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**Applied Economics at the University of Minnesota**



**@ApEcMN**



## FROM THE DEPARTMENT HEAD



One of the joys of being a department head is the opportunity to attend many social events as part of what could be called “work.” Let me take you on a tour of my calendar.

October 16, Department of Applied Economics Outstanding Alumni Award: It was great to catch up with **Vic Adamowicz** and his wife **Sharon McKinnon** as we honored Vic as this year’s outstanding alumnus. He gave a seminar about his work on ecological infrastructure in Panama, and then we had a chance to socialize and reminisce about his time at the University of Minnesota. Later in this newsletter, you can read about his many academic accomplishments. Vic has found a way to be at the top of our profession while raising two impressive daughters and pursuing his hobbies (accordion-playing, pierogi making, and cycling among them)!

October 19, University of Minnesota Alumni Association Awards Dinner: What a delight to meet Harvard Business School faculty member **Jorge Ramirez-Vallejo**, recognized with the Distinguished Leadership Award for Internationals, and undergraduate student with a double major in Urban Studies and Applied Economics **Katessa Archer**, recipient of the President’s Student Leadership and Service Award.

November 2, EconFest: I can’t believe that this is the first time I’ve attended EconFest, an annual celebration of students and teachers connected to the Minnesota Council on Economic Education (MCEE). It is with the Council that my two worlds connect—one of the night’s honorees for her work teaching economics with children’s literature, **Ruth Krider**, teaches second grade in my neighborhood. Once upon a time, she taught two children who are particularly close to my heart.

November 6, Alpha Gamma Rho dinner: Thanks to an invitation from **Nick Selseth**, I was treated to a tour of the remodeled fraternity house and to a lovely dinner. Some of my colleagues—**Joleen Hadrich**, **Jason Kerwin**, and **Gary Cooper**—were also there as guests of the AGR brothers.

November 15, Thanksgiving for Scholarships: At this event, we recognized undergraduate scholarship recipients and donors of those scholarship funds. The College is kind enough to seat us with students in our department, so I got caught up with **Mike and Sandy Yost** and the recipient of their scholarship, **Katie Wilts**.

November 30, Networking Social organized by the Student Board: **Sierra Williamson** (read more about her in this newsletter) helped organize a student networking night in Ruttan Hall. Faculty, students, and industry representatives got a chance to get to know each other and to learn about career opportunities in some big local businesses.

December 8, Department of Applied Economics and Agricultural Education Annual Luncheon: We all come together and enjoy marking another year in the life of the department. A few of my highlights: **Paul Glewwe’s** celebratory tie, seeing **Jean Kinsey** with her fellowship recipient **Bixuan Sun**, **Jerry Hammond’s** sly sense of humor.

I look forward to Spring bringing me new opportunities to “work”—this is the best job in the world.

*Frances Homans*  
DEPARTMENT OF APPLIED ECONOMICS

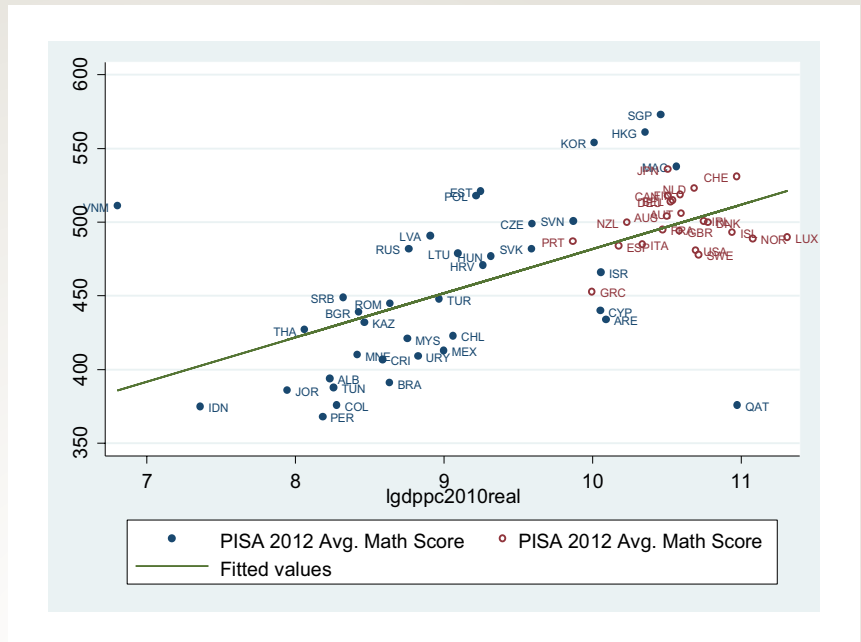
# New Research on Vietnam's Impressive Performance in Education

