In the middle of the fall semester this year, I received some difficult news. Professor Herschel Grossman, a member of the Brown Economics faculty for 40 years, had died unexpectedly while attending an academic conference in France. Grossman was an extremely active member of the department during his entire tenure at Brown and served as chair of the department for much of the 1980s. His loss leaves a big hole not just in the department but in the university as a whole. I include in this newsletter the speech given by Rajiv Vohra, newly appointed dean of the faculty and long-term member of the economics department, at the memorial service held in the recently refurbished Brown Hillel building on campus. (See Page 4.) The response from his students and colleagues around the world has been extraordinary. At the request of the family we have set up a Herschel Grossman Memorial fund within the department that will be used to fund visitors and graduate students working in Grossman’s primary areas of interest. Phyllis Hudek, the department manager, can accept any contributions to this fund on behalf of the department. One of the first uses of the fund will be to help sponsor an academic conference celebrating Grossman’s life and work to be held some time next year.

With the exception of this difficult loss, this has been a very exciting year in the life of the department. Late last spring, with the strong support of the administration, we were able to attract to Brown for the first time a senior scholar in the area of finance, Ivo Welch. As many of you know, finance has long been a mainstay of our business economics concentration. Unfortunately, and in contrast with the vision of Brown as a university-college in which research and teaching are complementary activities, we have not had any senior faculty with a national reputation in the area of finance. With the arrival of Full Professor Ivo Welch, from the Yale School of Management, this situation has changed markedly.

As you will see from the article on page 10, Professor Welch has taken over leadership in the ongoing initiative in Commerce, Organization and Entrepreneurship (COE). Those of you who made it to Economics Days (more about this in a minute) last year, received a brief introduction to these plans to consolidate and coordinate business-related education on campus. With the active support of the university administration, I believe that COE will help the department to both build research capacity in subjects like industrial organization and finance while at the same time providing students with a more cohesive business-related education.

Another new development this year was the first installment of what we hope to be an annual event, Economics Days. With the hard work of alumna Susan Farrell, the Economics undergraduate group (Econ DUG), two of my faculty George Borts and Allan Feldman, and our very capable staff we managed to put together an event in a matter of a few weeks that attracted almost 70 alumni back to Brown. Given that the event seems to have been such a success we are planning a second annual Brown Economic Forum on April 29th and 30th. See the announcement in this newsletter or check the web at http://www.browneconomicforum.org.

Andrew Foster
Professor and Department Chair

Save the Date!

The second annual Brown Economic Forum will be held on Saturday, April 30th

A full agenda can be found on page 2. Subjects will include diverse views on corporate governance, outlook for the global and US economies, and factors driving capital markets.
The Economics Faculty and Department Undergraduate Group (UG) invite You to Attend

The Brown Economic Forum

Friday, April 29 and Saturday, April 30, 2005
Pembroke Campus, Smith-Buonanno Building, 96 Gushing St.

Friday, April 29
Smith-Buonanno, Room 106
2:00 – 5:00 p.m.

Student Honors Thesis Presentations
Start the Brown Economic Forum by interacting with students presenting their honors theses. Interested alumni are invited to attend, thesis topics will be posted on the registration website.

Saturday, April 30
9:30 – 10:00 a.m.
Smith-Buonanno, Room 106

10:00 – Noon
Smith-Buonanno, Room 106

Coffee and Registration

Corporate Governance: Making it Work Without Damaging the Economy
A discussion of policy and practices in corporate governance will be led by Professor George Borts of Brown University. Panels include:

Dennis Michaud, Adjunct Assistant Professor of Economics (specialist in corporate governance)
Michael Kelly, President, Michael Kelly Associates
Richard Reed, Chief Administrative Officer, R.I. Economic Development Corporation
James Tisch, President and CEO, Loews Corporation
Jeffrey Sonnenfeld, Associate Dean of Executive Programs, Professor in the Practice of Management, and President and CEO, The Chief Executive Leadership Institute, Yale University School of Management
Lily Qiu, Assistant Professor of Economics at Brown

Luncheon and Discussion of Economic and Business Education at Brown
James Tisch, CEO of Loews Corporation, will discuss the applicability of economics to business decision making. Professor Leo Welch will provide an overview of Brown’s new multi-disciplinary concentration, Commerce, Organization and Entrepreneurship (COE).

Capital Markets and the Outlook for the U.S. Economy
A panel led by Professor George Borts will discuss and detail the issues affecting capital markets in the coming year and the outlook for the U.S. economy in the face of escalating fiscal deficits and depreciation of the dollar.

Marie Langlois, Vice Chancellor of Brown, Principal Partner in Phoenix Investment Management
Peter Garber, Global Strategist, Deutsche Bank (former Professor of Economics at Brown)
Peter Howitt, Professor of Economics at Brown
Kenneth Srinberg, Managing Director of Brown’s Private Equity Investment Office

Reception and Further Discussion

✓ Please RSVP, including class year and email address, at www.brownecoforum.org or via fax (401-863-1970) or phone (401-863-2142), attention Rezz St. Jacques.

We wish to thank the Pain Endowment and the Ruth Simmons Fund for financial support.

“Economics as a Springboard to a Career”

Panel, from left to right: Subir Lall ’95, Gregory K. Leonard ’85, Susan Buffum ’74, Ray Prisament ’01, Geoffrey Waldau ’77, Susan Farrell ’72
The Economics Department Undergraduate Group (EconDUG), acts as a liaison communicating the interests and needs of the Undergraduate Economics students to the Department. Through this forum, we identify critical issues in the undergraduate economics curriculum and work with the department to reach a successful resolution. In addition, the EconDUG complements the Department by organizing events, conferences and panels with faculty and alumni on intriguing topics.

