# Economic Policy Challenges Facing California's Next Governor

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# Introduction

California is the world's fifth largest economy and is home to some of the world's most innovative organizations, workers, and entrepreneurs. But despite these successes, the California Dream is currently out of reach for many Californians. High housing costs, high energy costs, underperforming public schools, unreliable water supplies, high and rising health care costs, inadequate state capital investments, and large unfunded pension liabilities are negatively affecting the lives of all Californians.

Consider the following statistics:

- California ranks forty-ninth in the country in both housing affordability and new home construction. Only about 30 percent of households can afford the median-priced home while 25 percent of the country's homeless are in California.
- Over half of California renters pay rents that are considered to be unaffordable relative to their incomes.
- Nearly 40 percent of Californians live at or near poverty levels and nearly one third of the country's welfare recipients live in California.
- California has the country's sixth highest tax burden and ranks fortieth in inflation-adjusted after-tax income.
- California public K-12 schools rank forty-first in the country, despite substantially higher spending on schools.
- California's public infrastructure receives a grade of D-plus by the American Society of Civil Engineers, reflecting insufficient government capital investments.
- California has unreliable water supplies that severely affect the quality of life during drought periods and that raise business costs and introduce uncertainty in business planning.
- Average California residential electricity prices are among the highest in the country. They are roughly twice as high as those in Texas, which has more wind and solar generation capacity than California and which also has implemented vigorous competition in the retail electricity market.
- California's nearly 14 million Medi-Cal recipients would represent the nation's fifth largest state.

Significant economic policy reforms are required to improve these outcomes. This paper summarizes some of the most significant policy issues facing California's next governor and describes policy reforms to address these issues.

All of the policies described in this paper, which are based on standard, market-based economic principles, depart substantially from current California policies. Our research (and that of other economists) shows that these reforms would grow California's economy and improve living standards by significantly reducing the cost of living in California. The policy reforms are summarized below.

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- **Health Care Reform**. California households would save roughly $330 billion over the next ten years with policy reforms that increase access to high-deductible, low-premium health plans; significantly expand health savings accounts; increase the scope of activities performed by physician assistants and nurse practitioners; and limit medical expense tax deductions, among other reforms described in this paper. These reforms will lead to more cost-conscious consumers and providers, will not compromise the quality of care, and will also expand the supply of health care. Single-payer health care, which has been proposed in California, will require massive new taxes and likely lead to reduced availability and ultimately worse outcomes on almost all quality dimensions.

- **Housing Policy Reform**. The California economy would ultimately grow by an additional $800 billion annually if the severity of land-use regulations and restrictions were reduced to the levels prevailing in 2000. This includes regulatory reform that would substantially limit the ability to bring lawsuits that delay or prevent development and zoning reforms that would limit the ability of local interest groups and politicians to prevent development. Proposition 10, which would allow local governments to expand rent control, would likely make the housing crisis much worse by reducing the current supply of rental housing and by reducing construction of future rental housing.

- **K-12 Education Reform**. California would accumulate an additional $16.6 trillion of economic growth into the indefinite future with permanent reforms focused on teacher effectiveness and learning outcomes, including lengthening the probationary period before teachers receive tenure; requiring a higher level of student learning effectiveness for awarding teacher tenure; basing teacher layoff policies on teaching effectiveness, rather than on seniority; expanding charter schools to stimulate competition among schools; directing resources toward the best performing schools; and closing chronically poorly performing schools.

- **Water Policy Reform**. A well-functioning water market would completely eliminate water rationing and water shortages, even in drought years, by allowing the price of water to respond to changes in water supply and demand. Agricultural users with water rights should be legally able to sell their water. State and local government agencies should pay the market price for water, including for water used for environmental purposes. Valuing water at its true market price will substantially reduce inefficient water use and waste.

- **Pension Reform**. California has about $760 billion in unfunded pension liabilities—roughly $60,000 of unfunded obligations per California household—when valued using standard financial principles. Resolving this unsustainable debt requires transitioning state and local government employees from defined benefit pension plans to a defined contribution, 401(k)-type plan. The federal Thrift Savings Plan, which is used by federal government employees, is an excellent model for a defined contribution program for California government workers. In the absence of such reforms, California tax rates would need to rise to levels that would severely damage the California economy.

- **Electricity Policy Reform**. California electricity prices would fall substantially if policies expanded the footprint of California's wholesale electricity market to include more Western states and reformed the pricing of network services to reduce the large difference between wholesale and retail electricity prices. Reducing this retail-wholesale price differential would lead to much more efficient production of solar energy through solar farms, rather than residential solar generation, and this would also lead to more purchases of electric cars.

# Health Care Policy Reform

**by Scott W. Atlas**

America's health care is at or near the top of the list of issues that voters prioritize in most surveys. California voters are no exception, and with good reason. Following the passage and implementation of the Affordable Care Act (ACA, or Obamacare) and its new regulations and taxes, Americans saw massive increases in insurance premiums and a disappearance of insurance options across the country. In its first four years, ACA insurance premiums for individuals doubled and for families increased by 140 percent. This occurred even though insurance deductibles increased by over 30 percent for individuals and by over 97 percent for families, according to eHealth.[1] As time passed, insurance options and prices on ACA exchanges continued to worsen, according to the US Department of Health and Human Services (HHS).[2] For 2018, only one exchange insurer offered coverage in each of approximately one-half of US counties. Moreover, many exchange enrollees continue to face large year-on-year premium increases in 2018, according to a Kaiser Family Foundation analysis, even in the face of markedly higher deductibles.[3] And the spectrum of doctors and specialists accepting that insurance continues to sharply narrow, with far fewer specialists than outside ACA exchanges.[4] Now, almost 75 percent of plans are highly restrictive.[5] The ACA regulatory environment has also encouraged a record pace of consolidation across the health care sector, including mergers of doctor practices and hospitals.[6] This is bad for patients, because research has consistently shown that prices are lower when there are more competing hospitals for insurers to contract with.[7] The last period of hospital mergers increased medical care prices substantially, at times over 20 percent, according to a Robert Wood Johnson Foundation report.[8] Robinson and Miller reported that when hospitals owned doctor groups, per-patient expenditures were 10 to 20 percent higher, or an extra $1,200 to $1,700 per patient per year.[9] Capps found that physician prices increased on average by 14 percent for medical groups acquired by hospitals; specialist prices increased by 34 percent after joining a health system.[10] In the wake of the ACA, overall health-care expenditures continue to increase and choices narrow—for individuals and for employers, as well as for taxpayer-funded government programs.

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[1] "Average Individual Health Insurance Premiums Increased 99% Since 2013, the Year Before Obamacare, & Family Premiums Increased 140%, According to eHealth.com Shopping Data," eHealth, news release, January 23, 2017, accessed October 19, 2018, https://news.ehealthinsurance.com/news/average-individual-health-insurance-premiums-increased-99-since-2013-the-year-before-obamacare-family-premiums-increased-140-according-to-ehealth-com-shopping-data.

[2] "County by County Analysis of Plan Year 2018 Insurer Participation in Health Insurance Exchanges," Centers for Medicare & Medicaid Services, accessed October 19, 2018, https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Marketplaces/Downloads/2017-10-20-Issuer-County-Map.pdf.

[3] Ashley Semanskee, Gary Claxton, and Larry Levitt, "How Premiums Are Changing in 2018," November 29, 2017, Kaiser Family Foundation, accessed October 19, 2018, https://www.kff.org/health-reform/issue-brief/how-premiums-are-changing-in-2018.

[4] Chris Sloan and Elizabeth Carpenter, "Exchange Plans Include 34 Percent Fewer Providers than the Average for Commercial Plans,"Avelere, news release, July 15, 2015, accessed October 19, 2018, http://avalere.com/expertise/managed-care/insights/exchange-plans-include-34-percent-fewer-providers-than-the-average-for-comm.

[5] Caroline F. Pearson and Elizabeth Carpenter, "Plans with More Restrictive Networks Comprise 73% of Exchange Market," November 30, 2017, accessed October 19, 2018, http://avalere.com/expertise/managed-care/insights/plans-with-more-restrictive-networks-comprise-73-of-exchange-market.

[6] Leemore Dafny, "Hospital Industry Consolidation—Still More to Come?" New England Journal of Medicine 370 (January 16, 2014): 198–99, accessed October 19, 2018, doi:10.1056/NEJMp1313948.

[7] Martin Gaynor, Farzad Mostashari, Paul B. Ginsburg, "Making Health Care Markets Work: Competition Policy for Health Care," Journal of the American Medical Association 317 (April 4, 2017): 1313–14.

[8] Martin Gaynor and Robert J. Town,"The Impact of Hospital Consolidation," Robert Wood Johnson Foundation, June 1, 2012, accessed October 19, 2018, https://www.rwjf.org/en/library/research/2012/06/the-impact-of-hospital-consolidation.html.

[9] James C. Robinson and Kelly Miller, "Total Expenditures per Patient in Hospital-Owned and Physician-Owned Physician Organizations in California," Journal of the American Medical Association 312, no 16 (2014): 1663–69, accessed October 20, 2018, doi:10.1001/jama.2014.14072.

[10] Cory Capps, David Dranove, and Christopher Ody, "The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending," Institute for Policy Research, Northwestern University, Working Paper 15-02, February 2015.

