

Finding a Senior Thesis Topic for 2009-2010

Some senior thesis topics come from a student's previous research for a term paper or an experience in an internship. Other ideas come from subjects studied in a course or current headlines. But many students have difficulty coming up with a topic that "works"—one that is researchable by an Econ senior and where data are readily available. Below are research topics suggested by current faculty members in their own areas of expertise.

Chad Bown: International Trade

The proliferation of new trade restrictions in the global economic crisis. The current economic crisis has raised fears of a return to the protectionism of the 1930s, when the U.S. implemented the Smoot-Hawley tariff and other major countries retaliated with their own trade restrictions. The international economic environment is supposed to be different today. Introduction of the General Agreement on Tariffs and Trade and its evolution into the current World Trade Organization (WTO) was supposed to prevent history from repeating itself—at least in this particular form. And yet there is increasing evidence that protectionism is returning.

A student could use the newly available Global Antidumping Database 5.0 (available summer 2009) to track the incidence of new import restrictions across the world. Which countries are using these policies to shut off access to imports? Are new restrictions having a significant trade-reducing effect? In what sectors? Are new restrictions being met with retaliation? In what ways is this different from the situation of the 1930s? In what ways is it similar?

Linda Bui: Environmental Economics

Environmental regulation and public health. California has some of the most stringent environmental regulations in the country and some of the worst measures of environmental quality. Yet very few studies look specifically at the relationship between environmental policy and health outcomes in California. Using publicly available pollution and health data (as well as regulatory information), a student can look for evidence of measurable health benefits from the extraordinary regulatory measures that California has undertaken for the past 30 years.

Laarni Bulan and Paroma Sanyal: Industrial Organization/Finance

Deregulation of the US electricity sector and corporate governance. A student could investigate the impact of deregulation on corporate board structures of electric utilities. Another topic would be to investigate whether interlocking directorships improves or hinders a firm's performance. Interlocking directors are directors who hold multiple board positions in different companies. The professors can provide relevant data.

Laarni Bulan: Corporate Finance

Investigate the dividend policies of financial institutions during the current financial crisis.

If these firms are in distress and strapped for cash, why do they still pay dividends? Moreover, why do firms that receive bailout money continue to pay dividends?

Anne Carter: Labor/Education

Human capital formation at Brandeis. Human capital theory tells us that a Brandeis education is an investment in students' future earning power. It also suggests that students from more affluent families will tend to choose riskier career trajectories than students with more limited financial resources, particularly those who may graduate with significant debt. To what extent does human capital theory explain the educational and career trajectories of Brandeis students and alumni? *To investigate this topic it would be necessary to enlist the cooperation of the Alumni Association and/or the Development Office. They would have to be convinced that no confidential data would be disclosed.*

Industry transformation. To shed light on recent government efforts to bail out auto companies based in Detroit, a student could analyze the earlier cases of Pittsburgh (or Birmingham or any other steel town) and the process of transformation from a one-industry city specializing in steel to a high-tech more diversified city. How long did it take to "adjust"? What did the changes cost?

Michael Coiner: Micro/Education

Educational vouchers in the U.S. Educational vouchers have been advanced as an innovation that can increase competition in U.S. primary and secondary education and that might improve student learning. By now, vouchers have been in place for some time in Milwaukee and Cleveland, and voucher experiments have also taken place in other cities. What does the evidence thus far indicate about the benefits and costs of voucher programs? Which students, if any, appear to be helped by vouchers, and why? Given what is known about the effects of vouchers, what are the implications for educational policy?

Can Erbil: International Trade

Patterns of Trade Restrictiveness in Developing Countries. Anderson's Trade Restriction Index template and Comtrade and TRAINS datasets would be utilized. In addition, some macroeconomic data from IFS or IMF would be needed to run the model. The TRI template calculates the trade restrictiveness index. The same tools could also be used to generate trade liberalization scenarios, which could produce policy recommendations for a particular developing country. Another application is to look at the sectoral TRI, for example comparing the TRI of agricultural sectors in France and some selected African countries.

Kathryn Graddy: Micro/Industrial Organization/Finance

Prof. Graddy has three different datasets students are welcome to use for any senior thesis project:

Data on violin prices at auction – one dataset is a repeat-sales dataset from 1855 to present and another dataset contains detailed individual data from 1980 to present.

Data on art sold at auction between 1980 and 1992.

Real estate data from the MLS – for example all homes listed in Boston and suburbs during January 2003.

Some specific ideas for using these datasets:

Violins as assets. Estimate a CAPM model using detailed violin data. Prof. Graddy can supply the violin data, but the student will need to download relevant stock and bond data and understand how to estimate the model.

Testing for optimizing behavior by impressionist artists. Estimate the price-per-square-foot for impressionist art, and then determining whether or not the majority of artists are optimizing.

House prices and school rankings. Using the MLS data, one might be able to correlate real estate prices to school ranking in the Boston area and then explain why the correlation is as it is.