One of several events last semester was the “Brown Women in the Workforce” panel. Professor Ann Dill and alumnae Pam Lenehan ’74, Tori Stuart ’87, Susan Ahrens ’84, and Susan Farrell ’72 spoke about the different obstacles they encountered in their careers as women and how they overcame them. One topic of discussion was how women could overcome male dominated conversations in business meetings. Pam Lenehan ’74 advised bringing a gadget to the meeting, “All the men in the room will look at your gadget and be fascinated. They will ask you about it, and then you are in the conversation loop.”

Another event we sponsored was a lecture by Graham Tanaka ’70, chief economist, CIO, and president of Tanaka Capital Management. He spoke about his theory of Digital Deflation, arguing that in reality we have no inflation because we are not taking into account the digital deflation that has been going on over the past decade (about 1.96%). Technology is being produced at such a rapid rate that every year its speed and resolution increase. Because of this phenomenon, people will hold off on buying a computer this year because they can get a better product next year for roughly the same price.

An alumni panel on “Economics as a Springboard to a Career: Life Off Wall Street” was organized to provide information on career opportunities for economics concentrators. The panel consisted of Susan Farrell ’72 (PFC Energy), Geoff Waldau ’77 (FCC), Gregory Leonard ’85 (NERA Economic Consulting), Susan Buffum ’74 (Metropolitan Life Insurance), Ray Prisament ’01 (Foresite Solutions), and Subir Lall Ph.D. ’95 (IMF), each of whom shared his/her path and challenges along the way. Two suggestions from the panelists: (1) Brown economics’ students should take probability and statistics and (2) Brown should add a higher level econometrics course.

The EconDUG worked with the department this year to create an Economics Resource Center (ERC). The ERC, which is open Monday, Wednesday, and Thursday evenings is staffed by economics graduate students who provide assistance to students in the basic economics courses (EC 11, 111, and 121) and answer questions about their course work.

Following last Spring’s first annual “Brown Economics Forum” seminar, a committee of interested alumni was formed by Susan Farrell, ’72, to formulate a plan to create a highly active economics alumni network and organization. The committee is still in its infancy and currently includes Tom Pizutti, ’90; Ray Prisament, ’01; Adriana Costa, ’03; Pam Lenehan, ’74.

So far, the committee has worked with the student DUG to organize and field speakers for two Fall events: Economics as a Springboard to a Career: Life Off Wall St. and Brown Women in the Workforce: Issues and Challenges. In each case, the panel speakers were Brown alums who volunteered their time and experience to help students. The committee is presently planning the Spring seminar, scheduled for Saturday, April 30th on campus.

We have just begun to create what we hope will become a large and dynamic network of economics alumni who interact with students, faculty and each other. If you are interested in participating, please send a note to Susan.Farrell.72@alumni.brown.edu. We are in particular need of help in advertising the Spring seminar to the area Brown clubs.

We are presently involved in planning several events for the remainder of this academic year, including our joint effort with several alumni and faculty to host the second annual “Economics Day” which has been renamed “Brown Economic Forum.” This event will include panel discussions with professors and alumni on current topics affecting the economy, a luncheon, a reception, and a briefing about the new economics curriculum at Brown. On the preceding Friday, in conjunction with the Economic Forum, several graduating seniors will present their thesis projects to faculty and alumni. Please see the Economic Forum schedule on page 2 of this newsletter for more details on these events.

To provide insight for students into the economics profession and hopefully help engage students in faculty research, we are holding several lunches with a few of the economics professors where they will discuss their research with us. Finally, we are planning an interviewing tips workshop for juniors and seniors.

I would like to see further alumni engagement, and look forward to receiving any suggestions.

Johanna Belda
President of the EconDUG
Herschel had taught at Brown for 40 years. During these 40 years, until the very end, he was fully involved in all aspects of university life - from the football team, to the undergraduate curriculum, to faculty hiring, seminar series, to the renovation of Robinson Hall. He understood this university like few others. He knew, for instance, that as faculty at Brown we could not be removed from the mission of undergraduate education. And within the department he was a relentless advocate for enhancing the undergraduate curriculum, for making sure that students were served well, pressing upon the administration for more resources to do that job well (he was especially good at that!). He was also an important voice within the department in keeping us all focused on not confusing quality with quantity. It was essential that we kept standards high and served especially well those students who had a deep interest in economics.

Over the years Herschel has had scores of graduate students, and so many who have gone on to excel in the profession, and are actually here today. He was the reason many of our graduate students came here. The ones who were here flocked to him, for his guidance, his experience and his willingness to engage with them in work at the very frontiers of economics. As an economist, Herschel’s career has been an interesting and distinguished one. Let me focus on another aspect of Herschel’s contributions.