Californians have also experienced substantial impacts from the ACA. Since the law's passage, the uninsured population has decreased in California to about 8 percent but California's reliance on government health programs has greatly increased. As of 2016, a full 27 percent of Californians were enrolled in Medi-Cal (California's Medicaid insurance), a 50 percent increase since 2008 and about 30 percent higher than the 2016 national state-by-state average, according to the Kaiser Family Foundation.[11] In fact, the vast majority of those newly insured are on Medicaid, not private insurance. Why is that a problem? First, regardless of labeling people as "insured," most doctors do not accept new Medicaid patients.[12] Less well known to the public is that about half of doctors who signed contracts to accept Medicaid patients in truth do not, according to the government's own HHS data.[13] That refusal to accept Medicaid is not difficult to understand, given that California Medi-Cal pays barely half of Medicare's rates—doctors and hospitals cannot provide care when they lose money per patient served. The second problem with shifting more patients to Medicaid is that Medicaid patients receiving care suffer worse health outcomes than similar patients on private insurance, likely due to Medicaid's stricter limits on covered diagnostics, drugs, and treatments. Third, there is a massive cost to taxpayers for expanding Medicaid, even though it is substandard in every meaningful way. Since ACA passage, California's Medicaid spending growth has more than doubled (11 percent growth during 2010–14, compared to 5.4 percent during FY 2007–10, according to the Kaiser Family Foundation), to become the state with the nation's highest annual growth of Medicaid spending.[14] A full 38 percent of California taxes are used to fund Medi-Cal.[15] This massive amount of taxpayer money was not necessarily spent appropriately, either, according to the Office of the Inspector General. Its report of February 2018 concluded, "California made Medicaid payments of $738.2 million ($628.8 million Federal share) on behalf of 366,078 ineligible beneficiaries and $416.5 million ($402.4 million Federal share) on behalf of 79,055 potentially ineligible beneficiaries."[16] Separately, hospital mergers have already been particularly harmful to California's health-care consumers. Melnick and Fonkych of the University of Southern California found that prices at hospitals in the largest systems exceeded prices at other California hospitals by almost $4,000 per patient admission. Prices grew at larger, multi-hospital systems over 50 percent more than at other hospitals.[17] Given the consolidation trend now seen under the ACA, this portends even higher future prices for Californians unless reforms are implemented.

**In response to the need for reforming health care, California voters have a choice between two fundamentally different pathways:** (1) *a single-payer, government-centralized system*, based on increasing government regulation and authority over health care and health insurance, all intended to broaden health-care availability to everyone while minimizing concern for price; or (2) *a competition-based, consumer-driven system*, based on removing regulations that shield patients from considering price, increasing competition among providers, and empowering patients with control of the money, all intended to reduce the costs of medical care and enhance its value, providing broader availability of higher quality care for everyone.

[11] "California: Health Coverage and Uninsured," Kaiser Family Foundation, accessed September 24, 2018, https://www.kff.org/state-category/health-coverage-uninsured/?state=CA; and Kaiser Family Foundation, "Facts on Health Reform," October 2009.
[12] "Physician Appointment Wait Times and Medicaid and Medicare Acceptance Rates, 2014 Annual Survey," Merritt Hawkins.
[13] Department of Health and Human Services, "Access to Care: Provider Availability in Medicaid Managed Care," Report OEI-02-13-00670, December 2014, accessed October 20, 2018, http://oig.hhs.gov/oei/reports/oei-02-13-00670.pdf.
[14] Kaiser Family Foundation, "California: Health Coverage and Uninsured."
[15] Louise Norris, "California and the ACA's Medicaid Expansion," Health Insurance & Health Reform Authority, January 21, 2017, accessed October 20, 2018, https://www.healthinsurance.org/california-medicaid.
[16] US Department of Health and Human Services, "California Made Medicaid Payments on Behalf of Newly Eligible Beneficiaries Who Did Not Meet Federal and State Requirements," Report A-09-16-02023, February 2018.
[17] Glenn A. Melnick and Katya Fonkych, "Hospital Prices Increase in California, Especially Among Hospitals in the Largest Multi-hospital Systems," *Inquiry: The Journal of Health Care Organization Provision and Financing 53* (June 2016): 1–7.

**How about single-payer health care for California?** The notion that single-payer health care represents an excellent idea for health system reform is mainly driven by the intuitive attractiveness of a simple concept: the government explicitly "guarantees" medical care. Indeed, many nations claim to "guarantee" health care; many further insist that such health care is provided "free of charge." For instance, England's National Health Service constitution explicitly states, "You have the right to receive NHS services free of charge," despite taxing citizens about £125 billion per year, equivalent to $160 billion per year. *Not surprisingly, independent estimates for single-payer health care proposed for California would cost about $400 billion per year, more than double the state's entire annual budget.*[18] *Massive new taxation would be required.*

**But the opposition to single-payer care should *not* be focused solely, or even predominantly, on cost and new taxes.** Advocates of single-payer health care outright ignore the well-documented half century of failures of single-payer health care to provide timely, quality medical care and they inexplicably ignore similar failures in our own single-payer Department of Veterans Affairs system. Single-payer health care has consistently been proven inferior to our US system. Moreover, those countries relying on single-payer health care now turn to private care to solve its failures. The truth is that single-payer systems, including in the United Kingdom, Canada, Sweden, and other European and Nordic countries, have used unconscionable wait lists for doctor appointments, diagnostic procedures, drugs, and surgery that are virtually never found in the United States, specifically as a means of rationing care for decades. And that failure to deliver medical care has serious consequences, including pain, suffering, and death; worse medical outcomes; permanent disability; lack of patient choices; and tremendous costs to individuals in forgone wages and to the overall economy.[19] The consistent failures of single-payer health care are well documented and include the following:

- *In those countries with the longest experience of single-payer health care, published data demonstrate massive waiting lists and unconscionable delays that are unheard of in the United States.* In England alone, a record-setting 4.2 million patients are on NHS waiting lists.[20] A total of 362,600 patients waited longer than four months for hospital treatment in March 2017, an increase of almost 64,000 over the previous year; 95,252 have been waiting more than six months for treatment; and more than 3,400 patients are waiting more than one full year as of July 2018. [21] And this was *after* already receiving initial diagnosis and referral. As of late 2016, the average waiting time exceeded one hundred days for hip or knee replacements, hernia repair, and tonsillectomies. In Canada's single-payer system, the 2017 median wait from a general practitioner appointment to a specialist appointment was 10.2 weeks.[22] When added to the median wait of 10.9 weeks from specialist to first treatment, the median wait after seeing a doctor to start treatment was twenty-one weeks, or about five months. For simply an appointment with a qualified specialist, a Canadian waits 13.4 weeks (three months) for an ophthalmologist; a Canadian waits to see a neurosurgeon for 22.1 weeks (five months); and a Canadian will endure bone and joint pain for 17.9 weeks (four months) while waiting to see an orthopedist.

[18] Angela Hart, "The Price Tag on Universal Health Care Is in, and it's Bigger than California's Budget," *Sacramento Bee*, May 23, 2017, accessed October 20, 2018, https://www.sacbee.com/news/politics-government/capitol-alert/article151960182.html.
[19] Bacchus Barua and Sazid Hasan, "The Private Cost of Public Queues for Medically Necessary Care, 2018," Fraser Institute, May 23, 2018, accessed October 20, 2018, https://www.fraserinstitute.org/studies/private-cost-of-public-queues-for-medically-necessary-care-2018.
[20] Siva Anandaciva, Joni Jabbal, David Maguire, and Deborah Ward, "How is the NHS Performing? June 2018 Quarterly Monitoring Report," The King's Fund, accessed October 20, 2018, https://www.kingsfund.org.uk/publications/how-nhs-performing-june-2018.
[21] NHS England, "Consultant-led Referral to Treatment Waiting Times Data 2018–2019," accessed October 20, 2018, https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2018-19.
[22] Bacchus Barua, "Waiting Your Turn: Wait Times for Health Care in Canada, 2017 Report," Fraser Institute, December 7, 2017, accessed October 20, 2018, https://www.fraserinstitute.org/studies/waiting-your-turn-wait-times-for-health-care-in-canada-2017.

These long waits are standard for single-payer systems, but they stand in stark contrast to US health care. In fact, US media outrage was widespread and cited as a wake-up call for whole-system reform when 2009 data showed that time-to-appointment for Americans averaged 20.5 *days* for five common specialties.[23] (Note that after the implementation of the ACA, wait times in 2017 increased by 30 percent since 2014.[24]) That selective reporting failed to note that those waits were for healthy check-ups in almost all cases, by definition the lowest medical priority. *Even for simple physical exams and purely elective, routine appointments, US wait times are far shorter than for seriously ill patients in countries with single-payer health care.*

- *In single-payer systems, patients are dying while waiting months after their doctors recommended urgent treatment*, including those referred for "urgent treatment" for cancer. More than 19 percent currently wait more than *two months* for their first urgent treatment in single-payer NHS England and recommended brain surgery.[25] (In England, 17 percent wait more than *four months)*. In Canada's single-payer system, the most recent data revealed a median wait for neurosurgery after already seeing the doctor of 32.9 weeks—about eight months.[14] Canadians diagnosed with heart disease waited a median time of 11.7 weeks for their first treatment. And in Canada, if you needed life-changing orthopedic surgery, like hip or knee replacement, you would wait a startling 41.7 weeks—longer than it takes from fertilization to a full-term human newborn.

