Name of Center: Center for the Economic Analysis of Risk

Center Director: Professor Glenn W. Harrison, RMI

Section A. General Information

1. When was the center created and to which department or school/college/office was it originally designated? If the designation has changed, in which department or school/college/office does the center currently reside?

CEAR was created in 2008 as the result of a GSU Area of Focus grant. It is based in the RMI Department, RCB, both physically and functionally. It became operational in the Fall of 2009 when Harrison was appointed Director.

2. To whom does the center’s director report?

As a faculty member of RMI, the Director reports to the chairman of RMI, Professor Richard Phillips. As Director of a research center with a primary home in RMI, he also reports to the chairman of RMI. In turn, and in large part because of the organizationally cross-disciplinary nature of CEAR, the chairman of RMI seeks input from the constituent partners of CEAR via the CEAR Oversight Committee. He gathers input from them prior to writing his annual evaluation of the Director as head of CEAR. That committee reviews that portion of the Director’s evaluation prior to it being shared with the Director. The CEAR Oversight Committee consists of the chairmen of the Economics, Finance, Accounting and RMI Departments, and a representative of the Federal Reserve Bank of Atlanta. The members of the Oversight Committee may not be members of the CEAR Advisory Board, to avoid perceived or actual conflicts of interest.

3. If there is an advisory board to this center, describe its function and composition.

A number of researchers have been asked to be on a CEAR Board of Advisors, to help the Director translate the vision for CEAR into a viable research entity across academic disciplines. These researchers are Lynn Hannan (Accounting, GSU), Jayant Kale (Finance, GSU) Susan Laury (Economics, GSU), Ajay Subramanian (RMI, GSU) and Larry Wall (Fed Atlanta). They are given quarterly updates by the CEAR Director, in the form of a written report, and consulted by him on an ad hoc basis as needed. They meet whenever needed, typically once a year for more extended discussions. Their primary work in the past year has been to provide advice and comments on the detailed written guidelines developed for allocating CEAR financial resources and affiliation.

4. If the center is considered interdisciplinary, describe the interdisciplinary focus.

CEAR seeks to develop the topic of risk into a well-defined, inter-disciplinary area of study, research and policy. Risk is studied in many academic disciplines already, such as economics, finance, accounting, risk management and insurance, engineering, operations research, psychology, and even public health departments. In some cases the tools are similar, but not always, and often the research questions and applications differ markedly across these fields. CEAR will leverage the development of a dialogue
between researchers and policy makers in these areas in an effort to arbitrage differences in knowledge across these areas. This activity will range over fundamental and abstract topics, immediate policy and business issues, and two-way communication between academics and practitioners. The overarching goal will be to foster rigor in the debate over policy towards risk.

CEAR has formal ties with four academic departments at Georgia State University, and the Federal Reserve Bank of Atlanta. Each has a member on the CEAR Advisory Board, and a separate member on the CEAR Oversight Committee:

- Department of Risk Management & Insurance, Robinson College of Business, GSU
- Department of Finance, Robinson College of Business, GSU
- School of Accounting, Robinson College of Business, GSU
- Department of Economics, Andrew Young School of Policy Studies
- Federal Reserve Bank of Atlanta

5. Describe in detail the amount of start-up support available.

Continued funding from the GSU Area of Focus grant. In FY09 the allocation was $400,000, in FY10 the allocation was $1.48 million (which included $280,000 rolled over from the FY09 allocation), and in FY11 the allocation was $1.2 million.

Section B. Goals and Objectives

1. Please enumerate the initial or original goals and objectives of the center and describe the current goals and objectives if they have changed.

CEAR seeks to develop the topic of risk into a well-defined, inter-disciplinary area of study, research and policy. Risk is studied in many academic disciplines already, such as economics, finance, accounting, risk management and insurance, engineering, operations research, psychology, and even public health departments. In some cases the tools are similar, but not always, and often the research questions and applications differ markedly across these fields. CEAR will leverage the development of a dialogue between researchers and policy makers in these areas in an effort to arbitrage differences in knowledge across these areas. This activity will range over fundamental and abstract topics, immediate policy and business issues, and two-way communication between academics and practitioners. The overarching goal will be to foster rigor in the debate over policy towards risk.

This vision, and these goals, have not changed since CEAR began operations.

2. What are the major institutional, administrative, and/or financial resources that facilitate achieving the center’s goals and objectives?