Like China, Vietnam's economy has been growing at a very fast rate ever since it moved from a planned economy to a market-oriented economy. Much less appreciated is Vietnam's performance in education. This attracted wide attention after Vietnam first participated in the Programme for International Student Assessment (PISA) in 2012. This assessment, which is organized by the OECD and takes place every three years, tested 15 year old students in mathematics, reading and science in over 60 countries in 2012. That year was the first round in which Vietnam participated, and its performance was very strong: it ranked 16th out of 63 countries in math and 18th out of 63 in reading. This performance was higher than the performance of U.S. and U.K. students, and led to strong interest in Vietnam's education system.

Even more remarkable than their performance is that, measured in terms of GDP per capita, Vietnam was by far the poorest country to participate in the 2012 PISA assessment. Its outlier status can be seen in the following graph, which plots the log of per capita GDP on horizontal axis and math test scores on the vertical axis.

Vietnam is the dot labeled "VNM" in the upper left of this diagram. The straight line is a simple ordinary least squares regression that fits a line to all of the dots, and it is clear that Vietnam performs much better than the predicted level given by the line.

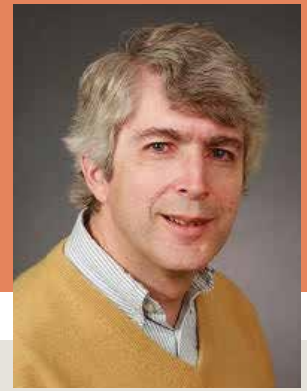
In 2016 I, along with several other collaborators, received a major grant from a program funded by Britain's Department for International Development (DfID) to



undertake a six-year study of Vietnam's education system. Vietnam is one of six countries that are being studied by this research project—the others are Ethiopia, India, Indonesia, Pakistan and Kenya. Vietnam was selected because, unlike these other countries, it is a clear “success story” in terms of its educational progress.

Because this research program is only in its second year, we have not yet gotten very far in answering the question of how Vietnam has been so successful. To better understand this we have started to analyze the PISA data, as well as data from another international comparative study called the Young Lives Study, which is managed by Oxford University and has collected data on about 12,000 children in Ethiopia, India, Peru and Vietnam since 2002. We will also collect new data, and indeed the data collection started very recently (November of 2017). In particular, we are collecting data in Vietnam from 140 primary schools and 100 lower secondary schools.

BY PAUL GLEWWE



We will collect data from these schools for the next three years by conducting academic tests and administering questionnaires to children, their parents, their teachers, the school principals, and community leaders. Videos will be taken inside the classrooms of all of these schools to understand better what actually happens in the classrooms. Student questionnaires will include questions that can be used to assess their psychological traits, such as optimism and self-efficacy.

Some preliminary analysis of the PISA data has raised more questions than it answers. Vietnamese schools, especially primary schools, are not known for long hours. Indeed, about half of primary schools operate on double shifts, and in these schools the children are in school only three to four hours per day. They do not have as

many computers available compared to other countries that participated in the PISA assessment in 2012, and they have fewer resources at home such as books. They are more likely to be tutored after school, although preliminary analysis suggests that this is not a major factor in determining their success. Clearly, there is much more work to be done.

