

Letter from the Chair

I took over this summer from Prof. Larry Stimpert as the new chair of the Economics & Business Department. It is truly a privilege to serve such great students and such an extraordinary group of colleagues.

Professors Stimpert, Kapuria-Foreman and Smith are on sabbatical. Dan Johnson and Kristina Lybecker took their first year experience class of twenty four students to Washington D.C. In a rare first for the department the class was registered with Twitter (CC in DC). Professor Chesley taught policy and strategy with Van Skilling – a class that has only grown in popularity since you took it. Professor Redmont team taught Game Theory along with Prof. Bredin from Computer Science. Yours truly taught Research Methods 2 and Econometrics and..... registered with Facebook. Prof. de Araujo continues to impress with his offerings in Macroeconomics and is widely sought out by students. Judy Laux taught an FYE accounting class and a course titled The Economic Novel with the usual success that she enjoys in the classroom. Some of you may remember Alex Anna. She is filling in for Larry Stimpert. In short the department that you knew has become better and stronger in the classroom.

A brief note about service next. When Judy and Esther are not in the department they are serving on the Faculty Executive Committee. Judy also serves on the college Budget committee. Dan Johnson is chair of the compensation committee. Despite his best efforts we will not be getting a raise. Professors Lybecker and de Araujo serve on the Dean's Advisory Committee. Prof Chesley has been serving on the college assessment committee. She is also the director of the Schlessman program this year.

Finally when your faculty are not teaching or serving the college they are publishing like crazy. You will be pleased to know that your department currently ranks fifth in the country in the Social Science Research Network rankings. Our students have a lot to do with this as they are our co-authors. See the *Special Report* at the end of this newsletter to read about all of the exciting research.

The department wouldn't be as great as it is if we didn't have such terrific partners in Nancy Heinecke, and Kathy Lindeman. Sadly I must report to you that the budget cuts eliminated the job held by Stormy Burns. However she was able to find a year round position in the summer sessions office so she is still part of the extended CC family. Nancy Heinecke has been working very hard to fill the void left by Stormy and caused by the budget cuts to the academic program. We have also been very fortunate to have hired a highly capable Technical Statistical Research coordinator this year in Francesca Desmarais. Francesca does just about everything technical and then some. She has begun offering workshops in Eviews and Stata.

The Student Advisory Board, E-club and I-club are all doing well under the capable supervision of Profs. Chesley, Johnson and de Araujo. The Student Advisory Board, SAB, held a very successful lunch during

We welcome your submissions to *The Entrepreneur!* Please fill out the last page of this issue and send to the address listed, or send electronic submissions to: chesca.desmarais@coloradocollege.edu. Alums, we'd love to hear from you! Please send us your updated information so that we may better serve you. Thank you.

Letter from the Chair

Homecoming weekend for which over 90 alumni and parents attended. They also continue to hold the lunch-time events and “Food for Economic Thought.” Recent topics have included study abroad and networking. If you reside in Denver, the SAB networking event will take place in late January. If you would like to attend please feel free to contact Kathy Lindeman – we would love to have you. The Investment Club is in the midst of updating their portfolio and are moving away from index funds and ETFs. One of their goals this year is to become more active investors. The Entrepreneurship Club is starting its third year and they continue to meet to hear stories and advice from local entrepreneurs and give one another feedback on business ideas. They are planning a retreat to the CC Cabin.

And, many of you have designated that your financial gifts to the college be directed to the Department of Economics and Business. When you do this, your financial support comes directly to the department so it can be used to support the outstanding educational opportunities that are described in this newsletter. Thank you for this very tangible form of support.

-Aju Fenn, Chair of the Economics and Business Department

Welcome Back to Professor Alex Anna



Alexandra Anna earned her PhD from the University of Utah with fields in Organizational Behavior and Human Resource Management. Alex’s dissertation focused on the role of self-efficacy in women entrepreneurs choosing to start traditional or nontraditional businesses. Currently Alex is working on a research project examining the link between organizational citizenship behaviors and job satisfaction. Alex is a visiting professor for one year.

Alex was a member of the Economics & Business Department from 2001-2004 and taught business courses. She left in 2004 to pursue a Master of Arts in Teaching from Colorado College and taught math at both the middle and high school level in Harrison School District in Colorado Springs.