- *Single-payer systems intentionally delay access to the newest drugs for cancer and serious diseases, sometimes for years, while Americans consistently enjoy the world's earliest access to them.* Before the ACA, the United States was by far the most frequent country where new cancer drugs were first launched—by a factor of at least four—compared to any country studied in the previous decade, including Germany, Japan, Switzerland, France, Canada, Italy, and the United Kingdom, according to the *Annals of Oncology*.[26] In a 2011 *Health Affairs* study, of thirty-five new cancer drugs submitted for approval from 2000–11, the US Food and Drug Administration (FDA) had approved thirty-two while the European Medicines Agency (EMA) approved only twenty-six.[27] Median time to approval in the United States was about half that in Europe. All twenty-three drugs approved by both were available to US patients first. Two-thirds of the novel drugs approved in 2015 (twenty-nine of forty-five, 64 percent) were approved in the United States before any other country.[28] Of all new, approved cancer drugs from 2009 to 2014, single-payer systems of the United Kingdom, Australia, France, and Canada had only approved 30 percent to 60 percent of those already approved in the United States by June 30, 2014.[29] And yet, only last year, single-payer NHS England introduced a new "budget impact test" to cap drug prices that is specifically designed to further restrict drug access, even though cancer patients could be forced to wait years more for life-saving drugs, dying as they wait for drugs already available in the United States.[30]

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[23] "2009 Survey of Physician Appointment Wait Times," Merritt Hawkins.
[24] "2017 Survey of Physician Appointment Wait Times," Merritt Hawkins, accessed October 20, 2018, https://www.merritthawkins.com/uploadedFiles/MerrittHawkins/Content/Pdf/mha2017waittimesurveyPDF.pdf.
[25] NHS England, "Cancer Waiting Times, 2018-2019 Q1," accessed October 20, 2018, https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times; NHS England, "Referral to Treatment (RTT) Waiting Times Statistics for Consultant-led Elective Care 2015/16 Annual Report," June 9, 2016, accessed October 20, 2018, https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2013/04/RTT-Annual-Report-2015-16-v3_final.pdf.
[26] Bengt Jönsson and Nils Wilking, "Market Uptake of New Oncology Drugs," *Annals of Oncology 18,* supplement 3 (April 2007): iii31–48.
[27] Samantha A. Roberts, Jeff D. Allen, and Ellen V. Sigal, "Despite Criticism of the FDA Review Process, New Cancer Drugs Reach Patients Sooner in the United States than in Europe," *Health Affairs* 30, no. 7 (July 2011), accessed October 20, 2018, https://doi.org/10.1377/hlthaff.2011.0231.
[28] US Food and Drug Administration, Center of Drug Evaluation and Research, "Novel Drugs 2015," Summary, January 2016.
[29] Yuting Zhang, Hana Hueser, and Immaculada Hernandez, "Comparing the Approval and Coverage Decisions of New Oncology Drugs in the United States and Other Selected Countries," *Journal of Managed Care & Specialty Pharmacy* 23, no. 2 (February 2017): 247-54.
[30] National Institute for Health and Care Excellence, "Changes to NICE Drug Appraisals: What You Need to Know," April 4, 2017, accessed October 20, 2018, https://www.nice.org.uk/news/feature/changes-to-nice-drug-appraisals-what-you-need-to-know.

- *Single-payer systems cannot even outperform the US system in something as scheduled and routine as cancer screening tests.* Confirming numerous prior studies by the Organisation for Economic Co-operation and Development, Howard reported in 2009, before ACA requirements, that the United States had superior screening rates to all ten European countries with nationalized systems (Austria, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden, and Switzerland) for all cancers.[31] Likewise, the single-payer system of Canada fails to deliver screening tests for the most common cancers as widely as in the US system, including Pap smears, colonoscopies, and PSA (prostate-specific antigen) tests.[32] And Americans are more likely to be screened younger for cancer than in Europe, when the expected benefit is greatest. Not surprisingly, US patients have less advanced disease at diagnosis than in Europe for almost all cancers.

**Single-payer systems in countries with decades of experience have proven to be inferior to the US system in virtually every important objective measure of access to care and quality.** And the consequences of delayed access to medications, diagnosis, and treatment in single-payer systems are significantly worse outcomes from virtually all serious diseases. According to the data—peer-reviewed publications in the world's leading medical and scientific journals—the United States system, not single-payer systems, has the best survivals from cancer and the best treatment outcomes for serious chronic diseases like diabetes, high blood pressure, stroke, and heart disease.[33] It has the broadest usage of screening tests for early cancer detection and the fastest access to new, life-saving drugs.[34] It has the best access to safer, more accurate diagnostic technology that forms the crux of modern care and the quickest access to life-changing surgeries like hip and knee replacements permitting pain-free mobility and vision-restoring cataract surgery and fastest access to specialty-trained doctors.[35] Also, the United States is the number one source of the world's leading health care innovations by virtually every known metric.

***Even more ironic is that today's single-payer systems have turned to private care to solve their failures.*** In one year alone, £901 million targeted for medical services by the UK government was used to buy care from private and other non-NHS providers, as reported by the *Financial Times*.[36] Sweden has increased its spending on private care by 50 percent over the past decade and has

[31] David H. Howard, Lisa C. Richardson, and Kenneth E. Thorpe, "Cancer Screening and Age in the United States and Europe," *Health Affairs* 28, no. 6 (November 2009), accessed October 20, 2018, https://doi.org/10.1377/hlthaff.28.6.1838.
[32] June E. O'Neill and Dave M. O'Neill, "Health Status, Health Care and Inequality: Canada vs. the U.S.," in *Frontiers in Health Policy Research*, vol. 10, ed. David M. Cutler, Alan Garber, and Dana P. Goldman (Berkeley Electronic Press, 2007).
[33] Arduino Verdecchia et al., "Recent Cancer Survival in Europe: A 2000–02 Period Analysis of EUROCARE-4 Data," *Lancet Oncology* 8, no. 9 (September 2007) 784–96; Emmanuela Gakidou et al., "Management of Diabetes and Associated Cardiovascular Risk Factors in Seven Countries: A Comparison of Data from National Health Examination Surveys," *Bulletin of the World Health Organization* 89, no. 3 (March 2011): 172-83; June E. O'Neill and Dave M. O'Neill, "Health Status, Health Care and Inequality: Canada vs. the U.S.," NBER Working Paper No. 13429, September 2007; Y. Richard Wang, G. Caleb Alexander, and Randall S. Stafford, "Outpatient Hypertension Treatment, Treatment Intensification, and Control in Western Europe and the United States," *Archives of Internal Medicine* 167, no. 2 (January 2007):141–47; Katharina Wolf-Maier, "Hypertension Treatment and Control in Five European Countries, Canada, and the United States," *Hypertension* 43, no. 1 (January 2004): 10; Padma Kaul et al., "Long-term Mortality of Patients with Acute Myocardial Infarction in the United States and Canada: Comparison of Patients Enrolled in Global Utilization of Streptokinase and T-PA for Occluded Coronary Arteries (GUSTO)-I," *Circulation* 110, no. 3 (September 28, 2004):1754–60; Kenneth E. Thorpe, David H. Howard, and Katya Galactionova, "Differences in Disease Prevalence as a Source of the U.S.-European Health Care Spending Gap," *Health Affairs* 26, no. 6 (November 2007): w678–86; O'Neill and O'Neill, "Health Status, Health Care and Inequality," NBER.
[34] O'Neill and O'Neill, "Health Status, Health Care and Inequality," Cutler, Garber, and Goldman; Melissa L. Martinson, Julien O. Teitler, and Nancy E. Reichman, "Health Across the Life Span in the United States and England," *American Journal of Epidemiology* 173, no. 8 (April 2011); FDA, "Novel Drugs"; Zhang, Hueser, and Hernandez, "Comparing the Approval and Coverage Decisions of New Oncology Drugs."
[35] Robert J. Blendon et al., "Confronting Competing Demands to Improve Quality: A Five-Country Hospital Survey," *Health Affairs* 23, no. 3 (May–June 2004):119–35; Robert J. Blendon et al., "Inequities in Health Care: A Five-country Survey," *Health Affairs* 21, no. 3 (May–June 2002): 182–91; Paul Lee, Richard L. Abbott, and William Rich III, "Patient Outcomes and Cataract Surgery Volume," *Ophthalmology* 114, no. 3 (March 2007):403–04; Hélène Boisjoly et al., "Reducing Wait Time for Cataract Surgery: Comparison of 2 Historical Cohorts of Patients in Montreal," *Canadian Journal of Ophthalmology* 45, no. 2 (April 2010):135–39; Stefania M. Mojon-Azzi and Daniel S. Mojon, "Waiting Times for Cataract Surgery in Ten European Countries: An Analysis Using Data from the SHARE Survey," *British Journal of Ophthalmology* 91, no. 3 (March 2007): 282–86.
[36] Sarah Neville. "NHS Funds Diverted to Private Sector," *Financial Times*, March 26, 2017.

abolished its government's monopoly over pharmacies.[37] Some countries with single-payer systems even divert taxpayer money to pay for care in other countries. Since 2007, patients using taxpayer-funded single-payer health care could choose a private hospital in Denmark or a hospital outside the country if the waiting time for the treatment exceeded one month. Notably, private insurance in the European Union has grown by more than 50 percent in the past decade, specifically to fill the "ever growing gaps in coverage left by public systems," according to the European Insurance and Reinsurance Federation.[38] And more than fifty thousand British citizens travel out of the country per year and spend £161 million out of pocket to receive medical care, even though they are already paying for their NHS insurance.

**Instead of following failed models of the past, California has an opportunity to lead the nation and innovate in health care reform.** Rather than expanding government programs, issuing false guarantees, and dramatically increasing taxes, reforms should focus on what truly is the essential policy goal: making excellent medical care broadly available and affordable. The direct pathway to broadening access to the excellence of American medical care rests on reducing the cost of medical care itself. This can be accomplished *without* restricting its use, i.e., avoiding the way that governments regulate costs in single-payer systems. Decreasing the cost of care to make it available to everyone requires creating conditions long proven to bring down prices while simultaneously improving quality: incentivizing empowered consumers to seek value, increasing the supply of medical care, and stimulating competition among providers.