This research project is scheduled to be finished in 2022, at which time we should have a much better understanding of what the underlying causes are of Vietnam's success in education. Hopefully, these lessons can be applied to other countries as well, both developing countries and developed countries. We plan to report these findings in future editions of the Minnesota Applied Economist.



## Has the Honeycrisp Been a Good Thing for Consumers?

BY YANGHAO WANG



Every fall, produce sections fill with a wide variety of apples. Indeed, apples are the second most valuable fruit in the United States with sales revenue exceeding \$2 billion. The apple market is dynamic, both in terms of competition and innovation. The U.S. Patent and Trademark Office reports 156 new patents of apple varieties between 2000 and 2014.

The University of Minnesota is the birthplace of many of the emerging popular varieties, including Honeycrisp, SweeTango, and Zestar. The Honeycrisp apple is the most well-known of these. Released in 1991, it rapidly became popular across the United States due to its crisp and juicy texture, low acidity, and mildly aromatic flavor. In 2006, Honeycrisp was named the Minnesota state fruit. Honeycrisp tends to be more expensive than other popular varieties: on average, Honeycrisp apples cost \$1.50 per pound more than Gala, the most-popular variety.

In principle, new apple varieties enrich the set of choices for consumers and increase competition in the apple market. In particular, consumers are better off when they either find apples that taste better to them or pay less for the existing types. At the same time, producers and retailers can earn substantial profits from increased apple sales. The economic benefit of the introduction of a new agricultural product is intuitively clear, but the extent of the benefit is still to be measured. Therefore, my Ph.D. advisor Metin Çakır and I decided to evaluate the welfare impacts of the introduction of Honeycrisp apples by examining the U.S. apple market.

Using scanner data on apple prices and revenues from 50 retailers in 61 metropolitan areas between March 2009 and February 2015, Metin and I estimated a structural model of the demand and supply for different apple varieties. This helps us to understand how the varieties interact in the market and gives us a tool to evaluate the impact of the arrival of the Honeycrisp. With the model, we can simulate the equilibrium prices and quantities for apple varieties in a counterfactual scenario in which Honeycrisp

apples were not introduced. The difference between reality and the simulation tells us various things about how the Honeycrisp affected the apple market and consumer surplus.

Our results show first that the introduction of Honeycrisp apples resulted in a decrease in prices of competing apple varieties. The average prices of Gala and Red Delicious, the two best-selling varieties, declined most, and the declines were larger where the market share of Honeycrisp was larger. Second, Honeycrisp increased the total quantity of apples sold by 8 percent and increased total revenue by 21 percent over the study period. Consumers were better off because some were able to buy apples they liked better and consumers who didn't switch to Honeycrisp saw lower prices. We estimate that consumer surplus in the apple markets in our 61 metropolitan areas increased by \$3.03 million in 2009, with the impact growing to \$15.20 million in 2014. (Consumer surplus, you might remember, is the amount consumers would be *willing* to pay, over and above what they *did* pay.) When we scale those estimates up to the entire U.S. market, we find that the total addition to consumer surplus between 2009 and 2014 was about \$940 million. That is about 20 percent of annual expenditures on public food and agricultural research and development in the U.S., a small piece of which helped to fund development of the Honeycrisp.

We are unable to estimate benefits to growers using score scanner data, but news reports from the New York Times and National Public Radio indicate that many growers in Washington State have been looking to switch from Gala and Red Delicious to Cosmic Crisp, a new variety derived from Honeycrisp. That suggests that the benefits to consumers are only one component of the national benefits from new apple varieties.

For the full working paper visit: <https://z.umn.edu/yanghaowang>

Sierra Williamson graduated from Martin County West High School in Sherburn, MN last May, and quickly found a home for herself in Saint Paul. Majoring in Agricultural and Food Business Management and minoring in Agronomy and Marketing, Sierra tells us, “I was raised in a [small] community that values agriculture...I want to positively impact food insecurity and CFANS has offered me many opportunities to work on career development.”