Herschel also had a big role to play in shaping the economics department at Brown. He was chairman for much of the 80s, and many of us who are here today were brought here by Herschel. It was in the days when we didn’t have a university wide plan for expansion and one needed more than just persistence to ensure that the department got its fair share of resources. I remember, in 1991 when I was about to take over from Herschel as department chair, he took me along to a meeting of a university committee that was looking at future directions. I think all the social science chairs had been called to that meeting. One of the members of the committee, from Biology and Medicine, began the discussion by pointing out that in his area departments worked on their own to get financial support from grants and contracts, and that the culture in the social sciences perhaps needed to change, so people would raise money instead of asking the administration for more. Herschel was swift in his response, computing instantly the tuition generated by undergraduate enrollments in economics (properly adjusted for financial aid) and comparing that to the department budget. I don’t think the discussion on that topic lasted much longer. This was quintessential Herschel: quick on his feet, and incisive - incisive like very few people I know.

I remember the day Herschel came to my office to inform me that I had been granted tenure. There was that signature Herschel knock on my door - a knock I will never forget. He poked his head in to say that my tenure had been approved, and before I could say a word, he was gone. He did come back later that evening to talk at length about a model with insurgents and the correct notion of equilibrium. He remarked that it was nice to see me working late despite just having been granted tenure. And I pointed out to him that he was also there late. That was 15 years ago. A few weeks ago, must have been days before Herschel and Sue left for France, late one evening as I walked to the parking lot of Robinson Hall I saw that there were only two cars there - mine and Herschel’s. As luck would have it, Herschel was also there, about to leave for home. He turned to me and said, ‘It’s nice to see our deans work so late’. Once again I had to point out to him that he was also there late. That was the last time I saw Herschel. If I had known, I would surely have stopped him to ask for his opinion on the issue of the day!

We will miss Herschel, for his formidable intellect, his dedication to his students and to Brown University, and for his love of economics.
New Faculty

Sophocles Mavroeidis
Assistant Professor

Sophocles received his BA in Economics from Cambridge in 1997. After completing his PhD at Oxford in 2002, he became a post-doctoral researcher fellow at the University of Amsterdam. Mavroeidis is an econometrician who considers applications in the area of macroeconomics. His recent work examines econometric issues arising in the testing of alternative models relating inflation and unemployment. This work provides conditions under which the policy-rules adopted by the institutions such as the Federal Reserve may be unreliable. He is teaching econometrics at both the graduate and undergraduate levels.

Lily Xiaoli Qiu
Assistant Professor

Lily received her BA in Economics from Bryn Mawr College in 1999. She has come to us from Yale where she completed her PhD in Economics and was the 2000 winner of the Cowles Foundation Prize. Her thesis is entitled “Which Institutional Investors Monitor: Empirical Evidence for Corporate Acquisition Activity and Theory.” Her work provides evidence that large institutional investors can and do importantly restrain the extent of adverse merger and acquisition activity in large corporations. She brings expertise to the department in the areas of corporate governance and finance.

Sergio Turner
Assistant Professor

Sergio received his BS in Applied Mathematics from the University of California, at Berkeley in 1997. He has come to us from Yale where he completed his PhD in Economics and is a three time winner of the Cowles Foundation Prize. His thesis is entitled “Welfare Impact of Policy in Incomplete Markets: Theory and Computation.” In one paper from his dissertation he shows, in particular, how tax policy can be used to address market failures arriving from imperfections in the market for credit. He also has a strong background in the area of finance.

Ivo Welch
Professor

Ivo received his BA in Computer Science from Columbia University in 1985. He received his PhD from the University of Chicago in 1991. His first job was in the Business School at UCLA where he was subsequently promoted to Full Professor. He came to us from the School of Management at Yale where he has been since 2000. He has published on a wide variety of subjects in both Economics and Finance Journals, but is perhaps best known for his work on information cascades, the tendency for economic agents to base decisions on the behavior of other agents in the presence of imperfect information. One paper in this line of his research is considered one of the most influential papers published in the last 15 years, receiving to date over 250 citations. He is also well known for his contributions to the literature on Initial Public Offerings (IPOs), in which he has made both theoretical and empirical contributions. In particular, he has important work on the underpricing of IPOs and on firm behavior prior to undertaking and IPO. Ivo brings substantial visibility to the Economics Department in the area of Finance, an active area of research in economics in which there is also substantial demand at the undergraduate and graduate levels. Given that few Economics Departments outside of Business Schools have strong presence in the area of finance, Ivo’s arrival permits Brown to build a unique program that integrates first-rate training in finance into a strong liberal arts curriculum in economics.
As a result of a change in immigration policy in 1965, the number of immigrants in the U.S. has grown to an almost unprecedented level. According to the 2000 Census, 10.4 percent of the U.S. population was foreign born; this is the highest proportion in about 80 years. These ‘new immigrants’ are less likely to have completed high school, more likely to participate in means-tested social service programs, and less likely to have health insurance. Moreover, the children of foreign-born parents are more likely to live in poverty than the children of native-born parents. In fact, ethnic differences seem to persist for many generations. There is some evidence suggesting that unlike earlier waves of immigration, these new immigrants are not assimilating into U.S. society, perhaps because of their lower levels of education. The question then is through what mechanism does education affect the assimilation process? As a second-generation immigrant, this question seemed especially interesting to me when it came time to choose a dissertation topic.

George Borjas, a well-known immigration economist, explains why it takes many generations before immigrants become completely assimilated with a story of “ethnic spillovers.” He argues that the human capital levels of children depend not only on the human capital of their parents but also on the ethnic environment in which they grow up. Children belonging to disadvantaged ethnic groups are exposed to social, cultural, and economic factors that can make them less productive. In other words, if even life-long residents of the U.S. are predominantly exposed to others of the same ethnicity, ethnic patterns will perpetuate for many generations.