- ***The first critical policy step is to instill far stronger incentives for patients to save money when considering health care and to equip consumers with the tools to do so.***

Could patients consider price when they need medical care? Among privately insured adults under age sixty-five, almost 60 percent of all health spending is for outpatient care.[39] Only 20 percent is spent on inpatient care, while emergency care represents only 6 percent of health spending.[40] Of the top 1 percent of spenders, the group responsible for more than one quarter of all health spending at an average of $100,000 per person per year, a full 45 percent of spending, is also outpatient.[41] Likewise, 60 percent of Medicaid money is spent for outpatient care.[42] Outpatient services dominate America's health spending and these are amenable to price-conscious purchasing.

To increase downward pressure on prices of medical care from patients, it is important to position more patients as direct payers for health care. This has already been proven by our experience with procedures paid directly by patients, like the early days of LASIK corrective vision surgery and head-to-toe CT screening. We also know value-seeking patients reduce prices by almost 20 percent for outpatient care, like MRI and outpatient surgery.[43]

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[37] "Sweden's Pharmacy Monopoly Finished," *The Local* (Sweden), July 1, 2009, accessed October 21, 2018, http://www.thelocal.se/20396/20090701/#.

[38] "Private Medical Insurance in the European Union," CEA Insurers of Europe, January 2011.

[39] "Healthcare Spending among Privately Insured Individuals under Age 65," IMS Institute for Healthcare Informatics, February 2012.

[40] Michael H. Lee, Jeremiah D. Schuur, and Brian J. Zink, "Owning the Cost of Emergency Medicine: Beyond 2%," *Annals of Emergency Medicine* 62, no. 5 (November 2013): 498.

[41] Ibid.

[42] Daryl Pritchard et al.,"What Contributes Most to High Health Care Costs? Health Care Spending in High Resource Patients," *Journal of Managed Care & Specialty Pharmacy* 22, no. 2 (February 2016):102–09

[43] Sze-jung Wu, Gosia Sylwestrzak, Christiane Shah, and Andrea DeVries, "Price Transparency for MRIs Increased Use of Less Costly Providers and Triggered Provider Competition," *Health Affairs* 33, no. 8 (August 2014): 1391–98, accessed October 21, 2018, http://content.healthaffairs.org/content/33/8/1391.abstract; James C. Robinson, Timothy Brown, and Christopher Whaley, "Reference-Based Benefit Design Changes Consumers' Choices And Employers' Payments For Ambulatory Surgery," *Health Affairs* 34, no. 3 (March 2015): 415–22, accessed October 21, 2018, http://content.healthaffairs.org/content/34/3/415.abstract.

*One key is permitting widely available, higher deductible insurance plans (HDHPs) with fewer coverage mandates and cheaper premiums.* Higher deductibles necessitate direct patient payment for care up to the deductible. Eliminating misguided ACA regulations would allow more flexible, cheaper insurance to be an option to all Californians, with premiums of one-third to one-fourth those of today's ACA-regulated plans, per eHealth data from Q4 2016.[44]

*A second highly effective tool to motivate patients to consider price is large, liberalized health savings accounts (HSAs).* Tax-sheltered HSAs typically pay for non-catastrophic expenses, the bulk of medical care. Better than tax deductions, HSAs incentivize saving. When people have savings to protect in HSAs, the cost of care comes down without harmful impacts on health.[45] The fundamental purpose of an HSA is *not* simply to provide a tax-sheltered benefit for individuals in order to cushion the blow of high health care expenses. HSAs reduce the price of care for everyone, including those who do not own HSAs.

Raising maximum contributions to at least match annual out-of-pocket limits for ACA marketplace plans (for 2018, $7,350 for individuals and $14,700 for families), allowing HSA payments for the holder's elderly parents, ending "use it or lose it" rules, and permitting rollovers to surviving family members would reward people to save and consider prices when contemplating medical care. Large HSAs, de-linked from specific insurance deductible requirements, should be available to everyone, including all seniors on Medicare, the biggest users of health care. Motivating seniors to seek value is crucial to driving prices lower for everyone else.

*Another essential component to harness the price-reducing power of consumers is that the visibility of prices to patients must be radically improved*. Evidence from MRI and outpatient surgery centers shows that price transparency encourages price comparisons by patients, which reduces prices for everyone, as cited earlier. The most flagrant situation is in prescription drugs, in which complex behind-the-scenes rebates of $179 billion to pharmacy benefit managers (PBMs) prevent any price consideration by patients.[46] Worse, many PBM contracts prohibit pharmacists from volunteering that a drug may be cheaper if purchased at the "cash price" with contractual "gag clauses," according to a 2016 survey.[47] Recent data show a scandalous fact: over 20 percent of copays exceeded actual total drug costs, with the PBMs pocketing the difference from naïve patients.[48] In a December 2017 *Consumer Reports* study, the thirty-day supply price of common generics showed a *ten-fold to seventeen-fold* variation per drug in the same city.[49] For the nearly forty million seniors taking five or more medications daily, the savings from comparison shopping could be many hundreds of dollars per month. Price transparency is essential to allow price comparisons by patients. Arrangements to hide prices must be outlawed. As in every other market, doctors and hospitals would post prices and qualifications once they are competing for price-conscious patients who control the money.

[44] James T. O'Connor, "Comprehensive Assessment of ACA Factors That Will Affect Individual Market Premiums in 2014," Milliman Reports, April 25, 2013, accessed October 21, 2018, http://www.iss4all.com/MillimanACAPremiumReport4252013.pdf.
[45] Amelia M. Haviland et al., "Do 'Consumer-Directed' Health Plans Bend the Cost Curve Over Time?" NBER Working Paper No. 21031, March 2015, accessed October 21, 2018, http://www.nber.org/papers/w21031; Amelia Haviland, Neeraj Sood, Roland McDevitt, and M. Susan Marquis, "The Effects of Consumer-directed Health Plans on Episodes of Health Care," *Forum for Health Economics and Policy* 14, no.2 (September 2011): 1-27, accessed October 21, 2018, http://www.rand.org/pubs/external_publications/EP201100208.html
[46] "Global Pharma and Biotech," Credit Suisse, April 18, 2017.
[47] "Pharmacists Survey: Prescription Drug Costs Skewed by Fees on Pharmacies, Patients," news release, National Community Pharmacists Association, June 28, 2016.
[48] Karen Van Nuys, Geoffrey Joyce, Rocio Ribero, and Dana P. Goldman, "Frequency and Magnitude of Co-payments Exceeding Prescription Drug Costs," *Journal of the American Medical Association* 319, no. 10 (March 2018):1045–47, accessed October 21, 2018, doi:10.1001/jama.2018.0102.
[49] Lisa L. Gill, "Shop Around for Lower Drug Prices," *Consumer Reports*, April 5, 2018, accessed October 21, 2018, https://www.consumerreports.org/drug-prices/shop-around-for-better-drug-prices.

- ***The second major policy step is to increase the supply of medical services to stimulate competition.***

In large part, this means removing archaic barriers to competition. We need to remove anticompetitive scope-of-practice limits on nurse practitioners and physician assistants. In a 2011 review, 88 percent of visits to retail clinics involved simple care.[50] Care was 30–40% cheaper than at physician offices and about 80 percent cheaper than at emergency departments.[51] And patients reported high levels of satisfaction.[52] Additionally, two-thirds of the 2025 projected shortage of 124,000 will be in specialists.[53] Yet medical schools have prevented any increase in graduation numbers for almost forty years and medical societies have maintained protectionist training program limits. These rigid limits restrict competition. Similarly, anti-consumer barriers to cross-state doctor licensing must be eliminated, especially as we enter the age of telemedicine, a clear opportunity for more efficient care at lower cost. California should lead in issuing reciprocal physician licenses.

- ***The third policy step is to introduce the right incentives into the tax code and eliminate the harmful, counterproductive incentives that have been perpetuated for decades.***

Today's unlimited income exclusion from taxes for employer-provided health benefits contributes to higher prices of care because it encourages higher demand for care, regardless of cost, while distorting insurance into covering almost all services. California's personal income tax exemptions for these totaled about $8 billion in 2017–18.[54] Likewise, ACA insurance subsidies or tax credits artificially prop up high insurance premiums for coverage that minimizes out-of-pocket payments. This is counterproductive—it prevents patients from caring about price and reduces incentives for providers to compete on price. Any new tax reform should cap health care deductions and limit those deductions or income exclusions to catastrophic premiums and HSA contributions, changes which would ultimately reduce health care prices.

- ***Fourth, California should reform Medicaid to eliminate today's separate, substandard system for the poor and create a bridge to the excellent medical care that the privately insured use.***

The ACA's misguided expansion of Medicaid continued the second-class health care system of the poor at a cost of $500 billion per year to taxpayers that will rises to $890 billion in 2024.[55] California should lead by transforming Medi-Cal into a program geared toward transitioning poor people to private coverage, with the same access to quality medical care that everyone else has. Several states have received special waivers to use current Medicaid funding toward this aim. Seema Verma, administrator of the Centers for Medicare and Medicaid Services, strongly supports this concept. California's new Medi-Cal should use current federal funds toward premiums on limited-mandate private insurance and liberalized HSAs for the poor. HSAs would provide new incentives for lower-income families to seek good health through wellness programs and healthy behavior in order to save and protect their new, growing financial assets. With these reforms, doctors and hospitals would receive payments from the same insurance as from non-Medicaid patients. The limited choice of doctors and the substandard treatment options would be eliminated.