Sierra not only thrives academically, she’s also involved in several extracurricular activities and internships to bolster both her knowledge and her resume. Active on the CFANS undergraduate student board, she has been able to meet not only other students in her major, but policymakers, farmers and agricultural professionals, helping to strengthen her relationships with agricultural businesses and leaders in the industry. “CFANS has really welcomed me into their community and helped me adjust to college, continuing my ambitions towards joining the agricultural field,” she tells us.

Sierra landed coveted Global Food Challenge Emerging Leader internship with Land O’ Lakes by entering a nationwide competition. Land O’ Lakes selected a cohort of college sophomores to work as a team on sustainable solutions for agricultural challenges. Sierra will have the opportunity to travel to Washington D.C. to visit with policymakers and to Africa where she will meet with smallholder farmers.

Sierra explains, “food supply solutions on a large scale will demand intelligent scientific research, innovative ideas, and passionate leadership. I hope my career will contribute to meeting future food demands, making sure food supplies are safe and nutritious, creating safe farming environments, and providing jobs to people who have none.”

To learn more about the Global Food Challenge Emerging Leader internship, visit: <http://foodchallenge.landolakesinc.com/meet-the-emerging-leaders/>

## SIERRA WILLIAMSON

### UNDERGRAD STUDENT SPOTLIGHT



The Distinguished Leadership Award for Internationals is a University-wide award for alumni, former students, and friends of the University who have distinguished themselves in their post-university work as leaders in their professional careers. This year, this honor was conferred upon one of our alumni, Jorge Ramirez-Vallejo.

Ramirez-Vallejo earned an MS under the supervision of Jerry Hammond on the topic of flood control. One of his early publications was also on flood control, co-authored with this year’s outstanding alumnus Vic Adamowicz. For his PhD, under the supervision of Bill Easter, he studied irrigation in India. He is currently a member of the Harvard Business School faculty at their Institute for Strategy and Competitiveness where he has authored a number of Harvard Business School cases. He is an Associate Professor at the School of Management of Universidad de los Andes in Colombia, and founder and former Director of the Center for Strategy and Competitiveness at the Universidad de los Andes.

## JORGE RAMIREZ- VALLEJO

### DISTINGUISHED LEADERSHIP AWARD



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## OUTSTANDING ALUMNI AWARD

DR. W.L. (VIC) ADAMOWICZ  
UNIVERSITY OF ALBERTA, CANADA

**V**ic Adamowicz, recipient of the 2017 Outstanding Alumni Award, is the Vice Dean in the Faculty of Agricultural, Life and Environmental Sciences, and a Distinguished University Professor in the Department of Resource Economics and Environmental Sociology, Faculty of Agricultural, Life & Environmental Sciences, University of Alberta. He obtained his BSc and MSc from the University of Alberta (1981, 1983) and his PhD from the University of Minnesota in 1988.

His research has focused on the economic valuation of environmental amenities and ecosystem services and the incorporation of environmental values into economic analysis – with applications to forestry, water quality, air quality, endangered species and agriculture. His research also involves the analysis of choice behavior with applications to food demand, recreation, and environmental quality.

Adamowicz was the research director of the Alberta Land Institute from 2012 to 2016. He was the Scientific Director of the Sustainable Forest Management Network of Centres of Excellence, from 1998 to 2004. He was a Canada Research Chair (Tier I) from 2001 to 2008 and was an Associate Dean (Research) from 2007 to 2009.

He is a Fellow of the Royal Society of Canada, Academy II – Social Sciences (awarded in 2007). He became a Fellow of the Canadian Agricultural Economics Society in 2011. He was awarded the Canadian Institute of Forestry's Canadian Forestry Scientific Achievement Award in October, 2004. In 2001-2002 Adamowicz was a Gilbert White Visiting Fellow at Resources for the Future in Washington DC, and in 2011 he was an Erik Malmstem Visiting Professor at the University of Gothenburg. Adamowicz has been active in the Association of Environmental and Resource Economists (AERE), serving as its president in 2016.

