

# USC Price

Sol Price School of Public Policy



## **USC PRICE RESEARCH:** *Advancing Knowledge, Forging Solutions*



**USC** University of  
Southern California

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## BY THE NUMBERS

**1929**

founded

**2**

ranking among public affairs schools by *U.S. News & World Report*

**16**

research centers/institutes

**\$80**

million in active grants\*

**> \$25**

million in research expenditures\*

**> 100**

research events, totaling more than 7,000 attendees\*

**> 150**

peer-reviewed articles published\*

**> 200**

students supported by research grants\*

\*FY18

## RESEARCH WITH RESULTS

For nine decades, the Price School has forged solutions and advanced knowledge, meeting each generation of challenges with purpose, principle and a pioneering spirit. Our mission remains improving the quality of life for people and their communities here and abroad.

One of the chief ways in which we fulfill this mission is through the scholarship conducted by our faculty and our research centers. The strength of the USC Price research enterprise lies in the multiplicity of interconnected disciplines and diverse passions housed under one roof, catalyzing new ideas to solve contemporary problems.

The following pages showcase some of our faculty, their scholarly contributions and the research centers that unite these experts to produce research with results.

In selecting which projects to highlight, we considered the following criteria:

- Did the research address a critical problem facing society?
- Did it significantly advance knowledge and provide new insights into the behavior of individuals and organizations?
- Did the research inform the public or policy discourse by bringing new evidence or insights to contentious issues?
- Did it have an impact on public policy?
- Did it influence governance or decision-making in the public and private sectors?

The scholarship featured in this publication meets not just one but several of the above criteria. For example, Jason Doctor's research, published in *Science* and the *Journal of the American Medical Association*, not only advanced knowledge about effective ways to change physician behavior but has also been adopted by a number of state public health departments and the Centers for Disease Control and Prevention to curb inappropriate prescribing practices.

Bill Resh's research, published in top journals in public administration, has improved understanding about the behavior and motivations of public servants and is being used by federal and local governments to gauge employee perceptions and attitudes about their jobs. Studies by Emma Aguila were covered by major media outlets in Mexico and led to pension reforms that improved the lives of millions of elderly.

In this publication, we not only highlight the depth of our research but also its breadth. The scope of subjects Price faculty investigate is vast and also spans multiple countries. Examples include evaluating charter schools in California, examining philanthropic impact in Detroit, analyzing data on fuel standards and auto safety, expanding health care coverage in India and exploring the implementation of a reverse mortgage program in Japan.

We not only enjoyed curating some of our faculty's latest accomplishments but also learned a lot from reading about their work. We hope you will come away with the same experience.

Sincerely,



Jack H. Knott, PhD  
Dean  
C. Erwin and Ione L. Piper Chair  
USC Sol Price School of Public Policy



Neeraj Sood, PhD  
Vice Dean for Research and Professor  
USC Sol Price School of Public Policy

**CO-PRODUCTION, POLITICS, FISCAL CONSTRAINTS**



Local governments operate as front-line service providers, but their resources are increasingly constrained — even as more public demands are being placed on them. Price School Associate Professor Juliet Musso explores ways municipalities can be more innovative in service provision. Published in *Public Management Review*, this work includes examining the advantages of volunteer involvement in co-producing certain core services to ease budget concerns while still meeting important needs.

Some aspects of co-production are obvious, such as volunteer fire departments, but others are more hidden, according to Musso. “If you read to your child every night, you’re co-producing public education by reinforcing teachers’ work,” she says. Likewise, neighborhood watch groups aid the police in promoting public safety.

“It’s expensive to have a police officer or professional firefighter engage in educational campaigns, preventive activities and other kinds of outreach,” she notes. “So involving community volunteers in this work, which doesn’t involve risk or require high levels of skills, is a good management strategy.”

She adds that, in California, there’s a detailed and rich set of data on local government finance going back to the 1990s that includes where local governments provide information about the extent to which they use alternative service provision agreements.

Next, Musso plans a broader look at outsourcing and other service arrangements to examine how they have changed since the Great Recession.

## How does mission alignment affect morale and productivity?



William Resh

As budget cutbacks increase at local, state and federal levels, public servants must often work longer hours and make greater sacrifices. Price School Associate Professor William Resh’s research explores whether “mission match” can motivate public servants and increase their productivity. His findings help agencies seek the most motivated employees who can effectively meet civic needs while avoiding the burnout that can cut careers short.

“We often impose unrealistic expectations on public servants,” Resh notes. “Also, these expectations are constantly changing, so we must ask what type of person is more likely to persist in these environments.”

**MISSION MATCH**

Resh’s investigations include real-effort experiments testing whether individuals working for an organization whose mission they identify with strongly are more willing to persevere in the face of undue performance expectations than those who identify weakly with the objectives.

The results of this research, published in *Public Administration Review*, show that personal identification with a particular organization’s mission is more important in determining dedication to performance than claimed affinity for public service or other factors such as material self-interest. Moreover, reported public service motivation does not appear to reinforce the relationship between mission match and persistent prosocial work behavior. Therefore, managers should focus on finding workers who highly identify with their organization’s mission on both a personal basis and in terms of perceived societal impact rather than on screening potential employees according to general prosocial proclivities.

**IMPLICIT PROSOCIAL MOTIVATION**

A drive toward public service or prosocial work is often argued to be a “hard-wired” motivation in those who serve. Resh and fellow investigators developed a “prosocial implicit association test (IAT)” that measures a subject’s implicit prosocial motivation. They found that this instrument can validly predict an individual’s relative prosocial behavior such as donating to charities, volunteerism and selection into a public service career.

At a certain level, policies focused on self-interest may reduce productivity of employees with prosocial motivation, according to Resh. For example, he says, “by tying pay to performance — which is hard to measure in the delivery of public or social goods — do you make public service a more transactional occupation and thereby risk the very work ethic you want in a public servant?”

He adds, “Mission match has twice the predictive power in gauging how persistent a person will be in benefiting an organization and its clientele.” He and his colleagues also found that material self-interest can crowd out explicit dimensions of public service motivation (i.e., how prosocially motivated one says they are), whereas mission match is not susceptible to the influence of material rewards.

*“The research that Price faculty produces has a direct impact on people’s lives, as it informs public management practices. Wisely, many decision-makers regularly seek the counsel of Price faculty. We are working effectively to make the world a better place, and much of that success is built on the research generated by Price faculty.”*

**Hilda Solis, MPA ’81**

*Los Angeles County Supervisor, First District  
Former Secretary, U.S. Department of Labor*

**FROM LOCAL TO FEDERAL**

Resh’s work addresses public service at all levels. His book *Rethinking the Administrative Presidency: Trust, Intellectual Capital, and Appointee-Careerist Relations in the George W. Bush Administration* has gained added relevance under the current presidential administration.

The book analyzes relations between political appointees and career bureaucrats in the federal executive branch by testing the premise that the trust established at the executive levels of federal agencies is critical to performance and advancing a president’s agenda, regardless of whether a particular agency’s career bureaucrats are well-aligned or opposed to that agenda. In 2017, the American Society for Public Administration honored this work with a Best Book in Public Administration Research award.

In addition, Resh has analyzed the strengths and weaknesses of the U.S. Office of Personnel Management’s (OPM) Federal Employee Viewpoint Survey. This work led to a comprehensive reevaluation by OPM aimed at reforming the survey’s design as well as taking these lessons to the local level to assess human capital in both Los Angeles and Long Beach city governments.

Resh also led a meeting at the Eisenhower Executive Office building of the White House on November 7 with OPM and U.S. Office of Management and Budget officials to find ways to better co-produce human capital research between OPM and academic researchers.

**RESEARCH CENTERS**

- USC Bedrosian Center on Governance
- Neely Center for Ethical Leadership and Decision Making

**IMPACT**

Los Angeles and Long Beach — the two largest cities in the county — are participating in the USC Price “State of the Service” human capital assessment survey, which will provide the cities with actionable data on the needs of their workforce, with a focus on citizen engagement practices within the municipalities.



**“Our public management faculty conduct research that intersects the frontiers of fields in governance, institutions and engagement. To inform and improve administration of increasingly complex public agencies, we pursue cutting-edge research around employee motivations, fiscal innovation, collaborative governance, civic engagement and other areas. Price faculty research not only advances our core fields, but it also furthers the Price School’s mission to improve the quality of life for people and their communities, worldwide.”**

**Shui Yan Tang**

*Chair, Department of Governance, Management and the Policy Process  
Frances R. and John J. Duggan Professor in Public Administration*

INTERDISCIPLINARY  
POLITICAL COLLABORATIVE



**Jeffery Jenkins**  
Director of the USC Bedrosian Center on Governance, Provost Professor and Bedrosian Chair of Governance and the Public Enterprise at the Price School, Jeffery Jenkins also serves as editor of the *Journal of Politics*. He is spearheading USC's interdisciplinary new Political Institutions and Political Economy (PIPE) Collaborative. PIPE is developing an annual conference for thought leaders in the field, as well as ongoing symposia and workshops to foster new scholarly works for the discipline.

RESEARCH CENTERS

- USC Bedrosian Center on Governance
- California Civic Engagement Project

CRITICAL ISSUE

While more than 80 percent of Latinos who are registered to vote cast a ballot in presidential elections, more than 11 million eligible Latino citizens of voting age are not yet registered.