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[50] J. Scott Ashwood et al., "Trends in Retail Clinic Use among the Commercially Insured," *American Journal of Managed Care* 17, no. 11 (November 2011): e443-48.
[51] Ateev Mehrotra, "The Costs and Quality of Care for Three Common Illnesses at Retail Clinics as Compared to Other Medical Settings," *Annals of Internal Medicine* 151, no. 5 (September 2009): 321–28.
[52] Robin M. Weinick et al., "Policy Implications of the Use of Retail Clinics," RAND Corporation, 2010, accessed October 21, 2018, https://www.rand.org/pubs/technical_reports/TR810.html.
[53] Michael J. Dill and Edward S. Salsberg, "The Complexities of Physician Supply and Demand: Projections through 2025," Association of American Medical Colleges, November 2008.
[54] Tax expenditure report 2017–18, California Department of Finance.
[55] Sean P. Keehan et al., "National Health Expenditure Projections, 2014–2024: Spending Growth Faster than Recent Trends," Health Affairs 34, no. 8 (August 2015): 1407–17, accessed October 21, 2018, http://content.healthaffairs.org/content/early/2015/07/15/hlthaff.2015.0600.

**US health care demands reform.** Health care costs are unsustainable and increasing. That high cost leaves some people, particularly the poor, isolated from the proven excellence of US medical care. Because much of health care is controlled at the state level, California has an opportunity to lead the way toward high-quality, more affordable care for all its citizens. Contrary to their false guarantees, government-centralized, single-payer systems hold down health care costs mainly by strictly limiting the use of medical care, drugs, and technology through their power over patients and doctors as the payer. By the data, single-payer health care has been proven, worldwide, to be far inferior to the US system, with severe costs far beyond requiring massive tax increases. And make no mistake about it: America's most vulnerable, the poor and the middle class, will undoubtedly suffer the most if the system turns to single-payer health care because they will be unable to circumvent that system.

California should consider a different approach: facilitating competition among providers of care for price-conscious consumers.[56] Broadly available options for cheaper, high-deductible coverage less burdened by regulations, markedly expanded HSAs, and targeted tax incentives to unleash consumer power are keys to injecting price sensitivity for health care. Coupling those with strategic increases in the supply of medical care would generate competition and reduce the price of health care, expanding access to quality care for everyone.

The value of these policy reforms for California is substantial. Taking all of these reforms together, I estimate that private health care costs would decline by about $2.75 trillion nationally over ten years and that government health care costs would decline by about $1.55 trillion nationally over ten years. With 12 percent of the country's population, this suggests private cost savings of about $330 billion in California over ten years and about $186 billion in state and local government savings over ten years.

[56] Scott W. Atlas, *Restoring Quality Health Care: A Six-Point Plan for Comprehensive Reform at Lower Cost* (Stanford, CA: Hoover Institution Press, 2016).

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# Housing Policy Reform

**by Jesús Fernández-Villaverde and Lee Ohanian**

California is ranked forty-ninth in housing affordability. According to Zillow, the median home value in California in July 2018 was $541,800, compared to the national median price of $218,000, which is a premium of about 150 percent over the national average. Only Hawaii and Washington, DC, have higher median home values than California.

Only about 30 percent of California households, including multi-earner households, are able to afford the state's median price home. Affordability is even worse in some of the state's highest income locations, such as San Francisco and Santa Clara County, where only about 15 percent of households can afford the median home. High home prices also raise rental housing prices. Over half of California renters have a rental payment that is considered to be unaffordable according to industry standard income ratios.

Increasingly restrictive zoning and other land-use regulations are the primary factor driving ever-higher California housing costs. California's housing price premium averaged only about 35 percent between 1940 and 1980, despite the enormous population growth that occurred in this period, when California grew from about seven million residents to about twenty-four million. The substantial rise in California home prices since 1980 coincides with more restrictive land use regulations, including tighter zoning regulations. Many studies present evidence that these regulations are substantially increasing housing costs. One study by economists Edward Glaeser, Joseph Gyourko, and Raven Saks (2005) concluded that restrictive zoning regulations increased housing prices in San Francisco and San José by about 50 percent. This premium is likely to be even higher today.

Other studies have reached similar conclusions: zoning slows down the construction of new housing units and makes it difficult to build public infrastructure.[57]

California land use regulations are reducing residential construction, which in turn increases housing costs, reduces living standards, imposes an unreasonable financial burden on many families in the state, and slows economic growth. A recent study by economists Kyle Herkenhoff, Lee Ohanian, and Edward Prescott (2018) estimates that shifting California land-use regulations back to 2000 levels would expand California's population and ultimately generate an additional $800 billion in California incomes and production.

The solution to California's housing affordability crisis is to create a regulatory framework that balances the interests of economic growth, housing affordability, and development sustainability with environmental protection, protecting California's rich historical heritage, and development planning that also addresses the challenges created by traffic congestion and expanding public utilities. More housing needs to be built, particularly multifamily housing units, and this can be done while respecting these other considerations.

A central step is to reform the California Environmental Quality Act (CEQA), which was signed into law by then governor Ronald Reagan in 1970. CEQA requires state and local officials to analyze and, when possible, mitigate the adverse environmental consequences of new development projects. More important, CEQA also allows for lawsuits brought by private parties.

[57] Brown Calder (2017) summarizes several of those studies and provides further references.

While CEQA has accomplished many worthwhile environmental goals, CEQA is also being used in ways that weren't intended. Specifically, CEQA litigation is being widely used by groups that want to delay or block development for a variety of reasons, many of which have little to do with environmental concerns. A detailed report by the law firm Holland & Knight in 2015 established that nearly half of CEQA litigation targets public projects unconnected with private business interests and that infill development projects (i.e., projects that redevelop already existing areas within cities and townships) account for 80 percent of challenged agency approvals of projects with a specific physical location.

Moreover, CEQA litigation is used by businesses that try to prevent competitors from entering their markets and by labor unions that want to strengthen their bargaining power against both public and private employers. All told, roughly half of CEQA lawsuits are decided in favor of the plaintiff, which further incentivizes those bringing CEQA-based lawsuits.

There are several simple and sensible reforms that would remedy some of the worst abuses of CEQA litigation. First, duplicative lawsuits should be prevented, particularly for projects that have already passed the CEQA review. Second, procedural reforms should ensure that delay tactics are not allowed.

Third, losing parties in CEQA legislation should pay for court costs and attorney's fees, as is the default rule in other civil cases. Exceptions to this rule could be permitted only in truly unusual circumstances. Judicial remedies, in particular for minor issues, should be limited to the fixing of such issues and not rescinding a public agency's project approval to force the repetition of the entire CEQA assessment.

Fourth, all parties in the litigation should be forced to comply with strict disclosure rules regarding their identities and interests. The disclosure rules would prevent the hidden nonenvironmental motives behind attractive, environmental-conscious names.

Fifth, historical preservation standards should be tightened to ensure that only truly significant buildings are preserved, not simply old buildings that do not have a significant historical or architectural interest.

The state of California should complement the reform of CEQA litigation by coordinating a new general framework for city and township zoning procedures that would limit the power of private interest groups and local politicians to limit new construction. This new general framework would favor multiuse buildings that include multifamily housing with other uses, including retrofitting existing buildings (such as strip malls) with preference given to locations near public transit. Government could help by coordinating the sales of properties or assisting the financing for acquiring and developing properties.

New zoning regulations can also favor economic development in areas that are very affordable, such as the Central Valley and other inland areas. For example, zoning could favor higher-density areas close to amenities such as a University of California campus, a California State University campus, or a community college campus. A large body of research demonstrates that areas close to higher education institutions benefit significantly from peer-to-peer effects and that high density increases such productivity. Economic development in depressed areas is not only a worthwhile goal in terms of equity within California but is also a sensible way to shift population away from high-cost-of-living areas. This would also reduce carbon emissions and other pollutants, since many California workers live far away from their work locations.

Other approaches to deal with California housing affordability include the possibility of expanding rent control. November's ballot includes Proposition 10, which would repeal the Costa-Hawkins legislation. Passed in 1995, Costa-Hawkins permits landlords to raise rents when a rental unit turns over to a new renter; it prevents rent control on buildings constructed after February 1995; and it prevents rent control on single-family homes and condominiums. Proposition 10 would eliminate Costa-Hawkins and allow cities and other local communities the ability to expand rent control.

Proposition 10 changes incentives in such a way as to exacerbate California's housing crisis, particularly for renters. While the renters who live in units that are newly controlled may benefit from lower rents, there will be some rental units that will be converted from rental property to owner-occupied housing. Moreover, the existence of increased rent control, or even the potential of future rent control, will depress the incentives to construct new rental housing. This will reduce the supply of rental units and thus widen the already large gap between supply and demand. Since property values reflect future explicit and implicit rental prices, increased rent control may also tend to reduce property values, which will reduce state property tax revenues, and which in turn will place additional pressure on the state budget.

Rent control does not productively address the fundamental factors that are causing the current imbalance between demand and supply. Rather, it represents a market distortion (a price control) that is intended to deal with another market distortion (zoning regulations). Proposition 10 may well increase the imbalance between supply and demand and it may increase homelessness. It will create a lottery in which there will be some fortunate renters who will pay lower future rents while many other unlucky renters will not be able to find housing. These views are consistent with the empirical study by Diamond, McQuade, and Qian (2007), who find that rent control in San Francisco decreased rental housing supply substantially between 1995 and 2012. This lower supply cost all renters $5 billion. This loss occurs despite the benefit to those renters who remain in their units and receive considerably lower rent because of controls.

The views expressed here regarding the impact of rent control on the housing market are also consistent with the empirical study by Gyourko and Linneman (1989), who find that rent control significantly depresses housing values and that in the absence of free market rentals, landlords may ration scarce rent-controlled units in such a way as to increase racial and other types of discrimination against minority renters.

It is important to note that increased California development would bring challenges associated with traffic congestion, which is already severe in many California cities. A potential solution is to combine congestion pricing of the use of streets and highways with enhanced public transportation. Stockholm, London, and Singapore, among other large cities, have introduced electronic congestion user-fees to prevent severe congestion of their roads and streets during peak times. Modern computer systems allow for sophisticated management of such systems to regulate traffic and collect fees during the day with a minimal impact on drivers. California could create an agency that would collect such congestion fees and use the revenue, net of operating costs, to invest in the construction and operation of public transportation systems. In such a way, roads would operate with lower levels of congestion, pollution would be reduced, and citizens would have access to fast, reliable, and economical public transit.