CEAR functions inside the RMI department in terms of general office support. The administration of CEAR is implemented by the Director, an Executive Assistant to the Director, and a Business Manager. Financial resources come from the GSU Area of Focus award.

3. What are the major institutional, administrative, and/or financial constraints that interfere with achieving the center’s goals and objectives?

In the case of CEAR the most important constraint is staff, and the need for someone to bridge the academic focus and leadership of the Director with the wider academic community. The Executive Assistant to the Director bridges him to the important logistical and administrative aspects of the activities
of CEAR, but there is a need for someone that can leverage the academic side of the activities of CEAR more. When budget permits, we hope to start advertizing for an Assistant Director soon.

4. What is your assessment of your achievement of your goals?

I set very high standards, sometimes too high. On the other hand, that is how I have been able to accomplish certain research and administrative goals that I am proud of. The activity level of CEAR is high, the visibility is high, and it is “growing” in the right way. In other words, the goals of CEAR will be achieved when scholars in various disciplines do not have to make a conscious and deliberate effort to incorporate consistent models of behavior towards risk, and where it happens organically. I believe we have made an excellent start on that type of impact on research, knowing that it will not be a quick process in all disciplinary fields. In some fields, such as RMI and Economics, it should be quick since the topics are so central to their main academic interests, and in those domains I believe CEAR has achieved its initial goals.

Section C. Research of the Center

1. What research is currently being conducted in the center? Describe the major areas/topics of research. How has the center increased productivity of the faculty?

A feature of the activities of CEAR will be the attention given to the way in which risk is perceived and managed at different levels of decision-making: individuals, households, villages, local and state governments, national governments, and of course globally. These different levels of decision-making have often been studied in isolation, despite the interactions that occur between them all. CEAR will seek to integrate research that has occurred across these different levels of “agency.” More information on these levels of analysis can be seen from the description of programs:

• **Individual decision-making.** This would be an area that focuses on foundational issues with respect to the modeling of individual decision-making towards risk and, in particular, uncertainty. In general, this should be someone that is a decision theorist, or somebody with strong ties to theory.

• **Household decision-making.** The link between individual decisions and the decisions of households is one that is emerging as an important vehicle by which risk is shared and pooled. There are a number of competing theories about how individuals make choices within an endogenous household structure, some of them focusing on cooperative behavior and some of them focusing on non-cooperative behavior. This is likely to be a theorist, with an interest in rigorous applied work.

• **Organizational decision-making.** This would be an area that focuses on the structure of organizations, such as banks, insurance companies or manufacturing firms that deal with risk as part of their organizational structure. The ideal person would be well-versed in industrial organization, and contract theory for principals and agents.

• **Social decision-making.** This area would examine the manner in which policy decisions over risk are made at a social level, and where “society” could be referring to local villages, large or small cities, state governments, national governments, or even international organizations. The emphasis would likely be on how these societies aggregate individual preferences in order to make decisions over policies that entail risk.

• **Econometric methods.** This area would focus on the development of statistical tools for the econometric analysis of data on risky choice and uncertain choice. It would be tightly integrated with the program on individual decision-making, but would also have an eye to providing a bridge to the other areas so that econometric methods could be applied just as rigorously there.
• **Modeling methods.** This area would examine the manner in which simulation models could be constructed in order to better capture stochastic elements, and be calibrated to allow for risk and uncertainty. The ideal focus would be on computable general equilibrium systems, and mathematical programming tools in general. Ideally there would be a development of stochastic programming tools that could be widely applicable across various program areas. It would also be attractive to have somebody that was interested in intertemporal and intergenerational modeling issues.

These topic areas for programs are intended to be guidelines only, and it is expected that there will be considerable flexibility in the definition of what exactly constitutes each program. That will be the work of the program director, in conjunction with the Director. The same topic of research, whether it be financial risk, health risk, or other types of risk, might lead to very different questions depending on whether one is asking about individuals, households, organizations or society. But *even if the questions differ, the answers should be consistent,* and that will be one of the more fundamental objectives of CEAR-inspired research.

Another feature of the activities of CEAR will be the manner in which it serves as a focal point for researchers around the world. Our intent is to use the resources provided by GSU to leverage the research that is already occurring in the best universities around the world. To this end, CEAR will provide modern audio-visual facilities to allow GSU-based scholarship and workshops to be shared around the world, and to virtually connect researchers in the discipline of risk. A healthy mixture of physical interaction and virtual interaction will allow greater things to be accomplished than if one relied solely on either type of interaction. In this respect CEAR will also become a model for ongoing global scholarship in other areas.