How can we close civic participation gaps?



Mindy Romero

Election after election, our nation's voter turnout is far lower than that of most other democracies. Price School Research Assistant Professor Mindy Romero founded the California Civic Engagement Project (CCEP) to enhance civic participation in the state and across the nation. The nonpartisan research center provides data and analysis to inform public dialogue about representative governance. Policymakers, public agencies, researchers, community leaders and journalists rely on its pioneering research to increase both participation and representation among the voting-eligible population.

Romero launched CCEP after discovering the troubling lack of publicly available voting data. "If you're not trying to better understand disparities in participation and underrepresentation of traditionally low-participation groups, then you're not going to move the needle in any significant way," she says.

These disparities are rooted in longstanding barriers that disproportionately affect certain groups, Romero notes. "Understanding how better to increase turnout — particularly through mobilization and organization — is a key way to counter the broader bucket of voter suppression."

YOUTH CONNECTION

For example, while young people are often criticized for their disinterest in voting, that supposed apathy actually stems from a lack of support, according to Romero. "We gave 18-year-olds the right to vote in 1971, but then we systematically defunded their civics education," she says. "We expect them, when they turn 18, to magically want to vote and to know how to vote."

To address this issue, CCEP created "The Power of the Youth Vote," an eight-lesson course to help high school students understand the importance of voting and how it affects them and their communities. Students receive practical information about how to vote and how to become engaged citizens.

The mobility of young people also impedes voting, as voter registration is tied to a specific address. "They move and they lose their ability to vote," Romero says.

THE LATINO VOTE

Latinos have accounted for nearly a quarter of all voter growth in the U.S. over the past two decades, yet they remain another demographic underrepresented at the polls. "Aside from the citizenship process now taking longer and being less friendly than in the past, fear exists in many Latino communities about being deported for reasons that wouldn't have been a problem even a few years ago," Romero notes.

Even so, careful efforts to encourage Latino voter turnout could change electoral outcomes throughout the nation. Effective strategies must include helping eligible immigrants become citizens, helping citizens register to vote and continuing to invest in the meaningful engagement of registered voters to increase their turnout at the polls. This is true for other groups as well.

As for joining USC, Romero says: "First and foremost, Price has a long record of producing real on-the-ground research with impact. As part of Price, CCEP will be able to expand its capacity, research and impact. We're excited to be here."

*"At a critical moment in this country's history, the Price School is providing essential research that not only paves the way toward a stronger democracy, but also guides decisions made within government itself."*

Henry Cisneros

*Chairman of the Executive Committee and Principal, Siebert, Cisneros, Shank & Co. LLC*

*Co-founder and Chairman, CityView*

*Former Secretary, U.S. Department of Housing and Urban Development*

COLLABORATIVE GOVERNANCE



William Leach

While the notion that "the more participation, the better" is noble and necessary to collaborative governance, its simplicity remains of little use when charting ways forward in divisive times. In his investigations, Price School Associate Professor William Leach digs more deeply to examine how different types of diversity among stakeholders affect policy outcomes.

Focusing on two dimensions of diversity — ideological diversity (regarding environmental values) and affiliation diversity (regarding the different types of stakeholders represented) — Leach examines their influence on two types of learning: relational learning (about the views of other stakeholders) and cognitive learning (about technical aspects of the policy issue). The results, published in *Public Administration Review*, illustrate the dangers of treating multidimensional concepts such as diversity and learning like uniform monoliths. His work also provides specific guidance for designers of collaborative processes.

Leach finds that ideological diversity promotes both kinds of learning — probably by exposing stakeholders to new ideas — whereas affiliation diversity impedes learning, probably by spurring positional posturing rather than inquiry. He also finds that trust among stakeholders boosts the positive influence of ideological diversity and dampens the negative effects of affiliation diversity. In addition, relational learning — but not necessarily cognitive learning — is found to increase gradually during the collaborative process.

In light of the downside of affiliation diversity, Leach suggests designers should consider limiting participation to only those stakeholders necessary to achieve goals. To help participants build trust over time, designers should also consider hiring a mutually respected mediator who can ensure fair treatment for all parties.

FEDERAL DELEGATION OF POLICY IMPLEMENTATION



Pamela McCann

While many believe that Republicans prefer to cede authority to states while Democrats favor centralized federal power, Price School Assistant Professor Pamela McCann has found that the reality is far more complex. Her book *The Federal Design Dilemma: Congress and Intergovernmental Delegation* uncovered the partisanship at play when individual lawmakers determine whether to decentralize to the states.

The book addresses two major questions: What does intergovernmental delegation within and across policies look like? Under what conditions do national legislators choose to delegate more or less responsibility to the states?

"National policies are implemented at least in part by states, but we don't have a good idea of when it happens," McCann says. "Are they random, spur-of-the-moment decisions? Is it based on policy type or when there's a higher federal deficit? This book was meant to understand more about that."

McCann compiled the first comprehensive dataset of whether and when laws delegate responsibility to the states, analyzing 199 significant federal laws passed between 1973 and 2010. She found that states were involved in implementing 80 percent of those laws.

She identified the main factor in the federal design dilemma to be the extent to which pivotal legislators' parties aligned with the U.S. president and their state governor. For both Republicans and Democrats, members of Congress leaned more heavily on the states when they were from the same party as their governor but not the president, but preferred centralization when the opposite was the case.

"In crafting and voting for legislation, individual legislators have the potential to give their governor and other state-level politicians power over what national policy might look like," McCann says.

*“The Sol Price Center for Social Innovation pursues outstanding research to advance policies that improve the quality of life for middle- and low-income families in urban communities.”*

**Robert Price**  
President, Price Philanthropies

**POPULATION PERSPECTIVES**



**Dowell Myers**  
The Population Dynamics Research Group, led by Price Professor Dowell Myers, has a long history of innovative research related to census and other demographic data, applied to future trends in housing, workforce, education, taxpaying, voting and immigration. Myers was instrumental in the National Academy of Sciences’ insertion of generational assessments of labor force growth into its study of immigration. His housing research also helped shape the market outlooks of the Department of Housing and Urban Development and Fannie Mae regarding millennial homeownership. In spring 2018, the Census Bureau altered how it interprets racial population projections in response to critical assessments Myers presented to the bureau.

California Department of Finance demographers adjusted their housing needs projections in light of research conducted by the Population Dynamics Research Group. The department also adopted a new method for measuring housing affordability pioneered by the group using census data. Myers is a key organizer of the annual Demographic Workshop, entering in its 30<sup>th</sup> year, along with the Southern California Association of Governments with co-sponsorship by the Census Bureau and the California Department of Finance’s Demographic Research Unit and State Census Data Center. The workshop calls attention to the changing balance among all ages and race-ethnic groups. “The population perspective focuses on the well-being of the whole and the linked fates of all its constituent subgroups,” Myers notes.

## How does collaboration facilitate organizational change?



*Christine Beckman*

With research focusing on social innovation, entrepreneurship, organizational learning and inter-organizational networks, Price School Professor Christine Beckman investigates how collaborative relationships and diverse experiences facilitate change. Some of her most recent studies examine how partnerships between schools and organizations infuse new ideas aimed at enhancing how young people learn while informing effective policymaking.

Attempts to improve the educational experience of poor children have spanned many years and policy strategies. Organizational solutions have included: nonprofits offering supplemental learning opportunities and social services; private school scholarship programs; new curriculum offerings; teacher training and professional development; and public school experiments like magnet and charter schools. Instead of focusing on the performance of charter schools versus district schools, Beckman explores urban charter schools and factors that may help them achieve their goal of improving learning outcomes for poor children.

One study, based in Oakland, California, examined the various human, financial and organizational resources that charter schools employ — such as the involvement of noneducators, reliance on outside funding and formalization of the school model. Beckman analyzed how those resources contributed to the school’s survival and the academic success of its students.

Beckman found that formalization stands out as a main positive contributor to meeting accountability standards. “Charter management organizations [CMOs] are embedded in two worlds — that of school reform and that of traditional education, and thus their position is in many ways ideal because they can draw on ideas in both realms,” she says. However, she notes that top-down formalization also occurs in schools that perform less well, so success depends on the types of practices supported by the structure.

While her findings indicate the benefits of a clear and formal structure, she also found cases of more organic grassroots successes, such as parent-led activism when funding and formal structure were lacking. “The very fact that multiple pathways exist for successful charter schools — at least in one urban education experiment — is grounds for hope for charters and other educational experiments,” she says.

“Coming from a business school, I have an appreciation for what companies are good at doing, and that is different from what government is good at doing and what nonprofits are good at doing,” she says. “No one sector can do everything. There has to be collaboration.”

Beckman’s research not only spans multiple disciplines but it also covers the impact of a diverse range of organizational influences — from client/vendor relationships on gender inequality at law firms to the role of socially derived performance targets on German soccer clubs.

Of her reasons for joining USC Price, she says: “I was intrigued by the interdisciplinary nature of so many different experts coming together to think about and address important social problems.”