Alex is married and has two daughters: Alyssa, a senior at Coastal Carolina University and Blair, a freshman at University of Utah.

Another Successful Investigation into Carbon Markets and Legislation



The class in front of pictures of President Obama and Secretary Vilsack

Last spring, Professor Mark G. Smith once again took his 8th block students in the *Global Environmental Economics* class to Washington D.C. to study the emerging U.S. climate policy. Professor Smith announced the first day of the block that our class would know more about global climate change policy by the end of three-and-a-half weeks than any other class in the nation. With thorough preparation through primary source readings, guest speakers and presentations, we embarked on a courageous quest to do just that. We rigorously discussed global warming, alternative energy resources, economic models, cap-and-trade, and international policy for the two weeks leading up to the field trip. We departed for the capital to spend the third week meeting with various people on the hill to learn about their views and progress regarding climate change policy.

Meeting with the major environmental and political organizations in the country definitely put our understanding of the course material to the test. We met with the World Wildlife Fund, the U.S. Climate Action Project, the Pew Center for Global Climate Change, Representative Diana DeGette, U.S. Department of Agriculture Secretary Tom Vilsack, United Nations Foundation, Environmental Defense Fund, the Swedish Embassy, the American Iron and Steel Institute, and Point Carbon, along with several other well-known organizations. Our behind-the-scenes look at the inner working of these groups also gave us insight into the complexities of climate policy on a political, environmental, and economic level. By the end of the week, we had gained a thorough understanding of the various perspectives on the current climate situation and the political response to global climate change.

In addition to discussing the Kyoto Protocol, clean development mechanisms, cap-and-trade, national security and international trade, we specifically looked at the potential of carbon markets. Meeting with Point Carbon, a world-leading organization and provider of independent news, analysis and consultation for businesses interested in carbon markets, we were provided with critical insight into energy and environmental markets. Specifically, we discussed the current situations of Clean Development Mechanisms (CDM), Joint Implementation (JI), and Certified Emissions Reductions projects (CERs).



Discussing Agricultural and Forestry Offsets with Secretary Vilsack at the Department of Agriculture

Carbon Markets and Legislation *cont.*

Carbon markets have a vast potential as a new field of study, research, and entrepreneurship. This emerging market allows carbon emissions trading to occur regionally, domestically, and internationally. The carbon market acts as a trade system through which nations can trade CO₂ emissions in order to meet their domestic target (as designated by the Kyoto Protocol and to be re-examined at the Copenhagen COP in December 2009), thereby mitigating global warming. The reduction targets can be met by reducing greenhouse gases through implementing alternative energy processes, utilizing Clean Development Mechanisms and Joint Implementation, or by employing domestic and regional emissions trading schemes. Nations can discretionarily choose how to reduce their greenhouse gas emissions in the most economical way. These carbon markets interestingly tie economic concerns to political and environmental action by creating a venue through which nations can profit by encouraging sustainability.

The timely trip to Washington D.C. in early May came right in the midst of house negotiations over the Waxman-Markey bill. This was the first draft of the carbon legislation currently moving through congress which would, in effect, establish a carbon market in the US through a cap-and-trade system. On return from the trip, the students final project was to write a proposal to a senator advocating support, through the logic of economics, of a similar bill in the senate. Clearly, this timely topic has been a recent talking point in the White House and will continue to be so in the coming weeks leading up to the Copenhagen COP, and in the following months and years.

The study of Global Environmental Economics encompasses a variety of predictions, discussions and proposals, and will continue to be a pertinent area of study in the future. This class exposed me to several aspects of political change and development and drastically affected my understanding of international relations, environmental action, and political complexities. Anyone interested in gaining an in-depth look at any of these fields would benefit greatly from taking a class such as *Global Environmental Economics*.



Learning about plant responses to increases in CO₂ concentrations with Bert Drake at SERC



Starting of the week with Matt Banks '97, Spenser Shadle ,07, and Katherine Neebe '97 at The World Wild Life Fund

First-years Get First-hand Experience with Economics and Policy

How do we use economics to make policy? This year's Principles of Economics FYE class got to find out. After a Block and a half in the classroom working our way through the fundamentals of both microeconomics and macroeconomics, we travelled to Washington DC for a week to experience it first-hand. We met with 13 alumni while there (thanks to all of you reading!), and packed 23 meetings into five working days.