CEAR has increased the productivity of GSU faculty by providing resources for workshops and seminars at GSU, and broadening the scope of research to include non-financial risk. Details of the workshops and seminars are provided below.

2. **What are the major impediments for conducting research in the center?**

Frankly, the subject matter. This is an exciting time for the research questions that CEAR seeks to address, and get researchers to address, and that excitement generates an urgency that can conflict with the need to codify major areas of academic research into risk. The urgency and importance of the subject matter means that it takes considerable care to “pick and choose” the right questions to ask, the right way to structure research so that it is inter-disciplinary in some meaningful way, and the right way to engage scholars from different disciplines.

Of course resources would help here, as every academic unit would say. In the case of CEAR the most important constraint is staff, and the need for someone to bridge the academic focus and leadership of the Director with the wider academic community. The Executive Assistant to the Director bridges him to the important logistical and administrative aspects of the activities of CEAR, but there is a need for someone that can leverage the academic side of the activities of CEAR more.

3. **What percentage of the center’s funding has been paid out of Fund Code 10? List amounts for the last five years.**

100% of the funding of CEAR since 2008 has been paid out of Fund Code 10. In FY09 the allocation was $400,000, in FY10 the allocation was $1.48 million (which included $280,000 rolled over from the FY0-9 allocation), and in FY11 the allocation was $1.2 million.
4. Attach a list of all research activities and other activities (e.g. workshops, programs, conferences, seminars, symposia etc.) of the center.

The primary academic activity of CEAR are workshops. In addition, CEAR provides support for seminars at GSU, and conferences on risk-related topics around the world.

Workshops

The following workshops have been organized so far. Participation was open to GSU faculty and graduate students, although capacity was limited and registration required. The organizer is listed in brackets. Details programs are on the CEAR web site.

Attitudes Towards Risk, Uncertainty and Ambiguity: Theory, Experimental Design and Econometrics (May 4 and 5, 2010: Wilcox)

When it comes to choice under risk, uncertainty and ambiguity, there is a growing appreciation that neither theory, econometrics nor experimental design can live without each other. Theory and econometrics must respect the limits of subject attention, motivation and response set; skilled experimenters enter here. Theory and experimental design must understand that discrete choice is stochastic; econometricians spell out inferential consequences. And econometrics and experimental design feed on theorist’s ideas concerning both the deterministic and stochastic parts of choice. This workshop brought theorists, experimenters and econometricians together for discussion of one another’s imperatives.

Risk Aversion in Developing Economies: Microinsurance (Spring 2010: Harrison and Phillips)

This workshop considered the manner in which theory and empirical evidence can inform the debate over the structure and evaluation of microinsurance schemes in developing countries. To what extent can the failure of take-up in some schemes be explained, and used to improve the design and performance of other schemes? This workshop brought together the academic researchers in this area, who span different disciplines, with practitioners and policymakers that want guidance from academe.

Risk Perception and Subjective Beliefs (Fall 2010: Fountain and Harrison)

This workshop examined theory and evidence on where subjective risk perceptions come from, how they respond to “news,” and how they are normatively used in policy settings. Topics included the theory of subjective beliefs (are we eliciting subjective probabilities, a la Savage, or subjective probability distributions?), experimental procedures for eliciting beliefs (comparisons of alternative scoring rule procedures and betting environments), prediction markets (what do they actually predict, in terms of beliefs?), Bayesian and non-Bayesian updating (how are subjective priors updated as news arrives?), and policy use (how do the risk perceptions of experts versus differ from those of non-experts?).

The Econometrics of Risk (January 11 and 12, 2011: Wilcox)

The purpose of this workshop is to share current approaches to the econometrics of risk, uncertainty and ambiguity. We are especially interested in seeing different approaches to stochastic model specification at the level of the individual and different approaches to allowing for, or estimating, heterogeneity of risk attitudes in populations. Work dealing with fundamental measurement of risk attitudes, hypothesis-testing about theories of risk, and prediction of risky choices in new choice situations are all suitable subjects.
Risk and Theories of Agency (January 21 and 22, 2011: Harrison and Ross)

How do risk attitudes manifest themselves at different levels of “the agent”? The term agent here refers to the decision unit. In many theoretical models and policy applications the unit is the individual, but it could also be a group, a household, a village, a corporation, a network, or a political entity. In the other direction, it could be different parts of the brain, or even the gene or meme. And often one agent makes decisions that have consequences for another agent. How do these different levels of agency, and relationships between agents, change our modeling of risk, and how can the analysis at different levels inform each other? This workshop will bring together researchers interested in the implications of modeling risk with explicit attention to the level of agency.