## What explains the effectiveness of social impact bonds?



*Gary Painter*

Director of the USC Sol Price Center for Social Innovation and Price School Professor Gary Painter co-authored *Payment by Results and Social Impact Bonds: Outcome-based payment systems in the U.K. and U.S.*, published in May 2018. The book is the first in-depth analysis of “payment for success” models to provide a comprehensive treatment of the U.S. experience. It also situates the phenomenon of social impact bonds in the theoretical constructs of new public management.

Payment for success is an approach to contracting that ties payment for service delivery to the achievement of measurable outcomes. Private investors provide upfront financing for a social service and are repaid with a return on investment by a back-end payer (usually the government) only if agreed-upon outcomes are delivered as determined by an independent evaluator. It can be a way for governments to scale up effective programs and interventions, as well as test innovative models of service delivery.

“They are an interesting tool,” Painter says of social impact bonds. “When people first hear about them, they get excited because they think it’s almost like free money for the government, because you only pay if something’s successful. You just need to get investors to put up the upfront money. This will potentially support all sorts of new services that may not have been funded otherwise.”

The idea for the book originated from a panel discussion on social impact bonds at the 2016 Activating Markets for Social Change conference at USC at which Painter and one of his U.K. co-authors met and discussed collaborating to address the lack of academic literature on the topic.

“One of the things we try to do in the book is figure how this fits into the overall evolution of public management, risk management and the emerging field of social innovation,” Painter explains.

The book covers the first 32 social impact bonds created in the U.K. since 2010 and the first 20 done in the U.S. since 2012.

### PIONEERING MASTER IN PUBLIC POLICY DATA SCIENCE

**Data and data science are revolutionizing how citizens, organizations and nations make critical decisions. USC Price partnered with the USC Viterbi School of Engineering to create a pioneering Master in Public Policy Data Science, designed to produce leaders adept at operating at the nexus of policy and information.**

**The program, which starts in fall 2019, will build unique proficiencies and the necessary expertise for utilizing big data and analytics to:**

- Increase transparency and accountability
- Improve the efficiency and quality of services
- Enhance security and address matters of defense and intelligence
- Oversee emergency management
- Influence policy and the policymaking process

**The master’s degree will culminate in a capstone course, in which students work with a real-world client on a big-data project in such areas as local governance, security or smart cities/sustainable transportation.**

**Price School Professor Richard Green, chair of the Department of Policy Analysis and Real Estate, oversees the program, which builds upon work he did during his appointment in the Obama administration as senior advisor for the U.S. Department of Housing and Urban Development (HUD). A major component of his job there was to present then-HUD Secretary Julian Castro with his inferences from big data to foster the best policy decisions.**



**USC Sol Price Center for Social Innovation**

- Tomás Rivera Policy Institute
- Homelessness Policy Research Institute

**Population Dynamics Research Group**

**Spatial Analysis Lab**

### IMPACT

The new Homelessness Policy Research Institute brings together more than 30 policymakers and researchers to design and coordinate actionable research to end homelessness in Los Angeles County. Its summit on Innovations in Urban Housing explored new models to increase the affordable housing stock, workforce housing and housing for individuals experiencing homelessness.

**AFFORDABLE HOUSING**



Richard Green

Housing is becoming increasingly unaffordable for low- and middle-income families in almost every U.S. metropolitan area. Price School Professor and Director and Chair of the USC Lusk Center for Real Estate Richard Green examines the causes of the growing crisis with the goal of helping policymakers and housing developers work toward solutions.

The reasons for spiraling rents extend beyond housing: Labor markets play an important role as well. As more college graduates move to a city, wages tend to increase for all levels of workers. The bad news, according to Green’s research, is that housing costs also escalate. “If you’re a college-educated person yourself, wages go up to cover increased housing costs,” Green notes. “But, if you’re at a lower level of education, housing costs rise faster than income, and the lower the education the bigger that gap is.”

The study is the first to account for previously unobserved household characteristics for each educational attainment group. “Thirty years ago, U.S. cities seemed to be converging, becoming more alike economically,” Green explains. “Now they are diverging, becoming less alike economically, and the driver is that high-skilled cities are drawing high-skilled people from low-skilled cities.”

As cities continue evolving, lower-wage workers may be driven from them entirely, Green says. “Cities risk becoming more homogeneous, less interesting — and less functional.”

## How does migration to big cities impact workers?



Jorge De la Roca

With data that follow individuals throughout their work lives, Price School Assistant Professor Jorge De la Roca examines the contribution of migration to the sorting of more productive workers into big cities. His findings, published in the *Journal of Urban Economics*, demonstrate that people in larger cities tend to exhibit higher levels of education, occupational skills and individual productivity than those in smaller locales. However, that still leaves the question of whether cities make people more productive or is it simply that those drawn to the metropolitan life exhibit different qualities?

“To answer this, you need to see the same person in different cities and examine whether migrants to big cities are more skilled than non-migrants prior to the migration event,” De la Roca says. “And that requires a lot of data.” Fortunately, although the necessary data sets are hard to come by in the U.S., European nations are more diligent in tracking information from when employees first enter the marketplace to their retirement.

Studying such data from Spain, De la Roca uncovered a “dynamic earnings premium” for workers moving to big cities. Not only did they get an initial boost in earnings, but they also benefited more over the long term, accumulating more valuable experience than those of similar backgrounds and skills who remained in smaller cities. Workers also retain this premium when relocating to smaller areas.

### INITIAL VS. RETURN MIGRATION

However, not everyone benefits equally from big cities, with some 30 percent moving again within five years — most often returning to their city of origin. Compared with permanent migrants, returnees are less productive and less likely to have boosted their income because of their move. Low earnings and episodes of unemployment are the most frequent reasons younger workers move back. De la Roca’s research suggests that big cities pose less uncertainty for older migrants — whose reason for return more frequently is due to a longer-standing affinity with their initial city.

### IMPACT OF SELF-CONFIDENCE

In another study, De la Roca found that, while higher-ability workers benefit more from bigger cities, the odds of them moving to a big city are not as high as one would expect. Flawed self-assessment is partly to blame, he notes, with levels of self-confidence playing an outsized role in the initial decision of where to live.

“Some overconfident young workers start their career in a big city, while they would have chosen a small one had they correctly self-assessed their actual ability,” he says. “That initial misjudged decision then becomes self-validating: Having already incurred a cost to gain much more valuable experience, they find that they can fully exploit this only by remaining in the big city also when older.”

On the other hand, some underconfident young workers end up spending their whole lives in a small city, even though their talent should have made them self-select into a big city instead. “For more experienced workers, ability plays a stronger role in determining location choices, but the lasting impact of earlier choices dampens their incentives to move,” he notes.

The honors De la Roca has garnered for his work include the 2018 August Lösch Prize, which recognizes outstanding academic research in regional science and is named for one of the field’s pioneers.

*“Just about every one of our faculty has had research cited by policymakers, advocates and industry leaders at all levels — local, state and federal.”*

### Raphael Bostic

CEO, Federal Reserve Bank of Atlanta  
Former USC Price Professor

De la Roca is currently expanding his research by studying the mechanisms that may explain the dynamic earnings premium of big cities.

“USC Price has a strong concentration of urban economists interested in spatial issues relating to housing, transportation, immigration and more,” he says. “Having such expertise in the same school with planning faculty makes for a dynamic and unique combination.”

### CRITICAL ISSUE

In 2000, more than 90 percent of American cities were affordable to medium-income renters. In 2016, that share dropped to one-third.



- USC Lusk Center for Real Estate
- Center for Economic Development
- METRANS Transportation Center
- USC Sol Price Center for Social Innovation

### INFLUENCING HOW CITIES ARE STRUCTURED



Genevieve Giuliano

Celebrating its 20<sup>th</sup> anniversary this year, the METRANS Transportation Center has a long tradition of conducting path-breaking research to help improve transportation systems. Its director, Genevieve Giuliano — the Margaret and John Ferraro Chair in Effective Local Government at USC Price — received the 2017 Walter Isard Award for Scholarly Achievement from the North American Regional Science Council. The honor recognized her distinguished record of scholarship on how transportation influences the way cities are structured or organized. METRANS also leads the Pacific Southwest Region University Transportation Center, with a \$12.5 million grant from the U.S. Department of Transportation.

### SCOOTERS, TRANSIT AND JOBS



Marlon Boarnet

Electric scooters and dockless bicycles now pervade cities across the U.S. While some consider these devices to be toys at best and hazards at worst, the research of Price School Professor Marlon Boarnet, chair of the USC Price Department of Urban Planning and Spatial Analysis, suggests they may be harbingers of new modes of light-duty, sustainable mobility that prove central to the future of transportation.

“Half of all trips in the U.S. are less than two miles,” Boarnet notes. “While, historically, the automobile has been more convenient, it also consumes far more energy than necessary in traveling short distances.”

Such technologies as scooters can also close the distance gap for low-wage workers and job seekers, according to Boarnet. He and colleagues found that commuters by car in San Diego’s low-income neighborhoods have about 30 times greater access to employment than those taking public transit. Scooters and bikes can help close the gap of “first- and last-mile access” to employment as effectively as increasing transit supply by 50 percent systemwide, but at a much lower cost.

