



Faculty in the Media

The Washington Times

Shannon Monnat (Sociology) was quoted in *The Washington Times* article, [“Deaths of Despair’ See Massive Spike in U.S.”](#)

How Housing Matters

Len Lopoo (PAIA) and **Andrew London’s** (Sociology) article titled [“Household Crowding During Childhood and Long-Term Education Outcomes”](#) was featured on *How Housing Matters*.

Ithaca Journal

David Popp (PAIA) was quoted by the *Ithaca Journal* for the article [“With the death of fracking, can renewables fill New York’s energy gap?”](#)

WRVO

Len Burman (PAIA) was interviewed for the WRVO story, [“Experts Say it’s too soon to Tell if New Tax Law is a Success.”](#)

KJZZ Phoenix

Amy Lutz (Sociology) was quoted in KJZZ Phoenix’s radio story, [“Arizona Immigrant Sees Path to Citizenship Through the Army.”](#)

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Alfonso Flores-Lagunes: An Estimator for Discrete-Choice Models with Spatial Lag Dependence



Many economic problems that require micro-level analysis of discrete dependent variables are fundamentally spatial processes. However, the application of traditional modeling methods to spatial data leads to inconsistent parameter estimates that are inappropriate for hypothesis testing and prediction. Existing approaches are limited in the size of the sample they can handle. In their recent paper, Alfonso Flores-Lagunes, Carmen E. Carrion-Flores, and Ledia Gucci develop a new econometric model to analyze spatial data that is computationally simple and can be used with large sample sizes.

The authors then use this estimator to study the phenomenon of land-use conversions at the rural-urban fringe. The basic economic theory of land use assumes that a landowner chooses the use of land that maximizes the landowner's returns. Moreover, it is also possible that a landowner's decision is influenced by other nearby landowners' decisions. This spatial interdependence is important because not accounting for it would result in incorrect estimates of the land-use conversion process. From the policy perspective, support for the theory that landowners are influenced by each other will help build policies on local land use.

The results from the application of the new econometric model suggest that the location of new urban development is guided by a preference for lower density areas that are in proximity to current urban development. There is significant evidence that a high propensity of a given landowner to convert her land to a particular land use positively affects the propensity of landowners of adjacent parcels to convert their land to that same use. The presence of these spatial effects suggest that uncoordinated local land-use policies designed at a small scale, while attempting to manage growth at a local level, may fragment urban development and result in suboptimal land-use patterns at a regional level. This information is important for local governments who set zoning policies that determine land use.

To learn more, see *Regional Science and Urban Economics* (2018) Vol. 69, pp. 77-93.

Yilin Hou: Measuring the Financial Shocks of Natural Disasters: A Panel Study of U.S. States



Natural disasters pose shocks to government finance by disrupting local economies, eroding tax bases, and causing additional expenditures on disaster response, relief, and recovery assistance. The fiscal consequence of disasters has been a subject of limited study, with most empirical evidence generated from cross-country studies. Professor Yilin Hou's paper, with co-authors Qing Miao and Michael Abrigo, presents one of the first attempts to empirically estimate the financial impacts of natural disasters at the subnational level in the United States. With a particular focus on state governments, the authors are interested in understanding how disasters affect their expenditures, revenues, new debt issuance, and receipts of federal transfers. The study, based on a 50-

state, 1970-2013 panel dataset that combines public finance and disaster damage, sheds light on the fiscal costs of natural disasters and also the distribution of disaster costs between the federal and state governments.

In the authors' analysis, employs a panel vector autoregression model to trace the duration and decay of the financial shocks triggered by disasters. They find that following a major disaster, state governments increase their expenditure (in particular, capital outlays, transfer to local government, and welfare payments) and receive more intergovernmental transfers from the federal government. These effects tend to peak soon after a disaster strikes and declines thereafter. The disaster-induced increase in federal transfers slightly exceeds that of state spending, suggesting that the local fiscal costs of natural disasters is largely borne by the federal government. This finding highlights an important role that federal government plays in redistributing resources in the aftermath of natural disasters. Although federal transfers alleviate the disaster shock to the affected communities, they shift a large proportion of local disaster costs to taxpayers across the nation. As pointed out in previous research, the generous federal post-disaster aid may cause a moral hazard problem. It also raises the question of how efficiently and effectively state governments spend the federal money in post-disaster relief and recovery. To further examine the federal financial exposure to disasters, the authors estimate that one dollar of direct disaster loss leads to 0.34-0.37 dollar immediate federal spending on post-disaster response and recovery.