We stayed in the Woodley Park area of the city, and spent all day every day in business attire. That meant blisters for some of us (especially the first day, as we were breaking in new dress shoes and had walking tours of the monuments, with a lecture about the New Deal at the FDR memorial). The Smithsonian showed us the Hope Diamond and the great stone wheel from the South Pacific island of Yap (an example we used in class as an unusual form of money).



Meetings ranged across the policy spectrum from analysts (like Academy Health) to advocates (like Grameen Foundation, PhRMA and the World Wildlife Fund) to national agencies (like USDA and NASA) to elected officials (like time with Senator Udall) and international organizations (like the World Bank). We learned about the inner workings of complicated departments (like Secretary of the Interior Ken Salazar's office, the funding protocols of the National Science Foundation, and the role of economic theory in decisions by the Antitrust Division of the Department of Justice). We visited the real seats of power: private

The class meets with Senator Udall to discuss cap-and-trade legislation



Learning about the economics of health reform at Academy Health

tours of the White House, the Capitol, the Treasury and the Federal Reserve Board of Governors (a lucky few even warmed Chairman Bernanke's chair). Most importantly, we had lectures from key players at each and every location, lectures about what they do and why, lectures about what education and training led them there.

Economics and Policy *cont.*



Class at PhRMA

Every student had several assignments on the trip. In preparation, every student had drafted a policy proposal before our departure, and was responsible for gathering more input about that proposal while on the trip. That input all made its way into individual presentations to the class upon our return. Perhaps equally importantly, every student had the responsibility to lead part of the field trip by planning a meal or by researching and arranging transportation. In short, it was a team effort.

We came back to Colorado exhausted but full of new knowledge. Some of that knowledge shines through in tests and papers and presentations, but a lot of it is better reflected in how we now act on a daily basis.

Since the trip, we think differently about how policy is made, about what facts or arguments are most important, about how we present ourselves professionally, and about our choices matter as citizens.



Dinner with Econ Alumni

To our alumni in DC who shared their lives with us for that week, we can never thank you enough.

To our alumni elsewhere, who financed a large share of this trip through generous donations to the department, we thank you from the bottom of our hearts.

- Professors Daniel Johnson & Kristina Lybecker



Posing by the Potomac



In-between Meetings



The first piece of "money"

Investing for the Future

The Colorado College Investment Club has high ambitions and aspirations for the upcoming year. Staying true to past years, the Investment Club has and will continue to focus on educating Colorado College students on the financial markets. This semester we have strived to educate ourselves on the history and terminology associated with financial markets. It is our goal that by the end of the first semester that we as individuals will be able to intelligently discuss daily fluctuations in the market. Using this strong academic base as a starting point, it is our goal to develop an understanding of more complex market strategies during the second semester.



Happily Educating Themselves on the Current Market

The recent severe decline in the financial market has forced the Colorado College Investment Club to reexamine our current portfolio. In our recent meeting we have examined various assets allocation strategies in hopes of reallocating our own portfolio to weather the volatility of today's market. As a group we have decided to divide our portfolio into fixed income (35%) and stocks (65%). We will be moving away from index funds and ETFs in an effort to

becoming more active investors. In order to effectively monitor our holdings each member is responsible for one weekly assignment. While these assignments will be short, they will allow us to cover a large area of the market. By holding each other accountable, we will be able to expand our individual knowledge base.

Bringing speakers to our investment club is critical to furthering our understanding of investments and the financial markets. We are always looking for speakers to come and talk with the Investment Club. If you are interested in speaking with the Colorado College Investment Club please feel free to contact me at Troy.Deichen@coloradocollege.edu.

The Colorado College Investment Club provides a unique experience for students to actively learn about the financial markets. Our goals are centered on education. As educated investors we will be better positioned for growth in our portfolio as the market begins to recover. We would like to thank the Schlessman Fund and the Colorado College Economic Department for their continued support.