“If cities can get intelligent about how to work with the companies behind these devices, we may be on the verge of something quite helpful,” Boarnet says. He notes that scooters are likely the most recent of several light-duty, electric mobility devices that have the potential to replace short car trips. Cities have for years encouraged bicycle sharing and (sometimes) light-duty electric vehicles. He believes the future will possibly see three-wheeled or other devices for riders who are older and less physically able.

PRODUCTIVE HEALTH



Alice Chen

Price School Assistant Professor Alice Chen evaluates the relationships between health care and labor markets.

For example, in addition to the personal toll, poor health can also negatively affect the U.S. economy due to lost work hours. Yet Chen ranks among the few investigators who have considered the effects on labor productivity when calculating the costs and benefits of innovative treatments.

A new study systematically analyzes the relationship between novel drug treatments and labor productivity across several disease groups. Chen and Schaeffer Center Director, Schaeffer Director's Chair and USC Distinguished Professor Dana Goldman examined more than 5,000 clinical trials that occurred over a 15-year period, finding that only 2 percent evaluated the treatments' effects on productivity. Of the studies with data, they found the largest gains were among infectious diseases (average 42.6 percent gain) and skin diseases (average 82.4 percent gain).

The researchers estimate that drug innovation increased productivity by 4.8 million workdays and \$21 billion in wages per year. These results suggest that labor-sector benefits should be taken into account when assessing the socially optimal cost for new drug innovation.

## How can opioid abuse be reduced by changing physician behavior?



Jason Doctor

Our nation's epidemic of opioid addiction claims more than 115 lives every day. Price School Associate Professor Jason Doctor employs theories of behavior economics — or “nudges” — to influence physician prescribing without impinging on their autonomy, and is leveraging his longstanding research to address opioid overprescribing.

Doctor — chair of the USC Price Department of Health Policy and Management — testified in March 2018 before the National Institutes of Health on the use of social and behavioral research to combat the opioid crisis, and in front of the National Academy of Sciences in June 2018 on utilizing such research to improve health among aging populations.

Doctor is one of 17 faculty members at the Price School and the USC Schaeffer Center for Health Policy & Economics who are at the forefront of addressing some of the nation's most pressing health care crises. His studies to curb inappropriate antibiotic prescriptions also have garnered significant attention: The Centers for Disease Control and Prevention lauds one strategy — posted pledges — as a best practice, and a growing number of state public health departments as well as the United Kingdom seek his advice on implementing these low-cost, high-impact interventions.

### OPIOID REDUCTION

A study led by Doctor published in the August 2018 issue of *Science* homed in on an important gap in the health care system: Many clinicians never learn of their patients' deaths from overdoses. The work demonstrates that clinicians are more careful in prescribing opioids if made aware of the risks firsthand.

Of 861 San Diego clinicians who prescribed opioids to patients who later fatally overdosed, the investigators randomly selected half to receive a notification from the county medical examiner. The letter offered a supportive tone and information about safe prescribing guidelines.

Within three months, opioid prescriptions from those receiving the letter decreased by nearly 10 percent compared to the group that did not. They also were 7 percent less likely to start a new patient on opioids or to prescribe higher doses.

This intervention is easily scalable nationwide as existing state and national resources already track overdose deaths associated with prescription and illicit drugs.

### NOVEL NUDGES

Doctor has led numerous studies aimed at identifying solutions for unnecessary antibiotics prescriptions — which waste resources and have fueled the rise of antibiotic-resistant “superbugs.” He and his colleagues have created three easily adopted “nudges” to reduce unnecessary prescriptions:

- **Posted pledges** — having physicians hang posters in their examination rooms that explain safe antibiotic use and a signed promise to adhere to prescription guidelines
- **Accountable justification** — programming a prompt when clinicians update a patient's electronic chart asking for justification for antibiotic prescriptions for acute respiratory infections

*“As our nation faces grave health and fiscal challenges, the USC Price faculty at the Schaeffer Center for Health Policy & Economics is leading rigorous and interdisciplinary investigations that are contributing significantly to effective policy solutions.”*

### Leonard D. Schaeffer

*Founding Chair and CEO, WellPoint (now Anthem)*

*Judge Robert Maclay Widney Chair and Professor, USC*

- **Peer Comparison** — periodically emailing participating physicians with their inappropriate antibiotic prescription rates compared to those of top-performing doctors

Findings show that these measures make a difference — and can accomplish even greater results as more states and regions implement the strategies. Scaling the “posted pledges” nudge alone to reach the entire nation would lead to 2.6 million fewer unnecessary prescriptions — saving \$70.4 million.

### PROVEN RESULTS

A follow-up study in the *Journal of the American Medical Association* further demonstrated the effectiveness of these nudges. Researchers found that, 12 months after ending the peer comparison intervention, clinicians increased their antibiotic prescription rate from 4.8 to 6.3 percent. The rate also increased from 6.1 to 10.2 percent among clinicians who were no longer asked to justify their prescriptions.

These results underscore the need to adopt these interventions over the long term to ensure continued success.

Another study showed that simply regrouping how prescription options are displayed in treatment menus makes a difference. Physicians were roughly 12 percent less likely to order antibiotics unnecessarily if the options were grouped together rather than listed individually.

“Our studies suggest that simple and inexpensive tactics, grounded in scientific insights about human behavior, can be extremely effective in addressing public health problems,” Doctor says.

### IMPACT

500+

Media mentions of Doctor's opioid study

### RESEARCH CENTERS

- USC Schaeffer Center for Health Policy & Economics

### INCREASING ACCESS TO CURES FOR MORE HEP C PATIENTS



Dana Goldman Neeraj Sood

**When a cure for hepatitis C came on the market in 2014, its high price tag put widespread access beyond the reach of the vast majority of the nearly 4 million Americans with the disease. Today hepatitis C still kills more people nationwide than any other virus.**

**Putting the long-term importance of access into even starker terms, Price School Professor and Schaeffer Center Director Dana Goldman and colleagues showed that even treating just 5 percent of hepatitis C patients with the latest drugs would be more effective in saving lives and cutting costs than current approaches. This cost-benefit analysis was also the first to account for how the disease progresses and spreads.**

**Price School Professor and Vice Dean of Research Neeraj Sood was part of a National Academies of Science, Engineering and Medicine committee that developed a national strategy for eliminating hepatitis B and C as a public health problem. In subsequent research published by the *Annals of Internal Medicine* and Brookings Institution, he led research to identify a novel payment strategy to fund widespread use of the hep C cure. The model he devised would help states simultaneously reduce costs and expand access to hep C cures for vulnerable populations by leveraging competition among drug companies. Louisiana already plans to implement this innovative model for providing treatments to its Medicaid beneficiaries. If approved by the Centers for Medicaid and Medicare Services, other states are sure to follow.**

# Research Centers and Groups

## Scholarship that matters

The USC Sol Price School of Public Policy is renowned for both its capacity to apply expertise from multiple fields to a single issue and its depth of contributions from each field. Its research provides vital data to important academic disciplines and helps shape real-world solutions.

Central to the Price School's work are the scholarship and activities conducted through its research centers, institutes and initiatives listed here. For more information, please visit [priceschool.usc.edu/research](https://priceschool.usc.edu/research).

California Civic Engagement Project  
[ccep.usc.edu](https://ccep.usc.edu)

Center for Economic Development  
[ced.usc.edu](https://ced.usc.edu)

Population Dynamics Research Group  
[popdynamics.usc.edu](https://popdynamics.usc.edu)

Center on Philanthropy & Public Policy  
[cPPP.usc.edu](https://cPPP.usc.edu)

Center for Sustainable Cities  
[priceschool.usc.edu/csc](https://priceschool.usc.edu/csc)

Spatial Analysis Lab  
[slab.today](https://slab.today)

USC Center for Risk and Economic Analysis of Terrorism Events  
[create.usc.edu](https://create.usc.edu)

USC Schwarzenegger Institute for State and Global Policy  
[schwarzenegger.usc.edu](https://schwarzenegger.usc.edu)

# USC

# Price

METRANS Transportation Center  
[metrans.org](https://metrans.org)

USC Center for Sustainability Solutions  
[sustainabilitysolutions.usc.edu](https://sustainabilitysolutions.usc.edu)

USC Leonard D. Schaeffer Center for Health Policy & Economics  
[healthpolicy.usc.edu](https://healthpolicy.usc.edu)

USC Judith and John Bedrosian Center on Governance and the Public Enterprise  
[bedrosian.usc.edu](https://bedrosian.usc.edu)

The Neely Center for Ethical Leadership and Decision Making  
[decide.usc.edu](https://decide.usc.edu)

USC Lusk Center for Real Estate  
[lusk.usc.edu](https://lusk.usc.edu)

Safe Communities Institute  
[sci.usc.edu](https://sci.usc.edu)

<p>USC Sol Price Center for Social Innovation <a href="https://socialinnovation.usc.edu">socialinnovation.usc.edu</a></p>
<p>Tomás Rivera Policy Institute <a href="https://trpi.org">trpi.org</a></p>
<p>Homelessness Policy Research Institute <a href="https://socialinnovation.usc.edu/hpri">socialinnovation.usc.edu/hpri</a></p>

## Do fuel standards improve the environment?

### GREEN PARADOX



Ryan Merrill

The “green paradox” holds that increasingly strict restrictions can, over time, have the unintended consequence of accelerating fossil-fuel extraction as companies anticipate further government interventions for fighting climate change. Recent USC Price PhD alumnus Ryan Merrill confirmed this controversial hypothesis by examining the variation in oil revenues and oil reserves to estimate the impacts of such policy signaling on U.S. energy investments from 1991 to 2009.