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# Education Reform

**by Eric Hanushek**

Performance of students in California has recently improved, but large numbers of students still remain poorly equipped to face a world of automation and economic change. Moreover, California's economic future is in jeopardy, especially if the high cost of living impedes the flow of skilled in-migrants to the state.

Cognitive skills of workers are closely related not only to their own labor market earnings but also to the economic health of the state. The strength of these relationships highlights the need for California to improve the quality of its schools.

## Economic Returns to Skills

For the last half century, there has been extensive research into the value of human capital, or the productive skills of individuals. Much of this research has used a simple and convenient measure of individual human capital: school attainment, or years of schooling completed. More recent research has, however, shifted the focus away from years of schooling and toward cognitive skills as measured by standard achievement tests. Two reasons lie behind the superiority of achievement measures. First, school is not the only place where skills are produced; families and other influences outside of school are known to be extremely important. Second, years of schooling ignores key differences in school quality. Test scores implicitly incorporate these two elements of human capital and—while less frequently available in past research—prove to be good measures of skill differences among workers.

Individuals with greater cognitive skills on average earn more throughout their careers. This economic advantage to skill is more important in the United States than in virtually all other countries.

In other words, workers in the United States get larger gains from having greater cognitive skills. But that also implies that American workers who lack sufficient cognitive skills get punished more than in other countries. This latter effect is particularly salient for California, where there is a large unskilled population.

High levels of cognitive skills also permit workers to adjust to changes in jobs and the workplace. Specifically, with the rapid increase in automation and the influx of robots, better educated people are able to move to the new jobs that are created along with automation.

Research has also shown that a state's long-run economic growth is highly dependent on the skills of its workforce. The research behind this finding is complicated because, while we have test scores for a state's students, we do not have test scores for all of the workers. Workers have been educated at varying times, in different states, and even in different countries. Once these factors have been taken into account, a clear relationship between work force skills and economic growth can be seen.

California has a reasonably good work force in terms of skills. This quality comes from the historic ability of California to attract highly skilled workers from other states and other countries. It may not continue to be the case, however, because of the high cost of living in California, including burdensome tax rates, and because of potential restrictions on immigration into the United States.

## Where California Students Stand

It is possible to compare the performance of California students to those in other states. The National Assessment of Educational Progress (NAEP) regularly tests student performance in math and reading. The most recent round of NAEP testing, conducted in 2017, provides a portrait of where California students stand.

Figure 1 graphs the average eighth-grade math performance of all of the states. California comes in forty-first. More stunning is the fact that the average eighth-grader in California would perform at the 30th percentile of eighth-graders in Massachusetts.

This performance does represent an improvement over the past. In 2013, for example, California students were just at the 25th percentile of eighth-graders in Massachusetts.

This test performance is of course not solely determined by schools. For a long time it has been recognized that families, neighborhoods, and peers have a strong influence on student achievement. The observed test scores represent the outcome of the combined influences of all of these factors.

The focus on schools in this discussion is not meant to imply that schools are completely responsible for the level of student achievement. Instead, this focus recognizes that policies for schools are the most likely way to get improvement. Importantly, we as a nation are generally reluctant to intervene in what happens in the family.

Indeed, California has a school population that is more disadvantaged than that in many other states. Nonetheless, if we compare performance of just white, black, or Hispanic students across states, California students remain below average. One way to see the differences is to compare California performance to performance in Texas or Florida, two states with a similar distribution of students. As seen in figure 1, students in both states outperform students in California.

## The Value of Improving California Schools

As noted, economic growth of states is closely related to the skills of the workforce. California has in the past been able to attract skilled workers from other states and from other countries, so the workforce is not the same as the school population. Nonetheless, the majority of future workers will still come through California schools. Thus, the future economic well-being of the state is tied to the quality of the schools.

Table 1 displays projections of the California economy based on the historic relationship between worker skills and economic growth. The projections assume that historic migration patterns continue. These projections also assume that the school improvement process takes ten years to complete and that these students replace retiring workers over time. As such, it takes some time before the workforce is noticeably different and before the economic growth becomes significant. The projections calculate the estimated differences in gross state product (GSP) between an economy with the current workforce skills and one with improved skills through school improvement. All estimates reflect the patterns of economic gains for the remainder of this century calculated in present value terms; i.e., current GSP is weighted more heavily than future GSP.

As seen in table 1, bringing students up to the level of Massachusetts has an astounding impact on the California economy, representing a gain in current dollars of over $16 trillion. This amounts to a GSP that averages 15 percent higher than the no-improvement GSP for the remainder of the century.

Of course, reaching the Massachusetts level of performance in ten years probably is not feasible. On the other hand, reaching the level of performance of the state of Washington, the best performing state in the region, is more feasible. This would mean an average increased GSP of almost 10 percent for the twenty-first century.

Large gains would also follow policies that just brought up the bottom end of the distribution. Ensuring that all students were at the basic level in NAEP would boost average GSP by close to 7 percent.

Finally, table 1 shows even larger improvement from reaching the performance level of Canada. This yields very large changes of the same order as getting to Massachusetts (which is close to the performance of the foreign countries in table 1).

**What Can Be Done?**

Existing research makes a very simple point: the most important element in school quality is the effectiveness of teachers. This research also makes the point that teacher effectiveness is not closely related to teacher degree levels, to teacher experience, to what kind of institution the teacher attended (e.g., education school or other), to teacher certification requirements or attainment, or to the amount of in-service training or professional development that the teacher has had.

Because these common proxies for "teacher quality" are not related to effectiveness in the classroom, the California policies of emphasizing just these factors and of paying teachers according to these factors are not leading to a uniformly effective teaching force. Indeed, as highlighted by the Vergara court case, California policies at times lock in very ineffective teachers.

The magnitudes of gains from improving the schools, as seen in table 1, seem large enough that it is worth pursuing policies that might be politically difficult. These policies would include developing better accountability measures for both schools and teachers. The current versions of accountability in California make it very difficult to compare schools serving similar populations and make it virtually impossible to compare teachers on the basis of their effectiveness. These accountability systems should include some element of absolute performance levels but should be heavily weighted toward value added. Coupled with good evaluations would be programs to reward success and to put an end to failure. Importantly, schools should not be rewarded for failure, e.g., continual provision of more resources to schools that demonstrate bad outcomes.

When policy makers are determined to do things to improve teacher quality, they often gravitate toward a position of making it more difficult to become a teacher: increasing credential requirements, making entry to education schools dependent on quite high test scores, and the like. A more sensible approach is to open teaching up more broadly (rather than closing alternative paths) but then to make it more difficult to stay in teaching—i.e., evaluate performance during the probationary period and make decisions on what teachers do in the classroom. (This approach is related to the underlying ideas behind Vergara; teachers effectively get tenure after fifteen months and eliminating teachers on the basis of experience as opposed to effectiveness is a reduction in force).

The appropriate policies would also include "smart choice," for example, encouraging further expansion of charter schools but really holding them responsible for performance. Choice provides incentives for traditional public schools to improve, because they lose resources if students leave

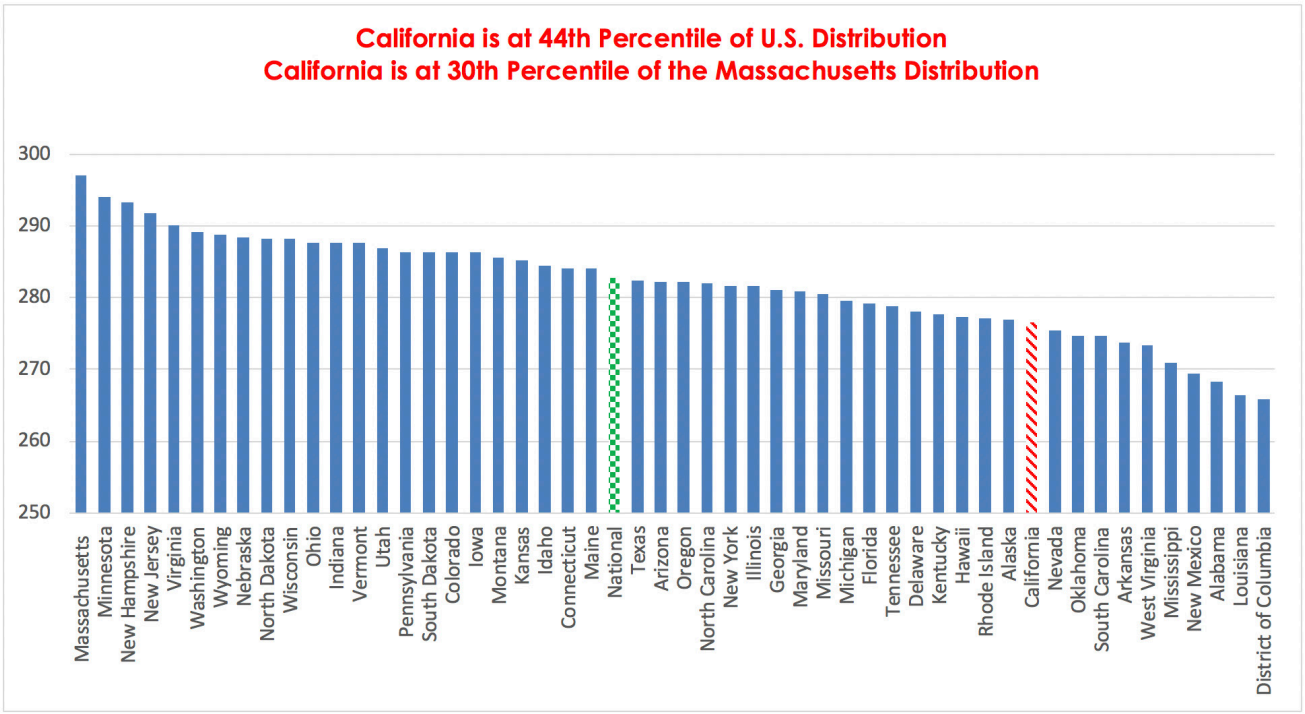
for charter schools. Existing research suggests, however, that parental demand forces are generally not strong enough to lead poorly performing charters to close on their own. Also, just as bad charter schools should not be allowed to continue, neither should bad traditional public schools.

