then the demand function is always well-defined. Using this result, it derives the equilibrium allocation of consumers to the networks for both the case of sponsored and unsponsored networks as well as the allocation that would maximize social welfare. The three allocations share two important features: in all of them both networks are active, due to the presence of sufficiently strong horizontal differentiation, and the high quality network attracts more than one half of the consumers. Nonetheless, two inefficiencies arise. First, since consumers fail to internalize network externalities, the equilibrium allocation with unsponsored networks is too balanced. Second, if access to the networks is priced by strategic firms, then the firm with a higher expected quality charges a price higher than the competitor's and this further reduces the asymmetry between market shares and therefore social welfare.

Second essay: "Network Markets and Consumer Coordination" (joint with Attila Ambrus)

This essay analyzes price competition on a two-sided network market, i.e. a market where there are inter-groups network externalities. We assume that consumers can coordinate their decisions to their advantage, if their interests coincide and if coordination can be achieved without communication.

Using this methodology, the paper shows that multiple asymmetric networks can coexist in equilibrium if consumers have heterogeneous reservation values. If the market is a monopoly, the network provider might choose to operate multiple networks to price differentiate consumers with different reservation values on both sides of the market. If the market is a duopoly, the two competing network providers might price their products in such a way that one of them attracts high reservation value consumers on one side of the market and low reservation value consumers on the other side, and vice versa. In these asymmetric equilibria, access to intrinsically identical networks can be sold at different prices because network externalities determine endogenous product differentiation: the larger the set of consumers from one side who join a network, the more attractive the network becomes for consumers on the other side.

Third essay: "History as a Coordination Device" (joint with Itzhak Gilboa)

This essay addresses the issue of belief formation in coordination games. The paper takes the view that players form their beliefs about other players' behavior by looking at history, that is, at the outcomes of similar coordination games played in the past, possibly by other players. A simple model is analyzed, in which a large population has to make a simultaneous decision regarding participation in a coup attempt. A dynamic process faces different populations with such games for randomly selected values of a parameter. The paper shows that history serves as a coordination device, and determines for which values of the parameter a revolution would succeed. We also show that, for intermediate values of the parameter in question, the limit behavior depends on the way history unfolds, and cannot be determined from a priori considerations.