“Policymakers should pay attention to [the green paradox] and call for urgent carbon taxes,” Merrill says. “Good carbon tax starts high and goes low over time. Don’t start at 25 and tell the market you’re going to go to 50. Start at 50 and tell the market you’re going to go to 25. That tells oil companies that there’s more profit in keeping oil in the ground and enjoying higher profits later.”

Merrill’s work won the prestigious William H. Newman Award from the Academy of Management.



Antonio Bento

Fuel-economy standards and anti-pollution policies rank among today’s most contentious political issues. As director of the USC Center for Sustainability Solutions, Price School Professor Antonio Bento is relied upon internationally for his leadership in providing evidence-based answers to urgent questions surrounding environmental and energy economics.

### EQUITY AND THE ENVIRONMENT

When concerns about the costs of carbon offsets hampered negotiations at the United Nations, Bento responded by measuring the expense, distributional effects and environmental impact of various policy options for mitigating greenhouse gas emissions. Citing the 1990 Clean Air Act, he found the benefits to be progressive: Households in the lowest quintile of income distribution received annual benefits more than twice as large as those in the highest quintile.

“We are now trying to measure the climate penalty in the local economy by understanding how future trends in climate may actually completely wipe out the benefit we have gotten by regulating local air pollution,” explains Bento, who is a frequent consultant for the World Bank and served as a contributing author to the Intergovernmental Panel on Climate Change and lead author to the International Panel on Social Progress.

### CAFE SAFETY

In response to arguments that Corporate Average Fuel Economy (CAFE) standards have led to more fatalities from automobile accidents because of vehicle weight changes, Bento and colleagues produced research demonstrating that the opposite was true.

They analyzed data from vehicles sold between 1954 and 2005 to note the weight changes after CAFE implementation in 1975. Then they examined police reports on 17 million auto accidents in 13 states from 1989 to 2005 to gauge the weight of vehicles involved in fatalities. They found that reductions in overall average weight may actually result in fewer deaths from crashes. For example, there is much less risk if lighter cars collide than if a heavier vehicle is involved. Thus, in addition to lowering pollution, CAFE standards ultimately help make the roads safer.

Bento’s paper was the first to empirically examine the distributional changes to vehicle weight resulting from CAFE. Based on the EPA’s estimate of compliance costs, the study suggested that CAFE earned its continuation based on the benefits of lives saved alone — before even factoring in the environmental advantages.

When the current presidential administration attempted to use this research to justify rolling back Obama-era efficiency standards, Bento was asked by numerous media outlets to share his expertise. In *The New York Times*, the *Washington Post* and other outlets, he noted that federal officials “cherry-picked” results that would support the conclusion they sought to reach, “deliberately scaling down benefits and inflating costs.”

### DIFFUSION OF HYBRID VEHICLES, CARPOOLS AND CONGESTION

Even with good intentions, not all methods of encouraging the purchase of low-emission vehicles yield positive results. Bento found that, when no price is placed on traffic congestion, allowing hybrid cars with only one occupant to use carpool lanes worsens traffic congestion. Examining California’s Clean Air Vehicle Stickers policy, he found that such policies generate nearly \$4,500 in costs per automobile annually for added pollution and lost time.

Bento suggested that instead of letting solo-driver hybrids into rush-hour carpool lanes, California should provide a tax credit for hybrid vehicles, or institute congestion pricing.

“We have to show leadership in protecting our environment so that we leave a future for our children and grandchildren. Scholarly research like that conducted at the USC Price School of Public Policy and at the USC Schwarzenegger Institute is a critical component of the process.”

### Arnold Schwarzenegger

Former California Governor

Governor Downey Professor of State and Global Policy, USC

### IMPACT

The USC Schwarzenegger Institute launched the *Digital Environmental Legislative Handbook* — a compilation of laws that protect the environment while supporting economic growth — in 2017 in collaboration with the National Caucus of Environmental Legislators. The resource provides state legislators a toolkit to easily replicate successful environmental legislation passed in different states across the country. To continue sharing best practices, new bills are added to the *Handbook* each month and legislators also have the option to submit their own model legislation.

### RESEARCH CENTERS

- USC Center for Sustainability Solutions
- Center for Sustainable Cities
- USC Schwarzenegger Institute for State and Global Policy

### INTERNATIONAL COLLABORATIONS AGAINST CLIMATE CHANGE



Daniel Mazmanian

Price School Professor Daniel A. Mazmanian formed a research consortium with the Hertie School of Governance in Berlin and Tsinghua University in Beijing to promote effective approaches to achieving global climate change policy by 2050.

China’s government also invited Mazmanian to serve on a task force helping guide policies toward greener, more sustainable energy usage. In addition, he worked on an Asian Development Bank project advising the Chinese government on enhancing the capacity of its environmental administrative system, drawing on approaches from the U.S., Germany, United Kingdom, South Korea, Australia and New Zealand.

Closer to home, Mazmanian focuses on California’s environmental and climate policies, and the state’s importance “as a first mover in developing strategies that improve our environment and often serve as a model for other states and nations.”

Exploring energy choices made at the household level, Mazmanian and colleagues study not just direct energy use but also that embedded in water use, food, transportation and related choices made by individuals and families.

### ENVIRONMENTAL INCENTIVES



Shui Yan Tang

The Chinese government has in recent years shown a greater commitment to improving its environment, but many challenges remain in ensuring corporate compliance of environmental regulations. Shui Yan Tang, Frances R. and John J. Duggan Professor in Public Administration, examined how internal motivations and external pressures affect corporate environmental management practices in southern China.

In research published in the *Policy Studies Journal*, he and his colleagues showed that successful promotion of environmental management depends on convincing business leaders that its practices can enhance their profits. Measures must be taken to make regulatory standards and enforcement less confusing in order to encourage better corporate practices.

ROLE OF OVERHEAD COSTS



Alexandra Graddy-Reed

Price School Assistant Professor Alexandra Graddy-Reed received the 2017 Dugan Research Award for Philanthropic Impact from the

Association for Research on Nonprofit Organizations and Voluntary Action and Charity Navigator to study the role of overhead costs in charitable giving. “The overhead ratio conversation has been a hot-button issue in nonprofits for a long time,” she says. “I’m looking forward to investigating whether overhead matters as much as we think it does.” She also plans to explore more meaningful measures of the impact and effectiveness of nonprofits.

IMPACT

The Center on Philanthropy & Public Policy’s early work on philanthropic-government partnerships contributed to the creation of the Office of Strategic Partnerships in Los Angeles. The Center continues to play a major role in the development of such offices at the local, state and federal levels and is working with the Council of Foundations to scale the effort nationally.

What role does philanthropy play in creating social impact?



James Ferris

For nearly 20 years, the Center on Philanthropy & Public Policy has made substantial contributions to the field of nonprofit management, philanthropy and social impact through its applied research on the intersection of philanthropy and government — including the policymaking process and philanthropic-government partnerships, place-based philanthropy, philanthropic leadership, and philanthropy and equity.

“Philanthropy and nonprofits are central to how we create change in society,” says Founding Director James Ferris, the Emery Evans Olson Chair in Nonprofit Entrepreneurship and Public Policy at USC Price. Using the example of marriage equality, he says: “It didn’t happen at the federal level. It happened because advocates put it on state ballots or put pressure on legislative bodies to do it. It’s not analysts and government officials who do it. The pressure comes from outside, and on occasion through partnerships. Philanthropy funds social movements and advocacy efforts, and works with nonprofits to create that social impact.”

DRAWING ON DETROIT

One of the most striking examples of philanthropic impact in recent years occurred in Detroit, which was hit hard by long-term decline and social unrest. In response to the city’s financial collapse, philanthropy stepped in to spur economic development and engage community voices in new ways, driving reconfiguration of traditional boundaries between the public, private and philanthropic sectors and catalyzed, through the Grand Bargain, the end to the city’s bankruptcy.

The Center partnered with the Kresge Foundation to chronicle the lessons learned from Detroit and its potential to drive a next-generation approach to philanthropy and public policy. A fundamental premise was that, while Detroit’s particular circumstances may have seemed unique, they differed only in degree from issues faced by other cities. Therefore, how problems were tackled in Detroit could inform a broader discussion of urban practice and policy across the country.

While philanthropy cannot be relied upon as the sole source of the solution, it can work outside of conventional practices, responding quickly while also taking the long view, Ferris and his colleagues found. Rather than merely compensating for public-sector shortfalls, philanthropy can directly negotiate and partner with city governments to accomplish urban revitalization.

“Philanthropy can play a catalytic role on really tough problems if it exerts bold leadership,” Ferris says. “They certainly did that in Detroit, placing big bets on the city’s long-term prospects.”

PRIORITIZING PLACE

The Center led a national inquiry about the current state of place-based initiatives, culminating in a yearlong inquiry into philanthropic and public-sector efforts that address geographically concentrated poverty. More than 200 policymakers, foundation executives and thought leaders from across the country came together to analyze these increasingly sophisticated efforts and provide crucial insights for anyone undertaking or contemplating a place-based initiative. The effort resulted in the monograph *Place-Based Initiatives in the Context of Public Policy and Markets: Moving to Higher Ground*.