While they find that natural disasters have little impact on a state's own-source revenues, they cause different levels of fluctuations in general sales, income, and property tax revenues. This finding is beneficial for policymakers to understand the link between fiscal sustainability and tax structure in the context of natural disasters. Finally, Professor Hou and his co-authors show that natural disasters also lead to significant increase in government spending and federal transfers on public welfare programs in the affected states. This finding suggests that the actual fiscal costs of natural disasters could be much larger than the current estimates that only account for the disaster-related programs. Therefore, it is critical for policymakers to include this portion of expenditure in gauging their financial exposure and budgeting for future natural disasters.

To learn more, see *National Tax Journal* (2018) Vol. 1, pp. 11-44.

Yoonseok Lee: Adaptive Elastic Net GMM Estimation With Many Invalid Moment Conditions: Simultaneous Model and Moment Selection



This article develops the adaptive elastic net generalized method of moments (GMM) estimator in large dimensional models with potentially (locally) invalid moment conditions, where both the number of structural parameters and the number of moment conditions may increase with the sample size. The basic idea is to conduct the standard GMM estimation combined with two penalty terms: the adaptively weighted lasso shrinkage and the quadratic regularization. It is a one-step procedure of valid moment condition selection, nonzero structural parameter selection (i.e., model selection), and consistent estimation of the nonzero parameters. The procedure achieves the standard GMM efficiency bound as if we know the valid moment conditions ex ante, for which the

quadratic regularization is important. We also study the tuning parameter choice, with which we show that selection consistency still holds without assuming Gaussianity. We apply the new estimation procedure to

dynamic panel data models, where both the time and cross section dimensions are large. The new estimator is robust to possible serial correlations in the regression error terms.

To learn more, see *Journal of Business & Economic Statistics* (2017) Vol. 36, Issue 1, pp. 24-46.

Rebecca Schewe: Stewarding Dairy Herd Health and Antibiotic Use on U.S. Amish and Plain Mennonite Farms



Imprudent antibiotic use on livestock is associated with growing concerns about antibiotic resistance. The majority of the focus on antibiotic use on livestock has been on meat production, but for dairy cows antibiotic use is associated with lower milk production and quality, and higher costs. Much dairy science research has focused on best practices to increase milk quality and decrease infections on dairy farms, but little research has examined the human components of antibiotic use. In their recent article, CPR researcher Rebecca Schewe, and Caroline Brock from the University of Michigan, compare Plain dairy producers, Amish and Mennonites (Plain), with their non-Plain peers, to examine different trends in antibiotic use.

Studies estimate that Amish farmers represent an increasing fraction of the dairy industry, especially in the smaller and mid-size farm categories. Plain farmers are often characterized as working with nature more sustainably than other farmers, but because of the diversity of Plain communities, the evidence is not well characterized. This study adds to the understanding of dairy farm sustainability by focusing on the role of Plain religious affiliation on antibiotic behavior, by acknowledging diversity within the Plain community, and by expanding the concept of sustainable farming to include antibiotic use.

The researchers use data from surveys of dairy farmers in Michigan and Pennsylvania administered in 2013. They targeted Grade A dairy farms so as to exclude hobby farms and also excluded farms with USDA National Organic Program certification which specifically prohibits antibiotics use. The authors found that Amish farmers rely more heavily on natural or organic therapies for infections, rather than antibiotics. However, Plain Mennonite farmers more closely resembled non-Plain dairy farmers, indicating that there is heterogeneity in Plain communities.

Schewe and Brock acknowledge three limitations to their results. First, the survey relies on self-reporting which increases the likelihood of response bias. Second, by focusing only on Grade A dairy farms, this research excludes the most conservative Plain dairy farmers. Finally, the authors argue that they cannot use the results to theorize how religious identity and beliefs shape practices. However, the researchers are currently extending the study to broaden the understanding of diversity within Plain groups. The authors argue that policymakers and regulators can look to the practices of Plain dairy farmers when attempting to increase farming sustainability and decrease antibiotic use. Additionally, policymakers must be careful to not push out Plain farmers when building new regulations that aim to increase sustainability.

To learn more, see *Journal of Rural Studies* (2018) Vol. 58, pp. 1-11.

Ling Li & Perry Singleton: The Effect of Workplace Safety Inspections on Worker Safety



The Occupational Safety and Health Act was passed by Congress in 1970 with the goal of assuring the health and safety of workers. Congress then created the Occupational Safety and Health Administration (OSHA) to create and enforce safety and health regulations. Before 1999, OSHA targeted industries with high rates of accidents, but many establishments in high risk industries were relatively safe. In response to this, OSHA created the OSHA Data Initiative (ODI) to collect data on accidents and injuries at the establishment level. These data were then used to implement the Site Specific Targeting Plan (SST), which prioritizes inspections of

establishments based on case rate cutoffs. Previous research on OSHA inspections and worker safety has found a wide range of effects. Some studies may underestimate the impact of inspections since establishments that are inspected tend to have higher rates of accidents. Other studies have found reductions in injuries after OSHA inspections, but the studies are limited in scope and therefore are not generalizable. In their recently published article, CPR researchers Perry Singleton and Ling Li, use a quasi-experimental method to estimate the effect of inspections on worker safety.