-Troy Deichen '10

Economics & Business Student Advisory Board

The Economics & Business Student Advisory Board held its first monthly meeting of the year on September 3rd, 2009. The mission of the Student Advisory Board is to further the liberal arts education at Colorado College, by promoting opportunities for students to engage in economics and business related issues outside of the classroom. The Student Advisory Board's primary task is to plan social and academic events that further a sense of community among the department and students. In addition, it seeks to act as a sounding board for student opinions and interests in order to provide student input and ideas to the Economics and Business department faculty.

While the Student Advisory Board aims to accomplish several different objectives over the course of the school year; its primary goals for this year are to host a variety of speakers; reach out to other departments by coordinating speakers and publicizing events with a broad appeal; broaden networking events with representatives from other career fields; utilize more local speakers, and encourage the campus to do more charity work.

Two new co-chairs were elected for the 2009-2010 academic year, Ben Gross and Nate Danforth. Ben is a senior at Colorado College, majoring in Mathematical Economics. He is the Middle East analyst for the Investment Club and an active member of the Entrepreneurship Club. Ben plays rugby for the college club team and helps run the salsa club on campus. Outside of college, Ben enjoys snowboarding, scuba diving, camping and backpacking.

Nate Danforth is a senior International Political Economy Major. His interest for economics and business started with Micro and Macroeconomics classes in high school and has continued to grow and evolve throughout his college career. With a great interest in international business and economic development, Nate had a full time internship this past summer with the Overseas Private Investment Corporation in Washington, DC. Nate also represents the class of 2010 as senior class vice president and is a frequent attendee of the Investment Club. In his free time, Nate enjoys skiing, fishing, surfing, intramural sports, and just about everything else outdoors.

We would like to thank the Schlessman Family Foundation for their generous endowment and support of activities related to the study of business. Everything that the Student Advisory Board does is supported by this fund.

We are looking forward to another great year!

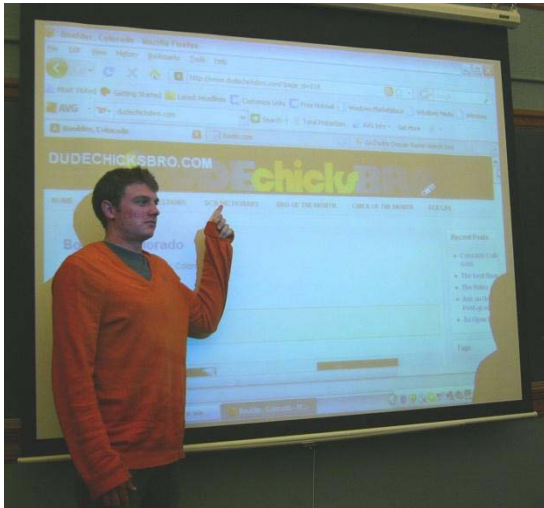
*-Ben Gross '10
-Nate Danforth '10*



The New Co-Chairs

Entrepreneurship Club Enters its Third Year

The Entrepreneurship Club is entering its third year as a club at CC. We meet twice a block to hear the stories and advice of local entrepreneurs, to offer one another feedback on business ideas, and do skill building activities. One of our recent speakers was Richard Skorman who founded Poor Richard's in Downtown Colorado Springs while he was still attending CC.



Last May we had our second annual Business Plan competition. The winning proposal was a business idea was a proposal for a Brewing Facility located in Denver. This Brewing Facility could be rented out to local microbreweries who wanted to increase their production but lacked the facilities.

We are currently in the preliminary phase of planning a one night retreat to the Colorado College Cabin next semester. We are hoping for this to be an opportunity for club members and alumni (especially those seeking summer interns) to connect in a less formal environment.

If you're going to be in town sometime this year and would like to share your story with the club, or are curious about our trip to the cabin, please contact Ramsey Carey at Ramsey.Carey@coloradocollege.edu.

Lunch-Time Presentations Analyzing Businesses

-Luke Parkhurst '11



CC Ranks High as a Research Institute

New SSRN Rankings

We have always known that Colorado College is a fantastic teaching school. Small class sizes combined with professors' enthusiasm, dedication to students, and accessibility are all elements which set our department apart from other institutions. But the Economics & Business Department is an equally strong research institution. Recent rankings from the Social Science Research Network (SSRN) place our department as the 5th leading liberal arts economic research institution in the nation. CC is ranked 247th among 1,200 institutions worldwide and our department is also ranked highly in Colorado. We are the 2nd best economic research institution in the state, second only to the largest state school Colorado University. This *Special Report* gives a background to these rankings and provides an overview of the exciting research currently being conducted at CC.