As a result, the Department of Housing and Urban Development asked Ferris to write the forward for its publication *Scaling Solutions: A How-To Guide for Unleashing the Potential of Public-Philanthropic Partnerships Based on Lessons Learned from the Sustainable Communities Initiative*. The National Governors Association also highlighted the Center’s work in its policy brief *Promoting Place-Based Strategies to Address Poverty: Exploring the Governor’s Role*.

“The Weingart Foundation and our foundation colleagues support the Center on Philanthropy & Public Policy because of its exemplary work promoting more effective philanthropy, strengthening the nonprofit sector, furthering the conversation of leaders from across all sectors and undertaking essential research that advances community problem-solving.”

Fred Ali

President and CEO, Weingart Foundation

How can nonprofit networks increase their effectiveness?



Nicole Esparza

Solving complex societal problems cannot be accomplished by any one organization alone. Price School Associate Professor Nicole Esparza focuses much of her research on how networks of nonprofits work together to address such intractable issues. She is currently investigating nearly 250 Continuum of Care (CoC) programs in cities across the country that are funded by the U.S. Department of Housing and Urban Development (HUD) to alleviate homelessness.

While most previous studies have examined the effectiveness of organizations in isolation, Esparza’s work pioneers an approach to exploring how nonprofits interact within networks. Her research provides funders, agencies and policymakers with evidence-based ways to enhance collaboration and governance structures so that scarce resources can be allocated more effectively.

HUD’s mandate for the CoC programs was to produce new housing for those experiencing homelessness. Some met the challenge while others did not. “I’m looking at why some networks succeed and others do not, as well as the different ways these networks are configured and what would be the best way to configure them to solve the problem,” Esparza says. “Different structures have different outcomes for homeless individuals.”

In major cities, the most common structure is to have one large organization — a government entity or nonprofit — guiding the network. But such large, top-down configurations tend to prioritize incumbent organizations rather than new projects, Esparza explains.

In addition, while large organizations may be effective in housing people for the short term, because of their entrenched bureaucracies, they often lack the creativity needed for long-term solutions. On the other hand, “when smaller nonprofits take the lead, you end up seeing more innovative projects — especially when the lead organization isn’t getting a majority of the money,” she says. “Because they have less to lose, they’re more open to new ideas.”

For instance, some larger, long-established nonprofits may lead a system that’s historically been based on providing emergency shelter rather than long-term housing, so their focus is not naturally going to gravitate toward seeking new nonprofit housing developers.

“Other network configurations give every nonprofit in the group a voice, and that seems to make a difference in fostering more innovative projects and funding of new projects,” Esparza says. “My research really points to the fact that decentralized structures work the best in metropolitan areas.”



Center on Philanthropy & Public Policy

SPEND OR SAVE?

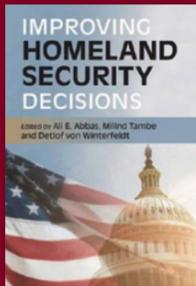


Nicolas Duquette

Even though the massively popular Ice Bucket Challenge in 2014 led to a donation deluge to fight the degenerative disorder amyotrophic lateral sclerosis (ALS), the ALS Association did not use that unexpected influx to fund a corresponding outpouring of research grants. While an extreme example, the challenge is not unique, Price School Assistant Professor Nicolas Duquette says. In an article in the *Chronicle of Philanthropy*, he explored how the volatility of revenue flows drives nonprofit decision-making — and what that reveals about nonprofit motivations to save and invest.

He found that nonprofits tend to save their donations, unlike revenue they receive from program activities or government grants — which mostly go toward greater spending on programs. Because donation revenues are less predictable than other revenues, nonprofits temper years of higher-than-anticipated giving by saving and investing. He also found this behavior in keeping with a preference to smooth unexpected revenue shocks into permanent changes in spending consistency.

IMPROVING HOMELAND SECURITY



What are the risks of terrorism and what are their consequences and economic impacts? Are we safer from terrorism today than before 9/11? Does the government spend our homeland security funds well? These questions motivated a 12-year research program of the National Center for Risk and Economic Analysis of Terrorism Events (CREATE) at USC, funded by the Department of Homeland Security.

The resulting book, *Improving Homeland Security Decisions*, showcases some of the most important results of this research and offers key insights on how to address the most vital security problems of our time. Written for homeland security researchers and practitioners, the work was co-edited by USC Price Professors Ali E. Abbas and Detlof von Winterfeldt. It covers a wide range of methodologies and real-world examples of how to reduce terrorism risks, increase the efficient use of homeland security resources and thereby make better decisions overall. Abbas is director of the Neely Center for Ethical Leadership and Decision Making and von Winterfeldt serves as director of CREATE.

## How do you estimate the economic consequences of terrorism, natural disasters and technological accidents?



Adam Rose

Fear has a cost, notes Adam Rose, USC Price research professor and faculty affiliate of the USC Center for Risk and Economic Analysis of Terrorism Events (CREATE). His work codifies the economic consequences of natural, manmade and technological threats so policymakers can allocate the necessary resources to reduce losses in times of mass tragedy.

When the Department of Homeland Security needed an accurate method of assessing the consequences of potential threats to the national economy and security in real time, officials contacted Rose and CREATE to devise a solution. He responded by spearheading development of the Economic Consequences Analysis Tool (E-CAT). This user-friendly software factors in the cumulative direct and indirect impacts — including resilience and behavioral factors such as fear — that such devastation wreaks on the U.S. economy.

The essence of E-CAT’s methodology involves running numerous simulations in a computable general equilibrium model for each threat, accounting for a comprehensive list of direct and indirect economic losses anticipated after an attack. Regression analysis is then applied to the results in relation to primary explanatory factors. This transforms the results of a complex model, which is beyond the reach of most users, into a readily comprehensible “reduced form” model. E-CAT enables users to select consequence categories to produce customized profiles of the economic consequences of numerous types of hypothetical risk events.

“The framework extends traditional hazard loss estimation in several ways,” he explains. “First, it incorporates post-disaster resilience, which is capable of significantly reducing business interruption losses. Second, it incorporates extreme behavioral responses, such as the fear of flying in the aftermath of 9/11, or the potential increase in wage demands and investor rates of return at the site of a dirty bomb attack. It also provides a fresh perspective on whether to consider mitigation and resilience expenditures as a cost or benefit to the economy.”

As part of this research, Rose and his collaborators conducted five surveys with a nationwide panel of 335 study participants, who were asked about their perceptions of terrorism risk, how they would respond emotionally to the attacks, their confidence in the government to handle the threat of terrorism, and their travel decisions. The vast majority of the impacts would come from the public’s fear of flying and the effects on the supply chain, the investigators found.

Rose recently published *Economic Consequence Analysis of Disasters: The E-CAT Software Tool and Defining and Measuring Economic Resilience from a Societal, Environmental and Security Perspective*. Both works are the culmination of 10 years of research with CREATE and tackle diverse topics.

*“Academic institutions are well-equipped to research and provide solutions to some of the most pressing issues we face today. The institution’s engagement in research in this area can provide a wealth of information that can be used by security professionals worldwide.”*

### Congressman Mike Thompson (California’s 5th District)

*Chair, House Gun Violence Prevention Task Force*

## How can building design reduce the impact of active shooting incidents?



Erroll Southers

In the wake of a rapid rise in mass school shootings, students and educators across the U.S. seek tools and policies that will better shield children from harm. As director of the Safe Communities Institute, Price Professor of Practice Erroll Southers brings his experience as a former FBI special agent as well as expertise on terrorism, extremism and school violence to enhancing protective measures across the country and around the world.

Southers is co-principal investigator on a project examining how factors such as building design, occupancy and demographics, and individuals’ familiarity with the involved setting affect their responses to active shooters. The research explores these and other crucial aspects by conducting human-subject experiments within immersive virtual environments.

With a major grant from the National Science Foundation’s Division of Civil, Mechanical and Manufacturing Innovation, the project models the built environment in virtual reality, simulating attackers’ behavior as well as the crowds under assault. Researchers then measure participants’ responses in realistic ways that would be impossible outside of a controlled environment.

Insights garnered through the project are expected to improve preparedness and response, saving lives by reducing the panic and confusion that naturally result from senseless attacks. The simulations also compare buildings with security enhancement to those with standard designs, employing different versions for offices and schools.

The range of simulations is important because each setting and situation have unique elements. “There is a no template for school security,” Southers told *U.S. News & World Report*. “Every school has its own vulnerabilities, it has its own assets and it has its own cultures.”

Speaking on Capitol Hill before the Congressional School Safety Caucus, Southers suggested that, because of the impossibility of one-size-fits-all countermeasures, every school in the nation should conduct an independent vulnerability assessment. “The relationships with your school, your students, your faculty and your community are really what are going to make it safe,” Southers told lawmakers.

In his seminal book *Homegrown Violent Extremism*, Southers also emphasized community-based approaches to preventing violence. Southers promotes a “Mosaic of Engagement” of citizens coming together to identify dangers, build communication and address local concerns in establishing social infrastructures to counter violence and extremism.

