“A Permutation Test and Estimation Alternatives for the Regression Kink Design” with Simon Jaeger

*Journal of American Statistical Association*, accepted

The Regression Kink (RK) design is an increasingly popular empirical method for causal inference. Analogous to the Regression Discontinuity design, which evaluates discontinuous changes in the level of an outcome variable with respect to the running variable at a point at which the level of a policy changes, the RK design evaluates discontinuous changes in the slope of an outcome variable with respect to the running variable at a kink point at which the slope of a policy with respect to the running variable changes. We document empirically that RK estimates are highly sensitive to nonlinearity in the underlying relationship between the outcome and the assignment variable. As an alternative to standard inference, we propose that researchers construct a distribution of placebo estimates in regions with and without a policy kink and use this distribution to gauge statistical significance. Under the assumption that the location of the kink point is random, this permutation test has exact size in finite samples for testing a sharp null hypothesis of no effect of the policy on the outcome. In simulation studies with policy kinks, we find that statistical significance based on conventional standard errors may be spurious. In contrast, our permutation test has exact size even in the presence of non-linearity.

“Why Has Regional Income Convergence in the U.S. Declined?” with Daniel Shoag

*Journal of Urban Economics*, conditionally accepted

The past thirty years have seen a dramatic decrease in the rate of income convergence across states and in population flows to wealthy places. These changes coincide with (1) an increase in housing prices in productive areas, (2) a divergence in the skill-specific real returns to living in productive places, (3) a redirection of low-skilled migration and (4) diminished human capital convergence due to migration. We develop a model where falling housing supply elasticity and endogenous labor mobility generates these patterns. Using a new panel measure of housing
supply regulations, we demonstrate the importance of this channel. Income convergence continues in less-regulated places, while it has stopped in more-regulated places.

“Criminal Rehabilitation, Incapacitation, and Aging”


In April 1993, Georgia instituted new parole guidelines that led to longer prison terms for parole-eligible offenders. This paper shows that an extra year of prison reduces the three-year recidivism rate by 6 percentage points (14%) and that the benefits of preventing this crime are likely outweighed by the costs of this additional incarceration. I develop a new econometric framework to jointly estimate the effects of rehabilitation, incapacitation, and aging in reducing crime. Estimates of incapacitation effects using existing methodologies are biased upward by at least a factor of 2 because they focus on a short time horizon.

**Working Papers**

“*Consumer Spending During Unemployment: Positive and Normative Implications*” with Pascal Noel

Revise and resubmit

We study the spending of unemployment insurance (UI) recipients using de-identified bank account data. Nondurable spending falls by 6% at the onset of unemployment, is stable during UI receipt, and then falls by an additional 13% at benefit exhaustion. Our finding that spending responds to a large and predictable income drop is at odds with predictions from rational models, but can be matched by behavioral models with hand-to-mouth or inattentive consumers. Depressed spending after exhaustion implies that the consumption-smoothing gains from extending UI benefits are at least three times as big as the welfare gains from raising UI benefit levels.

“The Incidence of Housing Voucher Generosity” with Rob Collinson

revised and resubmitted

What is the incidence of housing vouchers? Housing voucher recipients in the US typically pay their landlord a fixed amount based on their income and the government pays the rest of the rent, up to a rent ceiling. We consider a policy that raises the generosity of the rent ceiling everywhere, which is equivalent to an income effect, and a policy which links generosity to local unit quality, which is equivalent to a substitution effect. Using data on the universe of housing vouchers and quasi-experimental variation from HUD policy changes, we analyze the incidence of these policies. Raising the generosity of the rent ceiling everywhere appears to primarily benefit landlords, who receive higher rents with very little evidence of medium-run quality improvements.
Setting ZIP code-level rent ceilings causes rent increases in expensive neighborhoods and decreases in low-cost neighborhoods, with little change in aggregate rents. The ZIP code policy improves neighborhood quality as much as other, far more costly, voucher interventions.