The answer from the existing research on teachers is to move toward a system much more focused on the classroom effectiveness of teachers. The essence is making the achievement of the children the center of policy attention, not the adults in the system. While politically difficult, the path chosen will have a lot to do with the strength of the California economy in the future.

**Table 1. Economic Impact of Improving California's Schools**

| Improvement | Discounted reform billion $'s | % future GDP without reform |
|---|---|---|
| | | |
| 1. Equal Massachusetts | 16,630 | 15.3 |
| 2. Equal division best (WA) | 10,494 | 9.7 |
| 3. All at least basic | 7,277 | 6.7 |
| 4. Equal Canada | 16,827 | 15.5 |
| 5. Equal Finland | 18,475 | 17.1 |

**Figure 1. NAEP 8th grade mathematics scores, 2017**



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# Water Policy Reform

**by Edward P. Lazear**

California is a drought-prone state. Since 1960, the population of California has more than doubled. This suggests that the problem is that population growth in the state has made it difficult to supply enough water to accommodate the larger population. Although true to some extent, this is a minor cause of our water difficulties. To understand that, consider the following breakdown of water usage in California:

**Table 1. Water Usage by Category**

| Category | Percent | Percent Wet Year | Percent Dry Year |
|---|---|---|---|
| Residential and Commercial | 10% | 8% | 13% |
| Agriculture | 40% | 29% | 26% |
| Environmental | 50% | 62% | 50% |

* Note: Rounding causes total percentage to deviate slightly from 100%.

**Source: Department of Water Resources (2013). California Water Plan Update (Bulletin 160-13) and Public Policy Institute of California, "Water Use in California," http://www.ppic.org/publication/water-use-in-california.

Residential and commercial uses, which are most affected by population growth in the state, account for typically a small fraction of total usage. Agriculture water is used to grow the food we eat, which is consumed in part by Californians, but much is exported elsewhere and much of the agricultural products consumed by Californians are imported from other states and countries.[58] If we were to cut that usage in half to resemble demand by earlier populations, the result would be to reduce total usage of California water by only 5 percent. Neither residential water rationing nor constraining population growth, say, through zoning, would have much of an impact on water usage. Indeed, the fact that restaurants require diners to request a glass of drinking water during droughts or that public parks shut down permanent toilets and force visitors to use portable ones is nothing short of comical. Not only is there no higher value of water than drinking and public health, but personal drinking water and hygiene account for a tiny fraction of total water used. Feel-good conservation efforts on these fronts have no impact on reducing the impact of water shortages, even in drought years.

Like all economic goods, water is a scarce resource that must be allocated. The best way to allocate any resource is to ensure that it goes to its highest valued use, which is not always obvious. For example, one might think that using water to grow food is of higher value, say, than using water for metal production. That is not necessarily the case for a variety of reasons. First, at some point, the value of the additional water to grow a particular crop goes to zero. Crops can be over-watered. Second, some foods have low value and should not be produced in California. Rice is a highly water-intensive crop that is profitable when water is cheap but not when water is expensive. Making water cheap causes over-production of rice and under-production of more valuable foods and other goods. Third, if California can produce goods like metals, chemicals, and wood products

[58] California Department of Food and Agriculture. "California Agricultural Production Statistics." 2017, accessed October 21, 2018, https://www.cdfa.ca.gov/statistics.

cheaply and sell them to other states or countries, then it can use that revenue to buy food more cheaply from other places where water is more abundant. In the case of residential use, many residents would pay more for the water than farmers can earn from using it productively, reflecting the higher value that direct consumers place on water for personal use than for agricultural use.

California rations its water inefficiently because of legacy property rights that are incomplete and restrict those who own the water rights from transferring the water to the highest valued use. That, coupled with government-dictated prices, causes water to be allocated inefficiently across uses. Shortages are generally caused when governments place ceilings on prices or when they prevent markets from operating freely in some other way, like restricting trade. In the 1970s, oil shocks reduced supply and prices rose. The response was to cap gasoline prices, which caused shortages and long lines at gas stations.

Especially during times of drought, water authorities become important and exercise their power by substituting their own subjective judgment for market-determined prices and allocations. The price to some users is too low and to others is too high to clear the market and allocate water efficiently. A market-based system would result in lower prices paid by most residential users because water that is currently allocated inefficiently to other uses would be redirected to households and the increased supply would lower costs.[59] Farmers pay prices for water that differ depending on location and use. The same is true of residences in different parts of the state that use the same water. For example, pipes from the Hetch Hetchy reservoir, which supplies water to much of the Bay Area, intersect the California Aqueduct, meaning that any water that makes its way through those pipes or the aqueduct can be used by any of the communities or farms served by either. Yet residential users of aqueduct water in San Francisco can pay rates that are over three times that of some residents of Los Angeles.[60]

A true market system would provide water through an auction process, where farmers and urban water districts would simply bid for scarce water. In years when water was abundant, the market clearing price would be low. In drought years, the price would be higher, but the auction structure would make sure that water would flow to those who value it the most.

Of course, because of existing laws and court precedents, it might be impossible or unrealistic to go to the ideal auction system.[61] In 2012, the Public Policy Institute of California reported on the morass of regulations that continue to restrict the exporting of local water to other communities. Permits are required, which necessitate environmental studies, approval by the State Water Resources Control Board, and proof that the transfer will not injure another legal user.[62]

The following steps would improve the allocation of water resources in California. First, every effort should be made to let all owners of water sell their rights with minimal government limitations. This would ensure that water goes to its highest valued use.

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[59] Howard Chong and David Sunding, "Water Markets and Trading," *Annual Review of Environment and Resources* 31 (November 2006): 239–64.

[60] For example, residents of Val Verde in Los Angeles County pay $2.97 per hundred cubic feet of water. The highest rate in San Francisco is $9.10. See "Rates Schedules & Fees," San Francisco Public Utilities Commission, 2018, accessed October 21, 2018, https://sfwater.org/modules/showdocument.aspx?documentid=7742; "Water Rates," Los Angeles County Waterworks Districts, accessed October 21, 2018, https://dpw.lacounty.gov/wwd/web/CustomerService/WaterRate.aspx.

[61] See, for example, Ninth Circuit Court of Appeals ruling that the US Bureau of Reclamation violated the Endangered Species Act when it failed to inform the United States, April 2014. Additionally, the Reasonable Use Doctrine, written into the California Constitution, might prevent the highest bidder from obtaining water if its use were deemed unreasonable. See Craig Wilson, "The Reasonable Use Doctrine & Agricultural Water Use Efficiency," State Water Resources Control Board, https://www.waterboards.ca.gov/board_info/agendas/2011/jan/011911_12_reasonableusedoctrine_v010611.pdf.

[62] See Statutory Water Rights Law for more information on the "No Injury" laws as of 2018, accessed October 21, 2018, https://www.waterboards.ca.gov/laws_regulations/docs/wrlaws.pdf.

Second, federal and state agencies that redirect water to environmental use should pay the market price for it. Although there may be good reasons to ensure that some fish and wildlife be protected, we should not pretend that this protection is costless. Even if Californians were of one mind on the value of diverting water for environmental use, that value could be above or below that for other uses. A strict political solution that endows endangered species with rights to the water may end up being correct, but it would be more likely correct were policy makers required to bear the costs of their decisions by paying the true market price for that water. This could be implemented by requiring agencies that divert water for environmental purposes to budget explicitly for the lost revenue associated with the decision to divert it for this purpose. The price the agency would pay would be that paid by the user with the lowest value, most likely agricultural users. Because the revenue would go into general state funds, politicians would be forced to recognize explicitly how much their environmental diversions cost the state. If the agencies could get these funds built into their budgets, they would be recognizing explicitly that Californians value the environmental benefits more than their costs.

Finally, farmers should have the rights during a transition period to use or sell the water that they typically use. That would ensure that the farmers would be no worse off under the new system, would honor existing property rights, and would minimize the risk that agricultural lobbies and lawsuits would block the efficient transfer of water.

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Lazear was chairman of the President's Council of Economic Advisers and served at the White House, on leave from Stanford, from 2006 to 2009. In his position as the chief economic adviser to the president, he advised on a broad range of matters that involve both the macroeconomy and microeconomic issues.

Professor Lazear has written extensively on labor markets and personnel issues; microeconomic theory; issues involving worker compensation and effects on productivity; entrepreneurship; governmental policies on discrimination, affirmative action, and comparable worth; educational policy; unemployment; culture, language, and diversity issues; the doctrine of employment at will; distribution of income within the household; pricing and marketing policies; and other issues involving labor markets and the macroeconomy. He has published more than one hundred academic articles, is a frequent contributor to the popular press, and has written or edited twelve books.