Traffic Risk and the Value of Time (February 21 and 22, 2011: Hultkrantz and Rutström)

This workshop examines the manner in which risk and uncertainty about time has been modeled in the transportation literature. What value do people place on savings in time, and how is “reliability” or predictability of travel time allowed for? How do estimates of the value of time from the transportation literature compare to estimates from other domains, such as labor economics?

Seminars

The following seminars were sponsored in part or completely by CEAR. Participation was through the host department. Topics and links to papers were provided on the CEAR web site when available.

February 5, 2010: Jarrad Harford, University of Washington; joint with Finance. The Importance of Industry Links in Merger Waves

February 12, 2010: Bart J. Wilson, Chapman University; joint with Economics. An Experimental Economic History of Whalers’ Rules of Capture

March 26, 2010: Don Ross, University of Cape Town; joint with RMI. Economic Models of Addiction

April 9, 2010: David Musto, Wharton; joint with Finance. What Do Consumers’ Fund Flows Maximize? Evidence from their Brokers’ Incentives

April 16, 2010: Julian Jamison, Federal Reserve Bank of Boston; joint with RMI. The Amount and Speed of Discounting

April 23, 2010: Urooj Khan, Columbia University; joint with Accounting. Does Fair Value Accounting Contribute to Systematic Risk in the Banking Industry?

April 30, 2010: Anne Farrell, University of Illinois; joint with Accounting. Managers’ Incorporation of the Value of Real Options into their Long-Term Investment Decisions: An Experimental Investigation

April 30, 2010: Gregory W. Brown, University of North Carolina Chapel Hill; joint with Finance. How Important is Financial Risk?

May 3, 2010: Graham Loomes, University of Warwick; joint with RMI. Stated Preference Valuation of Non-Monetary Risks

May 7, 2010: Rick Hatfield, University of Alabama; joint with Accounting. An Examination of Audit Managers’ Preference for the Underreporting of Time by Their Audit Staff
May 7, 2010: Hendrik Bessembinder, University of Utah; joint with Finance.

October 15, 2010: John Graham, Duke University; joint with Finance. *Capital Allocation and Delegation of Decision-Making Authority within Firms*

October 29, 2010: Tony O’Hagan, University of Sheffield; joint with RMI. *Uncertainty in Prior Elicitations: A Non-Parametric Approach*

October 29, 2010: Peter Wakker, Erasmus University; joint with Economics. *The Impact of Experiments on the Economic Thinking about Risk Aversion and Preferences*

Conferences

The following conferences were sponsored in part by CEAR.

*Foundations and Applications of Utility, Risk and Decision Theory (FUR) Conference (June 15-18, 2010, Newcastle)*

Glenn Harrison, Morten Lau and Daniel Read organized the Foundations and Applications of Utility, Risk and Decision Theory (FUR) Conference in 2010, in Newcastle, England. The first FUR conference was held in Oslo in 1982 and was founded by Maurice Allais and Ole Hagen. Since then the FUR conferences have been held in Venice (1984), Aix-en-Provence (1986), Budapest (1988), Duke (1990), Paris (1992), Oslo (1994), Mons (1997), Marrakech (1999), Torino (2001), Paris (2004), Rome (2006) and Barcelona (2008). FUR has been one of the few conferences that consistently attract top researchers from economics, finance, risk management, psychology, and judgment and decision-making. It has also had a fine tradition of theoretical rigor, which does not dissipate when one comes to applied work. There were be three themes at FUR, one per day. The theme of the first day was “Risk,” the theme of the second day was “Uncertainty,” and the theme of the third day was “Time.” Plenary lectures on the first day were by David Levine and Jim Cox, on the second day they were by Mark Machina and Sujoy Mukerji, and on the third day they were by George Ainslie and Christian Gollier. The Gala Dinner was held in the Great North Museum, and appropriately generated a conference poster to celebrate.

*Copenhagen Conference on Risk and Time Preferences (June 21-22, 2010, Copenhagen)*

Steffen Andersen, Glenn Harrison, Morten Lau and Lisa Rutström ran a small, focused conference on risk and time preferences in Copenhagen. The idea was to invite people for two days, all plenary, to talk about the connections between theory, experiments, and econometric inference in this area. Speakers include George Ainslie, Steffen Andersen, Jim Andreoni, Jim Cox, Christian Gollier, Julian Jamison, Morten Lau, David Levine, Mark Machina, and Nat Wilcox. The conference was sponsored by CEAR and the Copenhagen Business School.