Southers also urges that radicalization be treated as a public health issue. When USC Price signed a memorandum of understanding with the Université Paris II Panthéon-Assas to collaborate on homegrown violent extremism studies, Southers pointed to the French as a model for addressing the issue. “It wasn’t until I was invited to France that I witnessed health practitioners being given an equal place at the table with counter-intelligence and military operators,” he says.

### CRITICAL ISSUE

Business interruption losses from terrorism and natural disasters are on the rise; 9/11 and Hurricane Katrina were the first U.S. disasters with business interruption losses exceeding

**\$100 billion.**

### RESEARCH CENTERS

- USC Center for Risk and Economic Analysis of Terrorism Events
- Safe Communities Institute

**PENSION REFORM  
IN MEXICO**



Emma Aguila

Mexico and nearly 40 other nations have introduced non-contributory pensions to ease poverty among the elderly, but they often disburse funds bimonthly with the aim of increasing cost-effectiveness. However, research by Price School Assistant Professor Emma Aguila shows that monthly disbursements provide greater social benefits.

Leading a randomized control trial in Yucatán, Mexico, Aguila found that the elderly pension recipients have difficulty rationing their food consumption and health care usage when a longer time exists between pay cycles. Her investigations demonstrated that providing subsidies more frequently improved health and alleviated poverty and hunger — without increasing the amounts disbursed.

“When a larger chunk is disbursed every two months, we find they spend the money the first few weeks,” Aguila said in a presentation on pensions at the Organisation for Economic Co-operation and Development (OECD) in Paris.

Aguila also found that pension fund managers were charging an increased management fee that had a negative impact on savings. Her research prompted major media coverage that led the Mexican congress and social security administration to reform the system and limit the fees pension managers could charge. She is continuing her investigations to determine if additional new policies are needed to bolster retirement savings.

## Will India’s experiment in universal health care improve health outcomes?



Neeraj Sood

High medical costs invariably put lifesaving technologies needed for treating catastrophic conditions out of reach for the poor and the uninsured. When India launched its National Health Protection Scheme (NHPS) to increase access to costly but efficacious treatment for millions of underserved, Price School Professor Neeraj Sood’s research proved foundational to the initiative.

NHPS aims to provide free health insurance to nearly 40 percent of India’s population — some 500 million people. Those below the poverty line are no longer charged for advanced treatments that would have previously pushed them even deeper into debt, assuming they could muster the needed resources in the first place.

**SAVING LIVES AND IMPROVING FINANCIAL WELL-BEING**

According to Sood — vice dean for research at the Price School — the project is important because India has historically underinvested in the health of its population, leading to patient out-of-pocket costs as high as 70 percent. In addition, he notes, sufficient evidence exists “that if implemented well, insurance can save lives and improve financial well-being.”

Sood previously examined the Vajpayee Arogyashree Scheme (VAS), established in the state of Karnataka in 2010 to increase access to tertiary care for poor households. VAS substantially reduced the region’s mortality rate by increasing the use of care, including patients receiving earlier diagnoses. “Most of this reduction was due to fewer deaths from cancer and cardiac conditions, which account for the bulk of VAS claims,” Sood says. The ability to seek care earlier and at better hospitals also meant that patients usually had better post-operative outcomes.

In addition, VAS significantly eased families’ financial burden, and its social benefits were achieved at a reasonable cost to taxpayers. Sood concluded that costs can be controlled through both bundled payments, prior authorization and focusing on the conditions carrying the highest burden.

Based on these findings, he recommended that social insurance should be designed to increase access to and use of high-quality health facilities, while incorporating mechanisms to keep costs in check. He also noted the importance of patient outreach and making enrollment easy. India’s new NHPS implements several of his recommendations.

**NATIONAL ACADEMIES’ CONSENSUS REPORT**

Sood also served as expert health economist for a consensus report from the National Academies of Sciences, Engineering and Medicine calling attention to the poor quality of health care in low- and middle-income nations. He and his colleagues on the Committee on Improving the Quality of Health Care Globally found that between 5.7 million and 8.4 million people die each year from inadequate care in these countries — accounting for 10 to 15 percent of total fatalities overall. The report quickly became one of the National Academies’ most downloaded studies. In broad terms, its recommendations for improving care include: increasing accountability, leveraging universal coverage to improve quality, focusing on fragile states and informal care providers, combating corruption and harnessing the power of digital health.

**CRITICAL ISSUE**

Between 5.7 million and 8.4 million people die each year from inadequate care in low- and middle-income countries.

*Dubbed the “world’s biggest experiment in universal health care” by U.K.’s Independent, the National Health Protection Scheme, using research by Neeraj Sood, aims to provide free health insurance to nearly 40 percent of India’s population.*

**REVERSE MORTGAGES AND JAPANESE AGING**



Richard Green

**A rapidly aging population puts financial pressure on society — especially in a nation like Japan, with its high rates of longevity and low birth rates, and where savings have diminished. As in the U.S., Japanese elderly maintain much of their wealth in the form of home equity. However, Japan has a more fragile housing stock with a larger number of homes in need of renovations, according to research by Price School Professor Richard Green, director of the USC Lusk Center for Real Estate.**

**Reverse mortgages would seem like a feasible alternative to solve the issue of many elderly people being house rich, cash poor and unwilling to move, he says. Homeowners typically do not have to repay the loan as long as the home is their primary residence, and they pay property tax, insurance and maintenance. Although reverse mortgages have been around in the U.S. for more than 30 years, their track record has been sketchy.**

**Green and his collaborators recommend that, were Japan to implement a reverse mortgage program, it should learn from U.S. mistakes and design them as annuities rather than lump sums and attach variable rates to avoid government exposure to duration risk. Even though such a program would not eliminate the potential exposure to Japanese taxpayers, it would considerably mitigate any hazards, he says.**

## Future Elderly Model

Governments worldwide are grappling with aging populations, increasing prevalence of chronic medical conditions and rising socioeconomic inequality. These trends have important implications for health spending trajectories, pensions and other social programs.

Led by experts at the USC Schaeffer Center for Health Policy & Economics, global economists and researchers have collaborated to develop country-level economic-demographic models that predict health and economic outcomes and can be used to evaluate the consequences of these trends and simulate effects of proposed policy changes.

This work employs the pioneering Future Elderly Model (FEM), an economic-demographic micro-simulation developed over the last decade under the leadership of Schaeffer Center Director Dana Goldman, with funding from the Centers for Medicare & Medicaid Services, the National Institute on Aging, the Department of Labor and the MacArthur Foundation. FEM-based microsimulation models have expanded to 15 countries.

The Schaeffer Center is partnering with the Organisation for Economic Co-operation and Development (OECD) and University of Rome Tor Vergata to extend this work even further.

**GLOBAL ENGAGEMENT**



Erik Heikkila

Under the direction of Price School Professor Erik Heikkila, the USC Price Office of Global Engagement partners with more than 30 institutions around the globe, including numerous collaborations to solve real-world problems here and abroad. These efforts build on more than 60 years of innovative international research projects and long-term relationships with government, business and community leaders worldwide.

**RESEARCH CENTERS**

- USC Center for Risk and Economic Analysis of Terrorism Events
- USC Lusk Center for Real Estate
- USC Schaeffer Center for Health Policy & Economics
- USC Schwarzenegger Institute for State and Global Policy

**EITC EFFECT ON SINGLE MOTHERS**



Alexandra Graddy-Reed

The Earned Income Tax Credit (EITC) has lifted millions of workers out of poverty, proving especially beneficial for single mothers and children.

However, while considerable literature has been devoted to the EITC, research co-authored by Price School Assistant Professor Alexandra Graddy-Reed and published in the *National Tax Journal* was the first to show what happens when recipients lose the tax credit.

The study examined variation when households lose EITC eligibility due to children aging out of the program. This change offered a framework for assessing whether the tax credit's aim of increasing work incentives extends beyond the period when recipients qualify. Unlike most other research in this area, the investigators identified the treatment and control groups by educational attainment and marital status, rather than income. This enabled them to examine the program's impact on the often-overlooked population of mothers whose children are entering adulthood.

"We found that when you remove the employment incentive, some women leave the workforce. This is especially true of mothers who are unmarried and less-educated," says Graddy-Reed, whose research focuses on how organizational structures and financial strategies affect innovation.

While the study found that the EITC fails to provide an incentive to work for many women, it does result in a net increase in the labor force overall.

## How do tax incentives affect charitable contributions?



Nicolas Duquette

Nonprofit organizations provide many crucial services, and tax deductions that encourage private giving are vital to their provision. According to Price School Assistant Professor Nicolas Duquette's research, the current rush to cut taxes imperils the donation levels on which many nonprofits depend.

Using federal data from financial contributions to registered nonprofits, Duquette examined how taxpayers' charitable giving changed after the Tax Reform Act of 1986, which increased the cost of giving by dramatically lowering marginal tax rates. In a study published in the *Journal of Public Economics*, he found that raising the cost of philanthropy by just 1 percent dropped charitable donations by 4 percent — a result three times larger than suggested by previous literature.

Duquette also found that cultural institutions, arts organizations, colleges and universities could weather the declines more easily than hospitals, homeless shelters and cash-strapped nonprofits that aid the young, elderly, sick and vulnerable.