# Pension Reform

**by Joshua D. Rauh**

Pension liabilities are one of the most important, and most poorly understood, fiscal challenges facing California. Unfunded pension liabilities are a large and growing fiscal burden for the state government and for local governments as well. For the state government, the share of pension contributions in the budget has increased by 350 percent since 2002. For large cities, including Los Angeles and San Jose, pension contributions are now about 10 percent of their budgets. Pension contributions are around 15 percent for some smaller California cities. These pension contribution increases arise because the pension system is not fully funded by accumulated pension assets and the shortfall is made up by taxpayers. However, even these very burdensome contribution rates—which translate directly into higher taxes, worse public services, and higher debt burdens—have not succeeded in preventing the unfunded pension debts from spiraling upward.

As currently measured, unfunded pension liabilities are underreported through the use of a particular accounting procedure. This underreporting masks the importance and urgency of this problem. Pension fund agencies, such as CalPERS, the California Public Employee Retirement System, measure these liabilities based on assumptions about the future returns on the pension fund investments. The higher the assumed return, the smaller the unfunded liability. Using a projected 7 percent return, the state's unfunded liability was $22 billion in 2002 and has been growing since then to about $110 billion in early 2018. Earlier this year, the Pew Charitable Trust found that California was the sixth worst state in the country in terms of the relative adequacy of government pension contributions.

The inadequacy of California pension funding is even worse, however. Assumptions about future pension returns, which are highly *uncertain*, are used in making calculations of unfunded pension liabilities as if they are *certain* returns. This practice is inappropriate based on the standard principles of finance, which instead call for using the returns on safe assets, such as US Treasury securities, when making calculations that require a high degree of certainty. The key point is that making a certain calculation of future liabilities can only be done using an asset that provides an extremely safe return. Treasury securities are considered by finance professionals as the asset with the safest return. Because of this safety, US Treasury securities deliver a much lower return than the assumed returns that traditionally have been used by pension fund agencies.

The size of the state's unfunded pension liability is much larger when calculated using the returns on Treasury securities, with maturities matched to the timing of pension payouts. The state's unfunded pension liability is about $769 billion when valued according to the appropriate Treasury returns. This works out to a liability of more than $60,000 per state household.

Outgoing Governor Jerry Brown understands the unsustainability of the state's pensions. He and the Legislature implemented some productive pension changes. These changes primarily affect new hires and involve a later retirement age and higher pension contributions. But some of the other changes, including limitations on "pension spiking," are being litigated. Pension spiking is the process of artificially inflating employee compensation prior to retirement in order to increase the lifetime pension. While pension spiking is explicitly prevented under CalPERS, there are many different ways to enhance salary within the CalPERS rules that are effectively similar to salary spiking, such as paying bonuses for performing job responsibilities adequately and for maintaining job certifications.

The pension spiking lawsuit is now being reviewed by the California Supreme Court. The court's decision will bear more broadly on what is known as the California Rule, which treats a pension as a contractual obligation that cannot be reduced.

Growing pension obligations are even more problematic because California's tax revenue is extremely volatile—more volatile than any other state. This is because the top 1 percent of earners account for 50 percent of income tax revenue. These incomes, particularly income from capital gains and stock options, tend to drop substantially during economic downturns. During the last recession, gross state product fell around 4 percent but tax revenue fell around 20 percent. This led the state government to drastically cut basic services and issue IOUs. This suggests that large tax increases will become increasingly necessary during future downturns to pay pension promises. These tax increases would further damage the state economy.

Brown has warned about the state's revenue vulnerability during the next downturn. This requires tax reform that reduces revenue streams from the most volatile sources. In 2009, Michael Boskin and John Cogan wrote a paper on this topic, the same year that the state issued the "Final Report of the Commission on the 21st Century Economy." They described reforms that include reducing the number of income tax brackets, eliminating the state corporate income tax, and instituting a small, value-added tax on business transactions.

Current pension promises are unsustainable. Both state and local governments must address this issue immediately and significantly. We recommend transitioning state and local government employees into a defined contribution program, which has the added benefit of portability in the event that an employee moves to another sector of the economy.

Our preferred approach is to transition employees to a 401(k)-type plan. To encourage employee participation, the initial employer contributions could be around 10 percent, which is a relatively generous level of contributions compared to private sector plans. The federal Thrift Savings Plan, a 401(k)-like defined contribution plan with very low management costs and sensible investment options offered to federal employees, provides a very sound governance model for both state and local governments.

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# Electricity Policy Reform

**by Frank A. Wolak**

Californians like to think of themselves as environmentally conscious and forward-thinking. The state's energy and environmental policies reflect these sentiments. With the passage of SB 100, California has one of the nation's most ambitious renewable energy goals for its electricity supply industry. The California Solar Initiative rebate program has led to more rooftop solar capacity in the state than the total rooftop solar capacity installed in the next eight highest-capacity states. AB 32 established California as the only state with its own cap-and-trade market for greenhouse gas emissions. This market currently sets the nation's highest price for a ton of greenhouse gas emissions. California recently set a goal of five million electric vehicles in the state by 2030. Under AB 2514, California's three investor-owned utilities are required to purchase 1,325 megawatts of grid-scale storage capacity and AB 2868 requires them to purchase 500 megawatts of behind-the-meter storage capacity. All of these policies have made California a global leader in the transition to a less carbon-intensive energy sector.

There is one major downside to California's energy and environmental policies: they are extremely expensive for California consumers. Average residential electricity prices in California are among the highest in the nation—not because it is so expensive to produce electricity in the state, but because the costs of these policies are recovered from retail electricity prices. A comparison to Texas, another large state that also uses natural gas to power most of its electricity generation fleet, illustrates this point. According to the US Energy Information Administration (US-EIA), average residential electricity prices in California are currently about 20 cents per kilowatt-hour (kWh) versus 10 cents per kWh in Texas. However, average wholesale electricity prices in the two states are roughly equal.

This difference in retail prices is primarily due to different policy responses in the two states to the shale gas boom that started in the mid-2000s and ultimately led to a roughly 66 percent decline in the wholesale price of natural gas. California responded to these low natural gas prices with spending on the policies described above and no reductions in retail electricity prices, despite average wholesale electricity prices in California falling by one-half to two-thirds relative to their pre-shale gas boom levels. Texas responded to this decline in natural gas prices by implementing vigorous retail competition for all classes of customers, which passed on the resulting lower wholesale electricity prices into lower retail electricity prices.

What is more surprising about the Texas-versus-California comparison is that over this same time period Texas managed to build more zero-carbon wind and solar generation capacity than California. Texas currently has more than 22,000 megawatts (MWs) of grid-scale wind and solar capacity versus about 17,000 MWs in California. Different from California, Texas has accomplished this massive renewable generation buildout which also produces more renewable energy on an annual basis than California with no state-mandated financial support mechanisms beyond its competitive renewable energy zone (CREZ) policy that proactively expanded the state's transmission network to regions with significant renewable resources. Texas's market-based approach to fostering renewable generation entry has led to more capacity at significantly lower cost relative to California's legislatively mandated and consumer-financed approach.

Because Californians are likely to want to continue to lead the energy transition, the relevant policy design question is: How can the state achieve these low-carbon energy goals in a more cost-effective manner? First, the California Legislature should adopt the provisions necessary to expand the California independent service operator (ISO) wholesale electricity market to as many states

as possible in the Western Interconnected Grid. Expanding the California ISO footprint will lead to a more competitive wholesale electricity market both inside and outside of California. It will allow California consumers to access low-cost wind and solar resources outside of the state so that it can meet its renewable energy goals at a significantly lower cost. A larger California ISO footprint will allow California wind and solar generation unit owners to receive significantly higher revenues from selling excess renewable energy (not needed to meet in-state demand) outside of the state. Currently, in-state suppliers pay a per MWh export charge that amounts to more than 25 percent of the average wholesale price in California to export energy outside of the state. Expanding the geographic scope of the California market would allow California wind and solar generation unit owners to avoid this export fee.

Second, the California Public Utilities Commission (CPUC) should reform how it regulates the state's electricity retailers to create a level playing field that compensates all generation resources for the full range of reliability services they provide. Many natural gas-fired generation units are now running much less frequently because of the significant growth in renewable generation capacity in the state. However, the California ISO has determined that virtually all of these natural gas units are still required to meet the state's demand for electricity throughout the year because of the intermittent supply of energy from these renewable resources. Under existing CPUC policies, a number of natural gas-fired generation units may be forced to retire (because they are not receiving sufficient revenues to remain financially viable), which could imperil the reliability of the state's electricity supply. Moreover, continuing to operate these units is clearly a lower-cost approach to maintaining a reliable supply of electricity in California than new investments in storage technologies.

Third, the CPUC should reform the pricing of network services. Currently, the fixed cost of the transmission and distribution network is recovered through a per kWh charge which creates a significant margin between the average retail price and the marginal cost of supplying a customer with an additional kWh of energy from the grid. This encourages households to install rooftop solar systems when a grid-scale renewable generation unit would be a more cost-effective way on a systemwide basis to provide renewable energy to that consumer. This approach to retail pricing also significantly degrades the economic case for a consumer to purchase an electric vehicle or charge a plug-in hybrid vehicle rather than run it on gasoline. A consumer who pays 20 cents/kWh for electricity is much less likely to find it economical to own an electric vehicle than would be the case if that consumer paid the marginal cost of the additional kWh which is currently averaging about one-third to one-quarter of the average retail price in California.

Finally, California should follow the example of Texas and allow retail competition for all customer classes. California ratepayers already have spent millions of dollars on the interval meter infrastructure necessary to support robust retail competition. Introducing retail competition for all customers will exert significant downward pressure of retail electricity prices. It will stimulate the introduction of dynamic pricing and other load-shifting technologies that reduce the average retail price that consumers pay. It will also stimulate the development and deployment of innovative technologies, such as distributed batteries, smart thermostats, and more sophistical automated response devices that help customers manage their energy consumption and reduce their carbon footprint.

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