The data in this analysis are from OSHA's Data Initiative, which requires most establishments to record accident and injuries. OSHA established case rate cutoffs which the authors used to identify causal effects. The authors use fuzzy regression discontinuity design, which compares establishments just above the cutoff to those just below the cutoff assuming that establishments just above and just below the cutoff point are similar in other characteristics. The ODI targeted manufacturing and other industries with injury rates above the national average. The sampling criteria often changed from 1996 to 2011, so the researchers dropped observations that appeared to be duplicates or if the name and address were missing. The data were then limited to pairs of observations spaced four calendar years apart. Since accidents and injuries are self reported there is potential for underreporting, however, establishments self-report before cutoff rates are determined.

The cutoff is associated with a 22.7 percent increase in programmed inspections, a 17.6 percent increase in citations, and a 15.7 percent increase in penalties. The year after the SST cycle, an inspection decreases both Total Cases Rates (TCR) and days away from work, and job restrictions or transfers (DART), but only the effect on DART is statistically significant: -1.792 per 100 full-time equivalent workers. The authors perform checks for robustness, alternative samples, distributional effects, and for differences in effects by industry. To explore differences by industry, the authors created separate models for manufacturing, health services, and "other" industries. According to the results, the effect of an inspection on worker safety is most evident in manufacturing. The authors argue that OSHA should program inspections where the effect on worker safety is greatest: manufacturing.

To learn more, see *Industrial and Labor Relations Review* (forthcoming).

Pete Wilcoxon: The Role of Border Adjustments in a U.S. Carbon Tax



One way to address climate change would be to impose a tax on the carbon content of fossil fuels. Doing so would give energy users a strong financial incentive to reduce their carbon dioxide emissions by lowering their overall energy use or switching to cleaner fuels. Moreover, previous research has shown that in addition to reducing emissions, carbon taxes can raise a substantial amount of revenue that could be used for tax reform or to reduce the federal budget deficit. However, an important political concern has been that a carbon tax could harm firms in energy-intensive industries by making their products more expensive than imports from countries with less stringent climate policies.

One way to address that concern would be for the U.S. to impose fees known as border carbon adjustments, or BCAs, on imports. Each imported good would have its own BCA, which would be set equal to the total carbon tax that would have been paid during the good's production if the exporting country had had the same carbon tax as the U.S. In principle, BCAs would help ensure that the tax does not disadvantage U.S.-based carbon-intensive industries. BCAs would also provide incentives for exporting countries to tighten their own emissions standards.

In their recent article, Peter Wilcoxon, Warwick McKibbin, Adele Morris, and Weifeng Liu examine the role of BCAs in a U.S. carbon tax, and also discuss how the use of carbon tax revenue influences the overall impact of the policy. They use a multi-country economic model to project future emissions and economic activity in four U.S. carbon tax scenarios that differ in how the tax revenue is used and whether or not the policy includes BCAs. The paper has five broad findings. First, a carbon tax would have an immediate impact on U.S. CO₂ emissions regardless of the use of the revenue or the presence or absence of BCAs. Second, there is little shifting of U.S. emissions to other countries via industries relocating and continuing to emit carbon (a phenomenon known as “leakage”). Third, BCAs raise the tax revenues from the policy significantly: by \$150 billion in 2012 and \$350 billion in 2040, compared to \$110 billion and \$170-177 billion, respectively, from a carbon tax without BCAs. Fourth, using the carbon tax to reduce capital income tax rates results in better macroeconomic outcomes than lump sum rebates to households. Finally, the overall impact on GDP, wages, employment, and consumption is small. The authors suggest future work to investigate scenarios where countries retaliate against the U.S. BCA or impose BCAs of their own against the U.S. if the U.S. fails to adopt a significant climate policy.

To learn more, see *Climate Change Economics* (2018) Vol. 9, Issue 1.

CPR Upcoming Events

September 13 - Herbert Lourie Memorial Lecture with Carol Graham (Brookings Institution/University of Maryland)

October 4 - CPR Seminar Series with Yueming (Lucy) Qiu (University of Maryland College Park)

For more information about CPR seminars, conferences, and lectures, please visit our [Events webpage](#).

Questions or comments?

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