"If you want to know whether a new policy is going to allow charities to step in and do what the government otherwise might have done with those tax dollars, then you have to look at the charities, not just the donors, to get the full picture," he says.

He currently is evaluating the anticipated impact of the 2017 tax law, which is expected to change how charitable giving is incentivized thanks to a significant drop in the number of people who will itemize deductions — from about one-third to 10 percent — as well as those higher-wealth individuals who will benefit from a change in the alternative minimum tax.

"If you take the average change in incentives by dollar given instead of by average person, everything comes out in the wash because the people who give the most are actually getting a bigger subsidy, even while it's being taken away from all those people in the middle," Duquette explains. "What we can expect to happen is that people who give huge gifts will get even more bang for their buck while many others will lose the incentive to donate medium-sized or smaller gifts that make up the bulk of some nonprofits' income.

"We'll probably see pretty big changes in the nonprofit sector in the distribution of giving, even if total giving stays at about the same amount," he adds.

### INEQUALITY AND PHILANTHROPY

Prevailing beliefs suggest that the more people have, the more they give, which helps mitigate inequality. However, another study of Duquette's shows that when income inequality is high, giving as a share of income is relatively low. For example, the amount donated by people with \$1 billion will not proportionately increase if their fortune doubles to \$2 billion. On the other hand, when inequality is low, the rich give a higher share of their incomes.

"I think the biggest lesson is that there is a perennial idea in certain policy circles that philanthropy is going to fill the gap where the government is withdrawing or refusing to engage, and that's just false," Duquette says.

"To the extent that tax reformers care about using the code to increase charitable contributions, going after deductions for high-income households is probably the worst way to go about it," Duquette adds. Further, his research suggests that government policies may be needed to stem the rising tide of income inequality, because philanthropy on its own is insufficient to fill that gap.

*"As California's top banker and someone who oversees trillions of dollars in annual transactions, I have always looked to evidence-based research as a driving force in making public policy decisions affecting the state and the people of California. Public financing and budgeting are crucial components to running the world's fifth largest economy, which is why I am so glad the USC Price School has placed such an emphasis on instilling these lessons into the minds of some of California's brightest students."*

**John Chiang**

California State Treasurer

### IMPACT

Leading entities such as the World Bank, the International Monetary Fund, the Federal Reserve Board and international government agencies seek out Price School faculty expertise. Faculty research spans financial regulatory policy, public-sector pension reform, income-tax compliance and health care spending, as well as the cost of climate change mitigation and the impact of changing charitable tax deductions.

### RESEARCH CENTERS

- Center for Economic Development
- USC Lusk Center for Real Estate
- USC Schaeffer Center for Health Policy & Economics
- USC Schwarzenegger Institute for State and Global Policy

### RISE OF THE ASPIRATIONAL CLASS



Elizabeth Currid-Halkett

The *Economist* named Price School Professor Elizabeth Currid-Halkett's *The Sum of Small Things: A Theory of the Aspirational Class* one of the best books of 2017. The book examines the rise of the "aspirational class" — a highly educated group, defined by cultural capital rather than income bracket, who show their social position through "inconspicuous consumption" practices such as spending on education, eating free-range chickens and wearing organic cotton shirts. Through these consumption patterns, the aspirational class reproduces wealth and upward mobility, further widening the class divide. Her research has had an impact on how the World Economic Forum in Switzerland conceptualizes consumer behavior and the kind of data it collects. Currid-Halkett is the James Irvine Chair in Urban and Regional Planning at USC Price.

### TAX POLITICS AND THE VALUE OF SUBSIDIES



Almost every state has offered millions of dollars in tax incentives to Hollywood productions over the past two decades. However, Price School Associate Professor Michael Thom's research shows that such subsidies fail to deliver the long-term benefits promised by lobbyists, politicians and the industry itself.

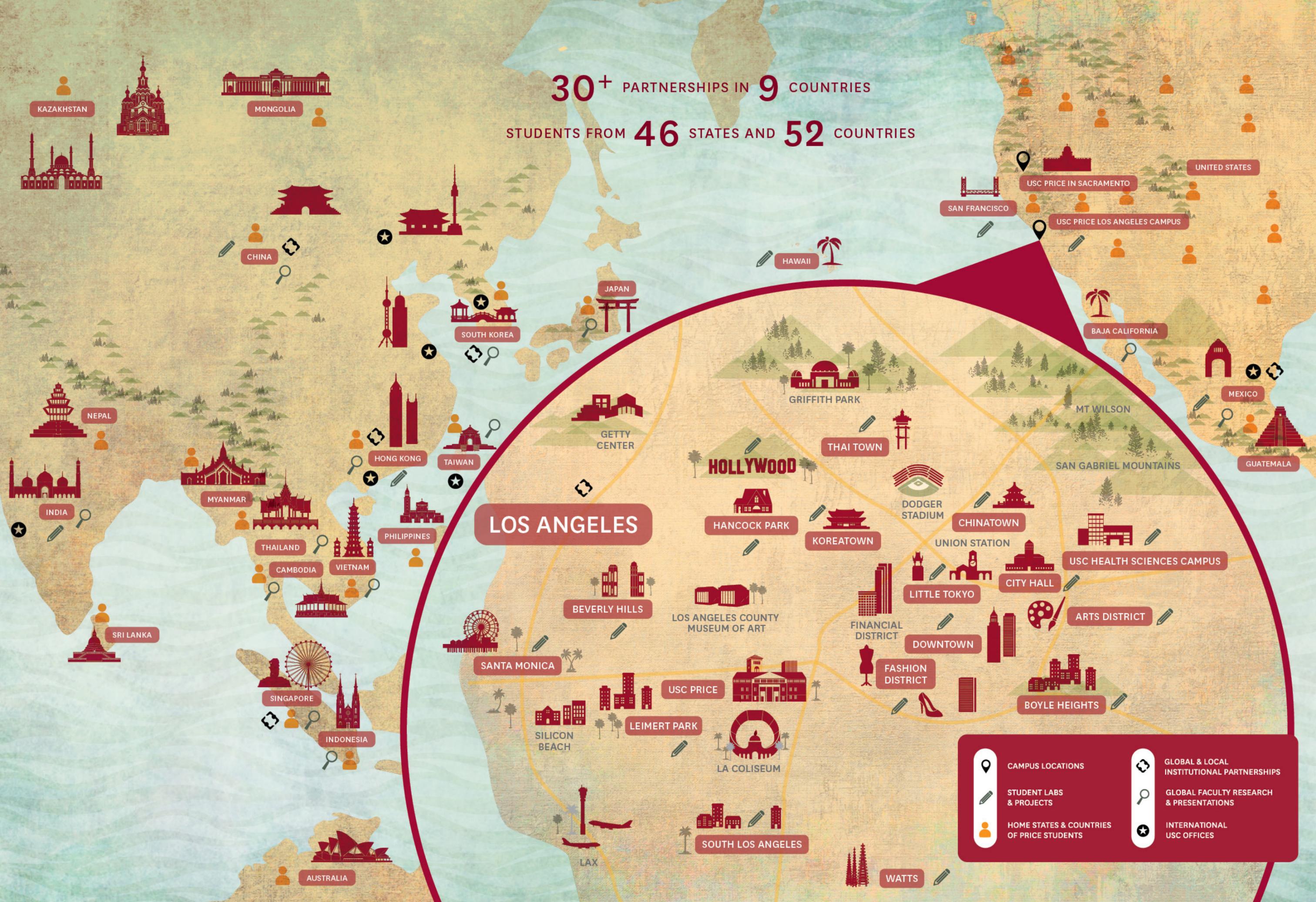
"On average, the only benefits were short-term wage gains, mostly to people who already work in the industry," Thom says. "Job growth was almost nonexistent. Market share and industry output didn't budge."

Another study he conducted assessed the factors that led states to enact — and some to repeal — their incentives. Thom and his co-author found that rising unemployment drove subsidy enactments, while job increases often drove their terminations. They also found that how much a state has spent on incentives has a "lock-in" effect. The more a state spends on incentives, the less likely it is to repeal them, even if they don't create jobs.

Thom's comprehensive book *Tax Politics and Policy* discusses how fundamental political differences contribute to sharp divisions over taxation, a problem made worse by interest groups. The book also chronicles the development of taxes on income, consumption and property and their broader impact on society. Thom's second book, *Taxing Sin*, which explores taxes on alcohol, tobacco, sugar, marijuana and other "sins" in more depth, will be published in 2019.

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*“Founded in 1929, as the second school of its kind in the nation, the Price School and its research were pivotal in providing the very foundation upon which the fields of public administration and public policy analysis were built. Today the school is equally pioneering in the breadth and depth of its research as well as its global reach and impact. It has brought together perspectives from many disciplines such as economics, political science and psychology to inform critical decisions in housing and real estate, health, transportation, security, sustainability, social justice and beyond.”*

— DEAN JACK H. KNOTT

USC Sol Price School of Public Policy

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To improve the quality of life for people and their communities, here and abroad.

USC Price School of Public Policy  
University of Southern California  
Los Angeles, CA 90089-0626

(213) 740-0350  
uscprice@usc.edu  
[priceschool.usc.edu](https://priceschool.usc.edu)