I could certainly relate to his story. My parents were born and raised in a small village in the Azores and immigrated to the U.S. as young adults. Although I was born in the U.S., as I was growing up, I ate Portuguese foods, spoke mostly in Portuguese at home, and had mostly Portuguese friends. This changed when I went to college and graduate school. A smaller proportion of my friends were Portuguese, and I participated less in Portuguese cultural activities. Given the evidence that immigrants’ social circles have important consequences on economic factors, I wondered, how does education affect the types of people immigrants choose to associate with?

To answer this empirically, I needed a measure of social integration which was easily available in the data and that not only captured the opportunity of coming across someone of the same ethnicity but also people’s preferences for associating with others of the same ethnicity. The natural candidate was interethnic marriage.

I thought of three primary mechanisms through which education could affect the probability of intermarriage. First, it may make immigrants better able to adapt to U.S. customs thereby making it easier to share a household with a native. The most obvious example is that educated immigrants may find it easier to learn English and this certainly makes household communication much simpler.

The second mechanism is related to whether immigrants live around many others of the same ethnicity. If immigrants with more education are more likely to go away to college and/or get jobs away from their ethnic neighborhoods, then even if they have the same preferences, they simply won’t have the opportunity to interact with others of the same ethnicity and so won’t marry them. The last mechanism is related to the fact that people like to marry others with a similar level of education. Because it may be difficult to find a spouse of the same ethnicity and with a similar level of education, immigrants may be willing to trade one for the other. In order to disentangle these three mechanisms using the data, I developed a model which captures people’s preferences for marrying someone of the same ethnicity and similar education level as well as the scarcity of potential spouses with both of these characteristics.

The intuitive implication that comes out of the model is that if in fact more education makes people better able to blend into the new culture, education should always increase the probability of intermarriage regardless of the ethnicity to which one belongs. On the other hand, if the reason education matters is that it makes them have more in common with the typical American, then an increase in education should lead to more intermarriage for those in low education ethnicities but less intermarriage for people in high education ethnicities. In order to empirically control for the opportunity of meeting someone of the same ethnicity, I take into account the proportion of people of the same ethnicity living in close geographic proximity. I find that assortative matching on education is the most important avenue through which human capital affects the probability of intermarriage. This suggests that if assimilation is a policy goal and intermarriages are a good measure of assimilation, then one way to promote it is to target education policies to those with very low levels of education.

Before implementing any policy, however, it is important to think about whether the immediate integration of...
immigrants is even a worthwhile goal. Which immigrants are most likely to integrate and to whom will they integrate? How exactly does social integration affect important socioeconomic outcomes? A new paper that I am currently working on tries to answer these questions by examining whether intermarried parents have more educated children. I find that, holding parental education levels constant, children with intermarried parents have higher dropout rates and lower grades than children with either two foreign born parents or two native born parents. I am currently working on a model which explains possible mechanisms through which this occurs.

In the end, education does importantly affect social circles and social circles certainly have an effect on socioeconomic outcomes. However, the avenues through which these effects occur are not so clear cut. Understanding the mechanisms will help us to best form immigration policy and understand how to aid immigrants’ adjustment after arrival.

Can You Keep Them Down on the Farm?
by Dietrich Vollrath

In my five years at Brown, the most surprising thing that occurred to me was selecting my dissertation topic. I grew up on a dairy farm in Wisconsin, and spent a good part of my life swearing to leave behind cows and tractors forever. When I began studying economic growth as a graduate student, though, I found myself drawn to the subject of how agriculture influences the process of development. I’ve ended up involved in agriculture again, but at least this time I don’t have to wake up at 5 AM to milk any cows.

The main paper of my dissertation is concerned with imperfections in the labor market that leave productivity in the industrial sector much higher than in agriculture. There is a long line of literature which describes why these imperfections exist, but relatively little is written about their aggregate effect on economies. My paper is an attempt to measure the macroeconomic impact of these imperfections.

Without imperfections, there would be some economically “ideal” number of people working in agriculture. For most developing countries, this ideal is much lower than the actual number working in agriculture. After making a number of technical assumptions, I can calculate how much higher income would be if a country were at its ideal allocation of workers. I can then compare the “ideal” income level with the actual income level.

What I find is that in some places, like the U.S., the ratio of ideal to actual income is very close to one. This is because the actual number of people in agriculture is very close to the ideal number. For some developing countries, like Kenya, the ideal income level is nearly twice as big as actual income. Because labor market imperfections keep too many people in agriculture in Kenya, its actual income level is only half of what it might be.

I do this calculation for a variety of countries, both rich and poor. I find that about one-third of the gap in income between rich and poor countries can be explained by how close their actual income is to their ideal income. To put it another way, if poor countries like Kenya could move workers from agriculture to industry and get closer to their ideal income, the gap in income between rich and poor countries would shrink by one-third.

The conclusion to draw from this result, though, is not that we should move all the farmers in Kenya to the city. We haven’t accounted at all for the costs this might incur. My research does tell us, though, that the effect of labor market imperfections is large and worth more detailed study at the macroeconomic level.

In the last part of my paper I make a start at this more detailed study. Looking across countries, I try to identify characteristics that are related to labor market imperfections. I find that those countries which have a lot of inequality in education tend to have more imperfections in their labor markets. In addition, countries which are highly fragmented into ethnic and linguistic groups tend to have more imperfections as well. It appears that a diverse or stratified population makes it difficult for labor markets to function smoothly.