SSRN is the leading open source repository for academic research. It provides rapid dissemination of papers and easy communication between authors. Almost all journal articles in economics are first uploaded to the site before they are published. These working papers can then be easily downloaded and SSRN ranks institutions based on the demand for publications from these schools. What is amazing about CC's institution is the high demand for our research despite the small number of authors. CC has 19 authors, 7 professors and 12 students. Three of the four liberal arts colleges above CC have significantly more authors. And certainly CU has many more authors.

Faculty Research

What is particularly incredible about the department is the sheer breadth of research being conducted. Our faculty, publish valuable research in the fields of finance, accounting, business, innovation, sports, health, and the environment. They focus on specific questions as diverse from HIV and sex workers in India to historical GDP accounting.

Compulsory Licensing in Canada and Thailand

Table 2
Summary of Evaluation Rubric

Measure	Canada	Thailand
Objective	To provide those living in developing countries with access to safe and affordable medicines. ○○○	Thai program satisfies industrial, rather than public health goals. The development of the domestic industry arguably comes at the cost of public health objectives. ○××
Implementation	Significant difficulties encountered in implementation. Process is lengthy and cumbersome. ○××	The program has generated significant international controversy. Both legal suits and trade consequences have been threatened. ○××
Pricing	Drug purported to be provided at cost (39 cents per daily dose). Significant savings over innovative price. ○○○	Prices are reported to be less than those quoted by innovative firms, but quality problems with GPO-produced drugs raise concerns that the medicines are not equivalent. Moreover the government's profit motive raises suspicions that the cost savings are not being passed on to Thai patients. ○××
Quality	Drugs to be shipped must meet Canadian standards for safety and efficacy. ○○○	There are serious concerns with the quality of medicines produced by the GPO. ×××
Demand	Need for AIDS drugs in Rwanda is clear. ○○○	The need for AIDS drugs is undisputed. The national emergency leading to the need for cardiovascular drugs is in question. ○××

Recently published research by faculty member Kristina Lybecker analyzing the design of compulsory licensing systems.

Likewise, recently published papers cover a wide spectrum from game-show behavior to compulsory licensing. Daniel Johnson published a new article with Tracy Gleason from Wellesley College, in *Social Science Quarterly*, looking at gender differences in game show contestant behavior under risk. Looking at the show, "Who Wants to be a Millionaire," they found that men are rewarded for acting more cautiously than are women. Judy Laux published the final paper of her series on bringing accounting theory back into introductory classes in *The Journal of College Teaching and Learning*. This fourth paper of her series considers the theory of cash flow statements. Kristina Lybecker published an article with Elizabeth Fowler from the World Health Advocacy, in *The Journal of Law, Medicine, and Ethics*, analyzing compulsory licensing legislation. Considering both the systems in Canada and Thailand the authors created an assessment which will hopefully guide the design of future compulsory licensing.

Research cont.

Working papers on SSRN are equally as valuable and diverse. Recent papers include a paper by professor Esther Redmount and two professors at the University of Georgia analyzing an 1885 legislative reform in Massachusetts requiring that firms provide workers the option of receiving weekly wage payments. Their analysis suggests that the switch to weekly payment increased workers' effective wage and well-being. A working paper by professor Pedro de Araujo analyzes the socioeconomic correlates of sexual behavior, HIV/AIDS knowledge and stigma in India. Daniel Johnson and Kristina Lybecker have recently written three papers on economic innovation. These papers are literature reviews on the potential for financing economic innovation, the diffusion mechanisms, market factors, social characteristics and political elements that facilitate and complicate dissemination of environmental technology, and the constraints to economic innovation. The five most downloaded CC authors include professors Daniel Johnson, Aju Fenn, Kristina Lybecker, and Lary Stimpert and student Erin Spenner. For a complete listing of CC's working papers please visit our website: <http://www.coloradocollege.edu/dept/EC/papers.asp>.