*Microinsurance Conference (November 9-11, 2010, Manila)*

The Center for the Economic Analysis of Risk (CEAR) at Georgia State University, the Munich Re Foundation and the Microinsurance Network invited academic scholars to present research in the scientific track of the 6th Annual International Microinsurance Conference. This is the second year the International Microinsurance Conference had a scientific track. The objective was to bring academic researchers together with practitioners and policymakers to consider the manner in which theory and empirical evidence can inform the debate over the structure and evaluation of microinsurance schemes in developing countries.
5. Attach separate bibliographies of refereed and non-refereed publications which have resulted from research activities of the center. List publications for three years only.

The Working Papers of CEAR are listed and provided in PDF format at the CEAR web site, specifically http://cear.gsu.edu/papers/index.html. Below are listed the working papers that have been published or are forthcoming in refereed academic journals:


WP 2010-17 “Inferring Beliefs as Subjectively Uncertain Probabilities,” by Steffen Andersen, John Fountain, Glenn W. Harrison, Arne Risa Hole and Elisabet E. Rutström; Theory and Decision, forthcoming.


Non-refereed publications are as follows:


In addition, the CEAR Director, who is of course supported by CEAR in part, has published the following refereed publications since joining GSU in 2009:

“Expected Utility And Prospect Theory: One Wedding and a Decent Funeral” (with Elisabet Rutström), Experimental Economics, 12(2), June 2009, 133-158.


6. Attach a list of grants submitted in the last three academic years and list all sources of funding. For funded grants, give title, funding source, amount, type of grant (research or instructional), GSU project number, and period funded. Specify the amount of funds received from each category (research or instruction) for each of the last three years.

None. Pre-existing grants that the CEAR Director is a PI or co-PI on were not submitted from GSU or CEAR, since the CEAR Director has not been here long enough to submit any grants.
### Section D. Center Personnel

1. List all personnel funded through the center for the prior fiscal year. Faculty who receive course releases or full or partial summer pay should be counted as center members.

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Position</th>
<th>College &amp; Department</th>
<th>Load Allocated to the Center</th>
<th>Amount of Funding-External</th>
<th>Amt of Funding-Internal</th>
<th>Amount of Funding-CIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harrison, Glenn</td>
<td>Director</td>
<td>RCB/RMI</td>
<td>100%</td>
<td></td>
<td></td>
<td>$263,750</td>
</tr>
<tr>
<td>Mosher, Shannon</td>
<td>Administrative Specialist,</td>
<td>RCB/Center for RMI Research</td>
<td>30%</td>
<td></td>
<td></td>
<td>$57,000</td>
</tr>
<tr>
<td>Ackaramongkolrotn, Krawee</td>
<td>Sr. Research Associate</td>
<td>AYSPS/ExCEN</td>
<td>10%</td>
<td>$83,570</td>
<td></td>
<td>$14,110</td>
</tr>
<tr>
<td>Brown, Carmen</td>
<td>Business Manager</td>
<td>RCB/RMI</td>
<td></td>
<td></td>
<td></td>
<td>$7,615</td>
</tr>
<tr>
<td>Schneider, Mark</td>
<td>Temporary employee</td>
<td>RCB/CEAR</td>
<td>100%</td>
<td></td>
<td></td>
<td>$12,070</td>
</tr>
<tr>
<td>Mitchem, Phillip</td>
<td>Temporary/Consultant</td>
<td>RCB/CEAR</td>
<td>100%</td>
<td></td>
<td></td>
<td>$5,545</td>
</tr>
<tr>
<td>Turocy, Theodore</td>
<td>Consultant</td>
<td>RCB/CEAR</td>
<td>100%</td>
<td></td>
<td></td>
<td>$3,000</td>
</tr>
<tr>
<td>Gollier, Christian</td>
<td>Consultant/Program Director</td>
<td>RCB/CEAR</td>
<td>100%</td>
<td></td>
<td></td>
<td>$25,000</td>
</tr>
<tr>
<td>Machina, Mark</td>
<td>Consultant/Program Director</td>
<td>RCB/CEAR</td>
<td>100%</td>
<td></td>
<td></td>
<td>$25,000</td>
</tr>
</tbody>
</table>