When I graduate, I’d like to continue researching the area of labor market imperfections in particular and agriculture in general. As they say, you can take the boy out of the farm, but not the farm out of the boy.
In the West, public opinion casts suicide terrorists as senseless. Academics follow suit, focusing their studies on the irrationality of perpetrators. This approach has not been thoroughly successful. While scholars agree that suicide terrorists don’t share common Western values and aspirations, they can’t be narrowly defined. Suicide terrorists come from disparate social classes, span a wide range of age groups, and represent both sexes. Contrary to Western perception, suicide terrorism is not a uniquely Islamic phenomenon. The Buddhist LTTE of Sri Lanka pioneered the contemporary wave of suicide terrorism, leading the world in both attacks and deaths up until 9/11. Scholars agree that the concept of suicide terrorism spread by group-to-group contact or was acquired by emulation. Given the history of how the phenomenon spread and the variegated backgrounds of the perpetrators, it does not seem reasonable to claim religion and culture as the predominant explanations for suicide terrorism. Neither does the irrationality of the suicide terrorist yield substantial explanatory power. Suicide terrorism is an organizational phenomenon—a successful attack requires the organization to make a considerable investment. Terrorist organizations train the perpetrator, perform the necessary planning and reconnaissance, and propagate the glory of the deed. The substantial organization investment endorses the approach I am taking: my thesis analyzes suicide terrorism as a strategic decision made by terrorist organizations.

Terrorist organizations have an objective of political change. They attempt to overthrow governments or to pressure them into making concessions. What sets terrorist organizations apart from their peers (gorilla, revolutionary, and criminal organizations) is their utilization of fear. Fear can be conceptualized as the currency of terrorists, yielding them the leverage to achieve their ends. My thesis will show how suicide terrorism is instrumental in maximizing fear. Using game theory, I hope to show how suicide terrorism is a credible exhibition of will. Many game theoretical models use the private information of one players’ type to explain the behavior of both players. Ex ante, it might be reasonable for governments to assume that terrorist organizations are of the ‘type’ not willing to incur high costs. When a terrorist organization utilizes suicide terrorism they credibly display that they are of another ‘type’ (the ‘type’ willing to incur high costs). The establishment of this ‘type’ prevents governments from ruling out attacks that they had previously considered irrational—thus increasing the fear of future attacks.

Suicide terrorism is not a simple phenomenon. However, to dismiss suicide terrorism as merely ‘the irrational behavior of crazed extremists’ is to sell ourselves short. If—as my thesis suggests—suicide terrorism is strategically instrumental, then Western values and aspirations might not be the panacea some suggest.
“Lights Out: The Effects of the Smoking Ban on New York City Restaurants”

by Hal Coopersmith ’05

Gone are the days of the smoke-filled restaurant. As of March 2003, New York City instituted a complete smoking ban for restaurants and bars. I am currently investigating the economic impact of this legislation on the restaurant industry and to what extent, if any, a smoking ban affects restaurant sales.

Public and workplace smoking bans provide a glimpse into the problem of externalities. How far is one willing to go to ensure that the person at the next table does not light up a cigarette? Is legislative action the proper action to ensure a smoke-free environment, or would the market be able to solve the problem on its own? If the restaurant industry was forced to offer health care to its employees would the outcome be any different?

Prior to 2003, the Smoke-Free Air Act of 1995 governed smoking policy in New York City. This ban required separate smoking and non-smoking sections for restaurant patrons and provided exemptions for restaurants with fewer than 35 indoor dining seats, pool halls, bingo parlors, bowling alleys, and stand alone bars or taverns where alcoholic beverage is at least 40% of total revenue.

Smoking bans, on the local level, are hardly new. Currently, there are 152 municipalities with a local law in effect that requires both restaurants and bars be 100% smoke-free as well as 8 states.

But, as a legislature debates a smoking ban it is often met by a substantial amount of resistance by lobbyists. The lobbyists argue that a smoking ban would hurt the health of the restaurant business and without a venue for smoking, potential customers would be lost. However, proponents of the ban feel it would improve the air quality and in turn improve the health of restaurant patrons and workers with little or no detrimental effect to restaurant sales.

I am examining the New York City smoking ban, more than a year after it has been enacted. Restaurant sales tax receipts from the State of New York will provide data to see whether or not there has truly been a drop in sales as a result of the ban. Furthermore, by examining the liquor licenses issued by the city, I will be able to examine if there has been an unintended consequence of the smoking ban. Are people more likely to have a sit-down meal after a smoking ban has been enacted or are they more likely to eat-in?

Although each case is inherently different, previous evidence from other smoking bans would suggest that there is a minimal financial impact on restaurants and for the most part restaurant sales has increased. However, these studies have failed to examine if there has been a loss of potential growth in the industry. I plan to contextualize my study of New York City with other bans that have been instituted across the United States. ■

Although each case is inherently different, previous evidence from other smoking bans would suggest that there is a minimal financial impact on restaurants and for the most part restaurant sales has increased. However, these studies have failed to examine if there has been a loss of potential growth in the industry.
How (not) to Predict the Stock Market

I recently joined Brown economics, having been previously a tenured finance and economics professor at Yale and UCLA. I came to Brown, because the economics department specifically and the university generally have decided to set aside “business as usual,” and to make the changes necessary to turn us from a very good economics department into a great economics department.