Student-Faculty Research

Another element unique to CC, is the volume of student publications. Looking at the list of authors in SSRN, 12 of the 19 are students. This is a massive tribute to our professors who mentor and work with these students. The most recent student-professor working paper looks at big box stores and their effects on residential property values, focusing particularly on Wal-Mart. It is written by Professors Daniel Johnson and Kristina Lybecker and students Nicole Gurley and Alex Stiller-Shulman. Another recent working paper by student Geoffrey Clemm and professor Mark Smith provides a historical analysis of past efforts to establish a national climate policy in the United States and the major forces influencing the current debate. Current student-professor research projects include HIV & condom use, the role of location on innovation in agriculture, IT and energy, socioeconomic indicators and the prevalence of patents in developing nations, NFL player conduct and salaries, and the writing of a strategic management textbook.

In addition to student-professor research projects, a handful of students publish their senior thesis. These students are awarded a Bruni Award and a cash prize. Recent Bruni awardees include Janet West for her paper "Including Cash-Flow Risk in Stock Return Analysis," Hilary Johnson for her paper "An Ounce of Prevention or a Pound of Cure? Short- and Long-Run Effects of Pharmaceutical Patents on U.S. Health Care Expenditures," and Brendan Hannah for his paper "Determinants of Recent Online Purchasing and the Percentage of Income Spent Online."

No Wal-Mart in My Back Yard

Figure 1: Breakeven Chart for Sales Price and Distance from Stores of Different Types

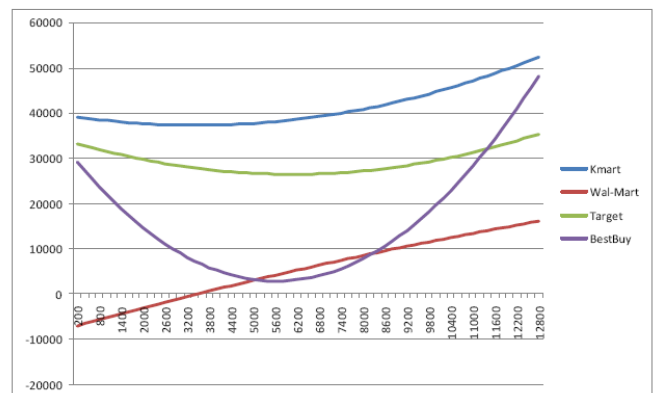
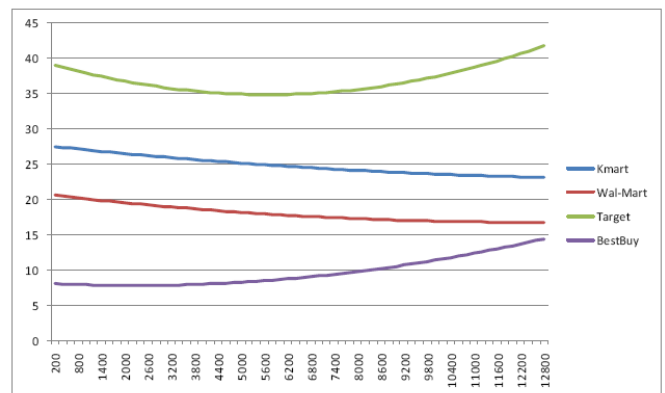


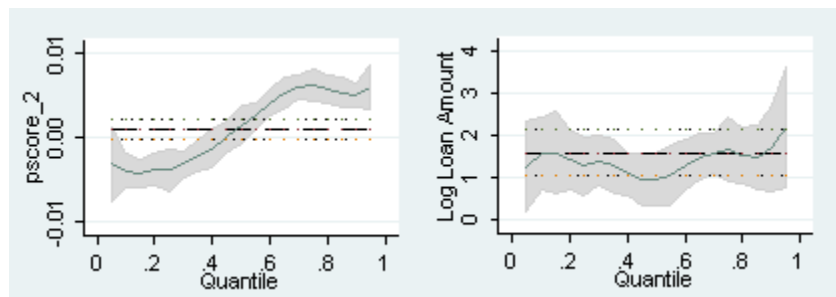
Figure 2: Breakeven Chart for Days on Market and Distance from Stores of Different Types



New Student-Professor research shows that, in the case of Wal-Mart, the greater the distance to the store, the faster the property sells and the fewer days the property remains on the market.

Research cont.

Grameen Bank lending to the ultra-poor



Differences in quantile and OLS regressions in student research show that regardless of outcome, a larger loan will help you more and that wealthier people succeed bigger but also fall harder.