Nader Habibi: Economics of the Middle East

Recent trends in the U.S. market share in Middle Eastern import markets. The United States competes with Europe, China, Japan and several other industrial countries in exporting goods and services to the Middle East. Using the IMF Direction of Trade statistics, a student could analyze the long-term trends in U.S. market share in a select number of Middle Eastern countries. The study might also include regression analysis of some of the key factors that can explain the fluctuations in U.S. market share over time. These factors include exchange rates, free trade agreements, and major geopolitical events that influence Middle Eastern consumers' attitudes toward the United States.

George Hall: Macro/Public Finance

Who has paid for the past U.S. wars? When an adverse fiscal shock occurs -- a war, for example -- someone has to pay. The government can satisfy its budget constraint, now or in the future, by raising taxes, reducing other spending, or imposing a capital loss on bond and money holders through unexpected inflation or changes in interest rates. (Note that for the current wars in Iraq and Afghanistan, it is still unclear how the costs will be shared.) Thus, nominal debt allows the government not only to smooth taxes across time, but also to spread the risk of fiscal shocks across both debt holders and taxpayers. Moreover, since investors will be reluctant to hold government debt if the risks are one-sided, during good fiscal times the government may wish to provide capital gains to its debt holders via unexpected deflation and changes in interest rates. Measuring the magnitude and timing of these unexpected gains and losses requires knowing the term structure of interest rates, the actual inflation rate, the expected inflation rate, and the

complete maturity structure of the privately-held debt. These data are publicly available, and Prof. Hall has already begun organizing some them.

Prof. Hall believes examining the post-Civil War period would be particularly enlightening. As is well understood, the Federal government paid for the Civil War partly through inflation during the war. After the war, the government ran a deflation and bought back much of its debt at a premium. This policy generated considerable political controversy, as many members of Congress expressed their dislike of “overpaying” bondholders.

Prof. Hall will guide a student in computing the gains that accrued to bondholders in the 1870s and 1880s and determine whether these gains differed across administrations or across different types of bondholders. Further, the student will be able to document if the debt-holders (i.e. long-term versus short-term) who incurred the capital losses in the war were the same who benefited from the capital gains during the post-war.

Gary Jefferson: Innovation/China

What are the channels through which FDI in China motivates (or discourages) innovation by China's domestic firms? Professor Jefferson has both Chinese firm level data and provincial level data available to investigate the impact of foreign direct investment on the innovation behavior of China's industrial firms. These data can also be used to examine the magnitude of the spillover effects of FDI on innovation through Chinese companies relative to the direct contribution of foreign firms to innovation in China.

Blake LeBaron: Finance/Micro

The Big Mac portfolio. A student could use *The Economist's* Big Mac index to weight a global equity portfolio and a straight currency portfolio--basically give higher weight to undervalued currencies, and lower weight to higher valued currencies. To do this one would have to go back and enter in the Big Mac index from *The Economist* for some set of countries. Also needed are equity and FX returns from Datastream and or MSCI.

Hong Li: Econometrics/Macro

Determinants of the path of aggregate consumption. A student could use historical data to decompose the relative contributions of the several factors that underlie the movement of consumer spending. In addition to real disposable income and interest rates, housing wealth, stock market wealth, and energy prices are also important determinants of consumer spending. The recent relationship between housing and consumption has been particularly interesting – housing has played a significant role in the recent slowing of overall activity. The housing slowdown potentially restrains on consumer spending by reducing homeowners’ equity and household wealth. The reason to distinguish between housing wealth and stock market wealth is that the stock market affects mainly the wealthy while housing affects a much broader range of the income and wealth distribution. The relationship between energy and consumption has also been important – during periods of high energy prices, people have been calling for a U.S. consumption growth slowdown as a result of the increases of gasoline prices.

Catherine Mann: International Economics/Information Technology

Dollar depreciation and external adjustment -- redux of the 1980s? The significant change in the exchange value of the dollar since 2002 is reminiscent of the 1985-1987 depreciation. What is different about the magnitude of the deficit, the product composition, trading partners, currency of invoicing, composition of financing, speed of dollar depreciation of today vs. back then? What are the implications if any? This project would use BEA and Census trade data and BLS international prices, among other data sources.

International capital flows and the fiscal stimulus. The large fiscal stimulus package portends an increase in the supply of US treasury securities. More than 50% of US treasuries are owned by foreign investors. Will foreign investors buy the new supply? What are the consequences if they do not? Data used come from US Treasury TIC and Bureau of Economic Analysis, among other sources.

Institutional structure and adoption of information technology -- a new sectoral perspective. During the dot-com boom, the role for investment in IT in spurring business transformation and productivity growth was well documented. (Jorgenson, Ho, Stiroh) The most detailed statistical analysis was done with the 1997 benchmark data on detailed types of IT capital investment by sector. This showed quite distinct uptake of IT and transformation by different sectors, with those that had a history of networks and common software platforms (such as financial institutions) leading the way and those with diverse firm sizes and complex regulations (such as health services) lagging. (Mann) A new benchmark survey is now available that would allow a reassessment of the ranking of sectors as to the uptake of IT and associated productivity acceleration. Further analysis could link the institutional backdrop of each sector to its adoption of IT. This project would use the interactive input-output and capital stock databases from BEA, among other data sources.