A part of this effort will be to expand into new and exciting intellectual dimensions. One aspect thereof is our plan to add more expertise in commerce, organizations, and entrepreneurship (COE) at Brown — a multi-departmental initiative in which I am very much involved. We hope to be able to engage our students, faculty, and alumni in COE activities here at Brown. You will hear more from us in the future.

Now, when our chair, Andrew Foster, asked me to write something about my research for this issue, I was not sure what to write about. My research interests are very broad, perhaps too broad. I have worked on initial public offerings, earnings management, herding, bankruptcy, dividend policy, stock market analysts, and capital structure. Right now, I am also working on an introductory textbook in finance, which you can freely download from http://welch.econ.brown.edu. (If I get lucky and the book is a success, Brown may become known as a center that will help set the finance agenda in many schools, both at the graduate and undergraduate levels.)

To return to the issue at hand, though, I ultimately decided that I would write about the research that I am working on right this week — stock market prediction. So, you will see how sausages (well, research) is made, and I hope it is better than recent politics. I hope you will find this an interesting description.

Ivo Welch
Professor of Economics and Finance

Stock Market Prediction?!

Should you put your money into the stock market? Will the stock market go up or down? What, if anything, can we learn from historical data? Wouldn’t we all like to know?!

Figure 1 shows how the stock market has performed year by year over the last 50 years or so. We all know that these 50 years were a terrific time for stock market investors. Yet, there also was great variability year by year: 1975 was an awful year, 1976 was a great year. Almost the entire 1990s were terrific, but the first three years post-Millennium were not.

So, would you like to know whether the stock market will go up or down? Of course, we all would. Can we find a signal that can help us to determine whether the stock market is likely to go up or down the next year. Now, before you get your hopes up too high, please realize that, at best, we might find a signal that works “just a little” — a signal that helps us to time our market investments so as to allow us to earn an extra, say 100 basis points (1%) per year. If the signal was any stronger, it would be too easy to see for everyone and no one would want to invest when the signal says “sell”; and everyone would want to invest when the signal says “buy.” Competition among investors would thereby quickly erode the profitability of the signal. There is no doubt that, to a first approximation, markets are reasonably efficient. “Behavioral finance” tries to pick off relatively small inefficiencies on the margin. This is really what we are trying to do here — find a signal to help us invest just a little better.
Now, over the last 20 years, economists and practitioners have explored a whole range of possible variables that might be good signals. The most prominent has been the dividend yield — the amount of dividends that you would collect from an investment in the S&P500 divided by the level of the S&P500 at the start of the year. Figure 2 shows the historical dividend yield. For example, in 1970-1972, the dividend yield was fairly low — and the stock market tanked in 1973-1974. By 1975, it had climbed back up, and the stock market did well again. There is a good intuition why the dividend yield could predict the market: if the dividend yield is low, an investment in the stock market is relatively less desirable — the stock price level is high compared to the cash you receive. But this intuition does not always work. Witness the 1990s, for example, when the dividend yield was fairly low, but the stock market performed relatively well.

To explore this relationship more rigorously, economists have run statistical regressions, in which the independent variable is the past and thus known dividend yield and the dependent variable is the unknown future rate of return on the stock market. A typical regression in this literature may use annual data from 1926 to 2002, and report

Next Year’s Stock Market Rate of Return = +8% + 4.3\* Dividend Yield This Year

where the T-statistic is about 3 (remember your stats classes here?) — highly statistically significant. This means that we can be statistically reasonably certain that the dividend yield can predict the market. More formally, this means that we can say that we are over 99% certain that the NULL hypothesis that the dividend yield does not predict next year’s rate of return is false.

Figure 3 shows this relationship graphically. For example, in 1950, the dividend yield was about 7.2%, the regression line predicted a market rate of return for 1951 (marked) of about 4.3\*7.2%+8% or about 23%. This was almost spot on the correct prediction; the stock market returned 21.9% in 1951. But this figure shows not only that you can predict the market in the next year on average, but also that it is very difficult to predict it. For example, the dividend-yield in 1996 was only 2%, so it had predicted about a 0% rate of return for 1997 — and it turned out to be almost 30%! Conversely, in 1936, the dividend yield of 4.2% had not predicted for 1936 the lousy negative 30% rate of return that came about, but about +5%. Nevertheless, despite the noise, this line slopes upwards, which makes much of the academic and non-academic literature conclude that the dividend yield can help investors predict future stock market returns.

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if you had followed this investment strategy in the 1990s, you would have fallen flat on your nose. Throughout the 1990s, the dividend yield was low by historical standards, so again our regression would have told you to “sell” — and you would have missed out on the biggest sustained rally in the stock market ever.

In a conference attended by both academics and practitioners, after listening to a talk, an obviously annoyed practitioner stood up, and finished a long critique by asking the speaker, a famous finance professor “if you are so smart, how come you are not rich?” To which the finance professor, much quicker on his feet than I would have been, promptly replied “if you are so rich, how come you are not smart?”

Perhaps, we need to be more skeptical. So, let’s look at our regression method a bit more critically. It is true that the dividend yield is from the year before the stock market return — but, as an investor, would you really have been able to run this regression and obtain these coefficients? The answer is no. The regression line fitting itself relies on your knowing the entire data set from 1926 to 2002. As an investor in 1990, you would not have known that the coefficient would be 4.3. If the regression coefficient was difficult to estimate or, worse, unstable and moved around, the regression might not have helped but hurt.