A soon-to-be Bruni awardee to keep your eye on is Stephen Polk. His senior thesis explored how to improve targeting lending to the ultra-poor by the Grameen Bank. These student publications are also a large tribute to professors who work with these students throughout the thesis and publication process.

Student Research

Students in the department also undertake their own, independent research. With financial assistance from Van Skilling Awards, and other funding

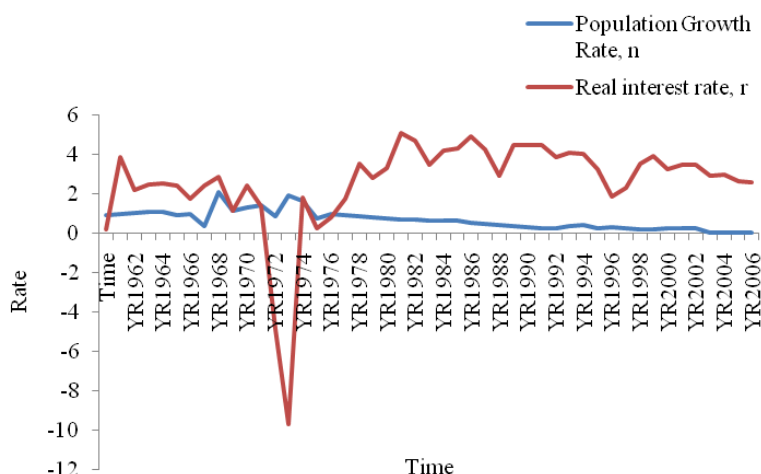
such as Venture Grants, students pursue their own research questions. One such project, conducted by Sam Buchanan, Alex Stiller-Shulman and Jayash Paudel, is an in-depth study on the social security system in Japan and its aging population. For the current pay-as-you-go social security system in Japan to work properly, the population growth rate should be larger than the market interest rate. However, Japan exhibits the opposite trend. These three students are analyzing what will happen to the social security system in Japan within this current economic climate. Another project, conducted by Alison Wold, is investigating the current condition of America's ranch land. These projects would not be possible without the generosity of Van Skilling to whom we are very thankful.

Show Me the Numbers!

In many ways the block plan facilitates the department's excellence in teaching and research. Professors and students have the flexibility to take blocks exclusively for research and thoroughly investigate important questions in the field of economics. The exciting research taking place is reflective of the great minds we have in our department and their passion for research as well as teaching. It isn't surprising that we are ranked 5th out of liberal arts institutions and 2nd in Colorado – we have always known the excellence of our department. Still, as economists, it is always nice to see the numbers.

*-Francesca Desmarais '09
Technical Statistical Coordinator*

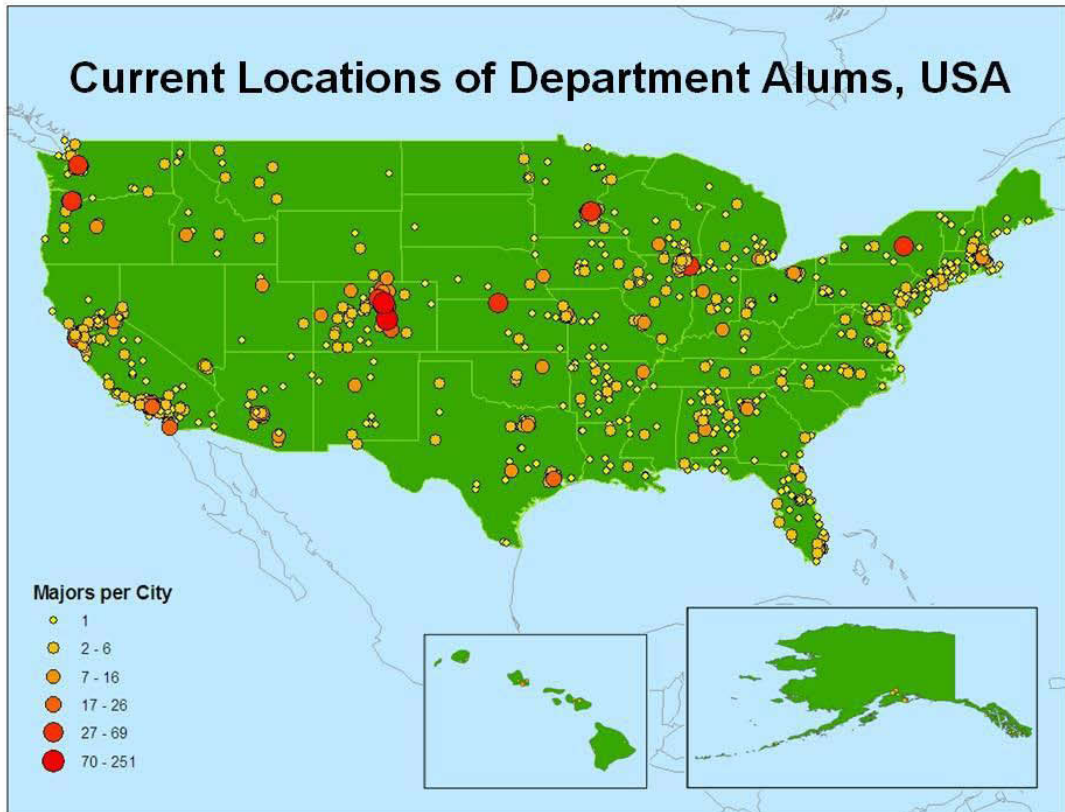
Comparing population growth rate and real interest rate