Rachel McCulloch: Industrial Organization

Formation of new businesses during the current recession. Waltham is notable for the number of new businesses that open each year, drawn by location advantages that include proximity to several universities and relatively low rents. But how has formation of new businesses been affected by the recent economic downturn? Macroeconomists emphasize the role of “animal spirits”—entrepreneurs’ optimism about the future—in determining new investment. With employment and incomes falling, can this be a good time to start a new business venture? At least some entrepreneurs believe it is. How does the mix of new businesses compare with the stock of established businesses in the area? Are new businesses similar in type to others that have recently closed? There is already an abundant literature on new business formation, which provides a starting point for a research project by indicating the economic variables that seem most important, such as cost of capital. Some researchers have also noted the role of ethnic networks in new businesses—Indian immigrants in hotels and motels, Greek immigrants in pizza restaurants, etc. Data on the current situation in Waltham would come from interviews with owners and managers of new enterprises, interviews with local realtors who handle commercial property, news accounts in the local press, and official records from the city of Waltham.

Nidhiya Menon: Development/Labor

Bundling of micro-credit loans with health care and education requirements. This is a new direction in which micro-finance is moving: for example, micro health insurance schemes, micro-credit loans with health care provisions, and micro loans that are dispensed under the condition that borrower's children will attend school. It would be interesting to evaluate the benefits of such bundled schemes.

Learning and occupational “inheritance” patterns. Occupational patterns in rural India show a marked similarity in the employment choices of fathers and sons, in particular, fathers and elder sons. Such similarities dissipate with lower birth order children, and in the case of some occupations are virtually non-existent for daughters. Since much of rural Indian labor is employed in agriculture, part of the explanation for such patterns arises from the indivisibility of land and the absence of land markets. However, even in households that do not own land, most of the occupational choices of older children are often identical to those of their fathers. Conditioning on education and other individual and household level covariates, it is possible that the incentives and benefits from learning provide an explanation for such pronounced trends.

Scott Redenius: Economic History/Economics of Financial Institutions

Railroad profits and investment. The period from the Civil War to World War I was the golden age of American railroads. Railroad mileage grew dramatically over the period but at a very uneven pace. Large portions of the railroad network were laid down in relatively brief spurts followed by periods of limited growth and, in some cases, bankruptcies or restructuring. What explains the pattern of railroad expansion over this period?

The January effect. The efficient market hypothesis predicts that stock prices should not exhibit predictable patterns but should move randomly. However, small stocks tend to exhibit abnormally high returns from late December through early January. Recent work indicates that the January effect has become smaller over time – and some claim that it has disappeared altogether. What generated the January effect and what explains its decline in the past two decades?

Elif Sisli Ciamarra: Corporate Finance

Governance of mutual fund firms. The aim of the study is to examine whether different corporate governance practices of mutual fund companies have any effect on the returns to mutual fund investors. The emphasis will be on the different board structures of the mutual fund companies (whether the different funds under the same mutual fund family group share a board of directors). The project involves collecting data on mutual fund board characteristics and managerial characteristics, and then analyzing whether (a) the performance of the fund is higher under any board structure, and (b) there is less performance transfer to the star funds under any board structure.

Diversification effects in biopharmaceutical firms. Several studies indicate that diversified firms trade at an average discount relative to specialized firms in the same industries (Lang and Stulz, 1994; Berger and Ofek, 1995; Servaes, 1996). However, Villalonga (2004) argues that the computed diversification discounts in the prior studies is merely a “data artifact” because the use of segment data introduces a noise by breaking down the activities of firms by industries inconsistently across firms. Thus, the presence of a “diversification discount” is still an open debate in corporate finance. Using a hand-collected dataset on drug development activities of U.S. pharmaceutical companies, we will try to perform tests of effects of diversification at a product level.

Dan Tortorice: Macro/Behavioral Economics

Consumer expectations and buying attitudes. The micro data from the Michigan Survey of Consumers is all available on-line at <http://www.sca.isr.umich.edu/>. Prof. Tortorice has worked with this data in the past and would be happy to advise someone who wants to work with it. The documentation is online so a student can browse through the variables and come up with some questions that the data can be used to answer.

The Survey of Consumers is a monthly survey of the economic expectations and buying attitudes of U.S. households. It covers personal finances, business conditions, and buying conditions. The variables include assessments of personal finances, expected changes in family income, and attitudes towards business conditions in the economy as a whole, over the near and the long-term horizon. It also contains expected changes in inflation, unemployment, and interest rates, as well as confidence in government economic policies. Finally, it includes each respondent's view on market conditions for buying large household durables, vehicles, and houses. Several demographic variables, e.g. education, age, race and gender, are available as well.