Can this make a difference? Let me show you with an (unfortunately complex) artificial example with 10 data points that I made up. If you wish, you can tune out this paragraph. I let the market rate of return just zig-zag between about 0% and 20% every year. I let the dividend yield zig-zag between 3% and 10% the prior year — so, we can almost perfectly predict the stock market. Except, beginning in year 7, every dividend yield is higher by 5%. In Figure 4, the lines with the “x” is the dividend yield, the lines with the solid square is the market rate of return. Now, the solid gray lines in Figure 4 shows what happens in our prediction. The line that meanders around 5% predicts the market ignoring all dividend yield information. It assumes the market will follow the same mean that it has always had. With the market being either 0% or 10%, it is just about 5% off each year. The more interesting prediction line comes from the the dividend yield model. It can predict the

Robert Shiller from Yale relied on this line to predict poor stock market performance every year since the early 1990s. Every year, he was wrong, and thus felt the market was getting even more overvalued. In late 1999, he finally was so fed up that he published his book “Irrational Exuberance” that argued that the market was valued too highly — and the market promptly crashed in 2000. Since then, he has become an international celebrity. (Shiller also happens to be one of the most creative and interesting researchers in finance, but this is another story.)

Now, if you believe this regression line, you should pull all your money out of the stock market. Right now, the dividend yield is less than 2% per annum. This means that the regression line predicts a market rate of return of about 0% for 2005. So, before you call your broker to pull all your money out of the stock market, let’s think about this some more. An immediate hint should be that if you had followed this investment strategy in the 1990s, you would have fallen flat on your nose. Throughout the 1990s, the dividend yield was low by historical standards, so again our regression would have told you to “sell” — and you would have missed out on the biggest sustained rally in the stock market ever.

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I am plotting each year how the dividend yield model would have performed in forecasting next year’s equity premium (the stock market rate of return minus the bond market’s rate of return), vs. how the historical prevailing stock market mean would have performed. I am also doing some mild magic behind the curtain to remain more in line with the prevailing best practices for stock market prediction.
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The dividend yield is 8%, and our regression line would thus predict the stock market to do about 6%. Instead, the market does 0%. The dividend yield regression model would have mislead us, because the underlying model shifted. The historical mean would have been better, predicting about 5%. It would have had a lower prediction error.

Now, I can also construct examples in which the dividend yield process constantly shifts around. I could find that the in-sample full regression line looks pretty good — as if the dividend yield was a great predictor of next year’s market return — but I would have been off in my prediction of the future stock market rate of return in most of the years in my sample. The reason is that I would not have known the final line to which all data are fitted. However, I do not need to do this exercise of constructing the example — the real world has already done it for me. As I am writing this, I am looking at the regression output that will form the basis of my next paper. My output is telling me that the historical mean stock market rate of return would have done as well as a dividend yield model in predicting next year’s stock market rate of return — despite the seemingly strong line in Figure 3.

I can show this to you graphically, although you have to take my word for the details in Figure 5 now. I am plotting each year how the dividend yield model would have performed in forecasting next year’s equity premium (the stock market rate of return minus the bond market’s rate of return), vs. how the historical prevailing stock market mean would have performed. I am also doing some mild magic behind the curtain to remain more in line with the prevailing best practices for stock market prediction. But it is easy to understand the point that Figure 5 makes: every time the line twitches up, it was a year in which you would have done better using the regression line. Every time the line twitches down, it was a year in which you would have done better not using the regression line. As you can see, there was a moment in time — around 1974 to 1975 — when the model was great. Similarly, in 2000-2001, the dividend yield model correctly signaled that the stock return would be low. From about 1930 to 1958, the dividend yield model did ok, too. But, there were other periods in which the model failed miserably — and they seem about as strong as periods in which the model succeeded. For example, in the late 1990s, you would have really done poorly — in fact, you would have thought the stock market should tank because the dividend yield was so low, and instead it went up like crazy. Incidentally, the line with the slope of 4.3 I drew for you in Figure 3 started with data in about 1948, which is part of the reason why the slope was positive. If I had started in 1900, it would have looked a lot worse. So, all in all, there really was not much superior performance for the dividend yield signal model when all the evidence is considered.

The dividend yield is not the only variable that we have used in our quest to predict the market. There are another 20 or so variables that have been found to have predictive power. Of course, we economists are rewarded (with publications) for finding variables that work and are statistically significant. Not surprisingly, there are hundreds of papers that either document some stock
How (not) to Predict the Stock Market
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market predictability, or which rely on it. So, how come I am not rich yet? My coauthor and I have now tried out virtually every variable that has been proposed in the literature: the dividend yield, the earnings-price ratio, the dividend-payout ratio, the market’s volatility, the market’s book-to-market ratio, the amount of equity issued by corporations, the amount of shares repurchased, the short-term interest rate, the long-term interest rate, the most recent rate of return from investing in long-term bonds, the slope of the yield curve, the yield spread of corporate bonds, the excess rate of return on corporate bonds, inflation, all of these together as well as one variant that tries to use only those variables that have recently performed best. The results are pretty clear-cut and not favorable to the regression predictions. Many of these variables, in retrospect, seemed to have worked well — but only if you had known many years ago what the regression line actually would turn out to be.

A typical analysis of our’s would try to predict annual stock returns from 1969 to 2003. Of 18 regression models, 16 would not have beaten the average historical stock rate of return. If you had used these variable for your investments, you would not even have beaten your null hypothesis that the stock market rate of return was “like it always was.” Some variables were so bad, you would have lost your shirt. For example, the historical book market ratio as a model would have underperformed the historical mean stock rate of return by about 2% per year. The dividend-price ratio (yearly dividends divided by the final year’s price) underperformed the historical mean rate of return by “only” 0.5%/year.