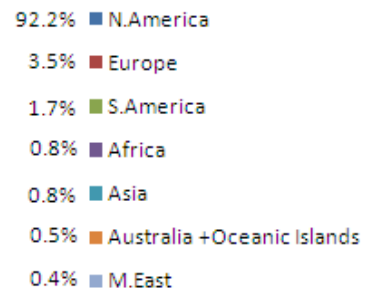
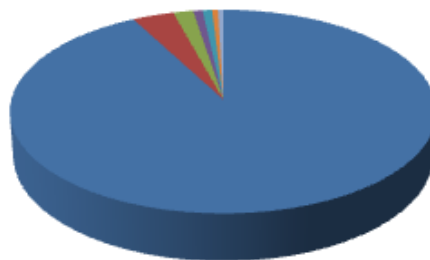
Source: WDI

Japan's population growth rate is lower than the market interest rate posing interesting problems for their social security system which students are investigating.

Where Are Our Alums? *The Places Where CC Can Lead*



Our majors live in 1,194 cities, 50 states, and 76 countries. A large majority, 92%, live in North America, with Europe and South America being the next most popular places.



Can you find your dot? If you are not on our map, or are unsure that we have your current contact details, please update us by sending an email djohnson@coloradocollege.edu
We'd love to visit you when we're nearby!

The Final Pages

Upcoming Events in the Department

- Tuesday, January 26th, 2010 – Networking event in Denver (tentative date). If you will be in Denver, please let us know if you would like to attend the happy hour with our majors!

Current Locations of Department Alums, World



Keeping the dismal science ever so fabulous...



Entrepreneur Submissions

We welcome your submissions to *The Entrepreneur*. Please fill out this page and return so that we may better meet your needs in the future. Feel free to tell us about yourself, your family, your latest events in life – or some good ol' stories from your alma mater. Please share some photos as well.

Name:

Mailing Address Line 1:

Mailing Address Line 2:

Email Address:

Phone #:

Company:

Company Address:

Suggestions, comments, requests and your stories to publish in the next edition go here:

Please fill out and return to:

Colorado College
Department of Economics and Business
Attn: The Entrepreneur
14 East Cache La Poudre Street
Colorado Springs, CO 80903

Or, send it electronically to:

chesca.desmarais@coloradocollege.edu

Or, fax to:

(719) – 389 – 6927

Thank you!!! -- The Entrepreneur

Look for the sixth edition of *The Entrepreneur* in the spring of 2010! If there is something you feel should be added to the next issue, please email your comments, suggestions and questions to chesca.desmarais@coloradocollege.edu. Also, please visit our website that is updated daily at <http://www.coloradocollege.edu/dept/EC/> to find out about our students, faculty, staff, curriculum, current research, events and contact information. Thank you!

Colorado College Economics and Business Department, 14 E. Cache La Poudre St., Colorado Springs, CO 80903