“The Decline, Rebound, and Further Rise in SNAP Enrollment: Disentangling Business Cycle Fluctuations and Policy Changes” with Jeff Liebman

revised and resubmitted

1-in-7 Americans received benefits from the Supplemental Nutrition Assistance Program in July 2011, an all-time high. We analyze changes in SNAP enrollment over the past two decades. Business cycle fluctuations correlate strongly with SNAP take-up, with a sustained one percentage point increase in the unemployment rate raising SNAP enrollment by 18 percent. Policy changes had different impacts in different periods. From 1994 to 2001, coincident with welfare reform, take-up fell from 75 percent to 54 percent of eligible people, with this decline attributable to both the strong economy and to welfare reform. The take-up rate then rebounded, and, following several policy changes to improve program access, stabilized at 69 percent in 2007. At least half of the increase in take-up during this period was policy-driven. Finally, take-up rose dramatically in the Great Recession, reaching 87 percent in 2011. We find that changes in local unemployment can explain 73 percent the increase in enrollment during the Great Recession and temporary rule changes that are triggered when unemployment is high can explain another 10 percent. Permanent state-level policy expansions can explain only 8 percent. Thus most of the recession-era increase in SNAP enrollment was the result of the program’s automatic stabilizer features.

“The Effect of Debt on Default and Consumption: Evidence from Housing Policy in the Great Recession” with Pascal Noel

This paper empirically and theoretically analyzes the effect of debt reductions that reduce long-term but not short-term obligations. Isolating the effect of future obligations allows us to test alternative explanations for borrower default decisions and to analyze the consumption response to mortgage principal reduction for underwater borrowers. Our empirical analysis uses regression discontinuity and difference-in-differences research designs on de-identified bank account and credit bureau records from participants in the US. government’s Home Affordable Modification Program. We find that mortgage principal reductions worth an average of $70,000 have no impact on default or consumption for borrowers who remain underwater. Our results are sufficiently precise to rule out economically meaningful effects. We develop a quantitative life-cycle model that clarifies that borrowers’ short-term constraints govern their response to long-term debt obligations. When defaulting imposes utility costs in the short-term, default is driven by cash-flow shocks such as unemployment rather than by future debt burdens. When principal reductions do not push borrowers sufficiently above water so as to relax collateral constraints, consumption is unaffected because borrowers are unable to monetize increased housing wealth. Collateral constraints drive a wedge between an underwater borrower’s marginal propensity to consume out of cash and their marginal propensity to consume out of housing wealth. Our results help explain
why policies that lowered current mortgage payments were more effective than principal reductions at stemming foreclosures and increasing demand during the Great Recession.

**Honors, Scholarships, and Fellowships:**

2016-2017  NBER Post-doctoral Fellowship on Disability Insurance ($60,000)
2015-2016  NBER Pre-Doctoral Fellowship on the Economics of an Aging Workforce ($25,000)
2015      Hirtle Callaghan Prize ($20,000 with Pascal Noel)
2015      Lab for Economic Applications and Policy ($7,500, with Pascal Noel)
2014-2015  Taubman Fellow at City of Boston ($30,000)
2014      Washington Center for Equitable Growth ($15,000, with Pascal Noel)
2012-2013  NBER Pre-Doctoral Fellow in Aging and Health ($21,600)
2013      Bradley Fellow ($5,000)
2012      Meyer Fellow at Joint Center for Housing Studies ($5,000)

**Seminars**

2017 -- Northwestern, NBER Summer Institute
2016 -- Chicago Harris, BU, Wharton, Brandeis, BC, Johns Hopkins, Yale (three-week visit), NYU Wagner, CBO, CFPB, Northeastern, Brown, UC Davis, UBC, NBER Summer Institute
2015 -- NBER Summer Institute
2014 -- NBER Summer Institute

**Referee Service**


**Work Experience**

2014-2015 City of Boston, Special Assistant for Data Analytics
2009-2010 White House Council of Economic Advisers, Research Assistant