There is really only one variable that seems to have had any predictive ability. It is the percent of equity rather than debt issued by corporations in each year. When corporations issue more equity than debt, the stock market will go down. When corporations issue more debt than equity, the stock market will go up. Alas, before you get too excited, you should take two considerations into account. First, with 20 variables, we would have expected at least 1 variable to have a statistically significant coefficient, even if no model works. Second, this variable works in many but not in all statistical specifications. So, for now, this variable is our best hope. Of course, we need to examine this variable further to see if its power in predicting the stock market is really present, or just another statistical mirage. I will have to report back.

PS: Of course, I disavow any responsibility for your stock investing. Realize that there is a reason why I am still poor.

2004 North American Summer Meeting of the Econometric Society

Participants gathered in Salomon 101 for the Walrus-Bowley Lecture and the Presidential Address.

BROWN
The Economics of Domestic Violence

by Anna Aizer, Assistant Professor of Economics

E veryday roughly 14 thousand women in the US are battered and 4 are killed by their intimate partners. The personal and social costs of domestic violence are significant. Women who are victims of domestic violence suffer directly both physically and emotionally from the injury itself. The CDC estimates that the US spends $4 billion annually on the treatment of injuries inflicted by intimate partners. Additional costs of domestic violence include lower productivity and lost earnings. In 1995, for example, victims of physical assault lost on average 7.2 days of work outside the home as a direct result of their injuries and 8.4 days of household work. The total annual cost in terms of lost earnings has been estimated to exceed $7 billion. In addition, studies of welfare use and employment in Chicago found that women who had been victims of domestic violence were more likely to use welfare, have longer unemployment spells, and experience higher job turnover than those who had not.

Despite the prevalence and high costs of domestic violence, much remains to be understood about the determinants of battering and its costs, especially with respect to children raised in abusive households. One obstacle to the study of domestic violence is the problem of measurement. Existing work relies primarily on surveys of women and to a lesser extent, female homicide rates by intimate partner as measures of underlying domestic violence, but both measures are problematic. The former is prone to significant underreporting and currently no ongoing survey of domestic violence exists that would allow one to track violence over time or calculate small area estimates. The latter (homicide) is problematic as it is a relatively infrequent occurrence (roughly 1500 annually).

Brown economist Anna Aizer is working to develop a new and more reliable measure that would enable both tracking over time and small area estimates. Her approach involves what is called a “principal components analysis” of multiple measures including survey responses, homicide rates, calls to the police, arrests for domestic violence, and hospitalizations for assaults. PCA is a statistical method for studying the interrelations among various measures, the object of which is to detect the structure underlying the relationship(s) between them and determine whether the commonalities can be ascribed to one (or several) factors that run though all the measures – in this case, domestic violence.

With this new measure, Aizer examines the impact of business cycles as well as male and female wages on domestic violence. A simple economic model of bargaining within households predicts that as women’s income increases, so too does her threat point, increasing the probability that she will leave and decreasing the level of domestic violence. The handful of studies examining the impact of women’s wages on violence using survey data have generally found a negative relationship – women with lower wages experience more violence. However, in addition to problems of underreporting of violence in survey data, these studies fail to establish a causal relationship between domestic violence and women’s wages by, for example, failing to account for the potential for reverse causality. That is, the positive relationship they find may be attributed to the fact that higher levels of violence may cause women’s earnings to decline, not the other way around. Nor do they consider the implications of assortative mating: women who earn low wages tend to marry men with similarly low wages and thus it is not women’s low wages that cause violence, but the fact that they tend to marry men with low wages and, perhaps, a higher propensity for violence.

To establish a causal relationship between women’s earnings and domestic violence, Aizer takes advantage of the fact that certain industries are dominated by women (retail and services, for example) and others by men (construction) and examines how increases in demand in the retail and service sector (and thus increased women’s wages) affects the level of domestic violence in the community. She finds that as women’s wages increase as a result of an increase in demand for their labor, the level of violence declines. While it is not clear whether the decline is attributable to more women leaving their partners or more women credibly threatening to leave their partners and thus reducing the level of violence within marriage, preliminary evidence suggests the latter.

Finally, in light of her previous findings on domestic violence, Aizer re-interprets the established finding that when income is transferred to a mother (as opposed to a father or the household more generally), child outcomes improve to a greater extent. Previous work has largely attributed the improvement in child outcomes to an increase in material investment (as measured by expenditures) on children as mothers are more likely to invest in their children than fathers.

However, Aizer identifies an additional mechanism: safety from violence. Because the medical literature has documented an increase in violence against women when they become pregnant, Aizer examines the impact of increases in women’s wages on violence and birth outcomes. Using vital statistics data, Aizer finds that birth outcomes improve when women’s wages increase and that this is attributable to two factors: an increase in prenatal investments (consistent with previous work finding a positive relationship between women’s wages and child investments) but also to a decline in violence against the woman and fetus.

This work sheds new light on the role of women’s wages and labor force participation on their health and well-being as well as potential intergenerational effects. Enhancing our understanding of domestic violence, its determinants and consequences, is crucial for the design of effective policies to address this major public health problem.
Brown University’s Economics Department hosted the summer meeting of the Econometrics Society June 17-20, 2004. Sayles Hall served as a central gathering place during session breaks.