
POLICYMATTERS

VOLUME 4, NUMBER 1 AUTUMN 2006

GOLDMAN SCHOOL OF PUBLIC POLICY
UNIVERSITY OF CALIFORNIA, BERKELEY

FEATURES

Cost, Coverage and Choice: Where Are Consumer-Driven Health Plans Taking Us?

Sonya Blesser

Does Your Legislator's Sex Matter?

Marianne A. Ferber and Michael Brun

Private Educational Services: Whom Does the Market Leave Behind?

Matthew Steinberg

California's Photovoltaic Gamble

Adam Langton, Hai Guan, and Anne Su

POLICY IN PRACTICE

Courting an Efficient Bureaucracy: Lessons in Judicial Reform

Kate Harrison

SPECIAL SECTION: ELECTORAL POLICY

Combating Voter Fraud (All of It)

Paul Leistra

Restoring Local Voting Rights to Non-Citizens

Chris Finn

In Defense of Electronic Voting Machines

Ernie Tedeschi

Where Do We Draw the Lines? Redistricting Revisited

Brian Leubitz

Foreword

WELCOME TO THE sixth issue of *PolicyMatters*.

We are pleased to announce the inaugural winner of the Class of 2005 Prize for Outstanding Policy Article: Ayesha Khan, GSPP 2006! A gift from the 2005 graduating class at GSPP, the Prize is awarded to the best policy article written by a student each academic year. The *PolicyMatters* Advisory Board unanimously selected Khan's article, "Pakistan's Predicament: Corporate Social Responsibility in Action" as the most impressive article of the 2005-2006 year. Her article, the product of original field research, was featured in the Spring 2006 issue. You can read it at www.policymatters.net, the journal's website and blog.

The Class of 2005 Prize, worth \$250 to the winning author, will be awarded again each year. All articles written by students and published in *PolicyMatters* are eligible. We are currently accepting submissions for the Spring 2007 issue, which will be the final issue for the next award period.

In our Features section this issue, Sonya Blesser examines health savings accounts to see if their professed merits hold up under scrutiny. Renowned feminist economist Marianne A. Ferber and University of Illinois economics professor Michael Brun collaborate to analyze whether the policy choices of female legislators differ from those of their male counterparts. Matthew Steinberg asserts that privately-operated supplemental educational services, which have expanded extensively under No Child Left Behind, are not worth what they cost. Finally, Adam Langton, Hai Guan, and Anne Su assess the incentive structure of the California Solar Initiative, which is slated to go into effect in 2007.

In Policy in Practice, rule of law consultant Kate Harrison provides instructions from the field for court reform in Armenia and Macedonia. Her how-to guide illustrates institutional reform procedures for addressing concerns from the top-level of the judicial branch down to the details of office dynamics.

In honor of this election year, we conclude this issue with a special section devoted to electoral and voting policy. Four authors contribute their thoughts on current policy issues that shape our electoral process. Paul Leistra argues that the dichotomy between voter fraud and voter suppression is false; their harm to the democratic system is identical. Chris Finn explores voting rights for non-citizens, explaining that such an extension is far from unprecedented. Ernie Tedeschi counters attacks on electronic voting machines, promoting their unsung worth. Lastly, Brian Leubitz digs into redistricting, offering an alternative to frequently used procedures.

The staff of *PolicyMatters* would like to thank the entire GSPP community of faculty, staff, students, and alumni for their continued interest in and support of the journal. In particular, we would like to extend our gratitude to our advisory board: GSPP Dean Michael Nacht, Jack Glaser, David Kirp, and Larry Rosenthal. Their efforts this fall have been our saving grace. Thanks also to Director of Career and Alumni Services Cecille Cabacungan, and alumnus David Gamson '86, whose promotional efforts are greatly appreciated. Finally, we would like to single out our active bloggers for recognition. Their work is not featured in the print edition of *PolicyMatters*, but their year-round commitment to www.policymatters.net deserves attention and thanks.

We hope you enjoy Volume 4, Number 1 of *PolicyMatters*.

Melissa Vanlandingham
November 27, 2006

POLICY MATTERS

VOLUME 4, NUMBER 1 ~ AUTUMN 2006

Editor in Chief

Melissa Vanlandingham

Online Managing Editor

Sasha Horwitz

Business & Development Manager

Christine Koronides

Editors

Amanda Johnson

Brian Pick

Leah Rothstein

Junior Editors

Jameel Alsalam

Javiera Barandiaran

Matthew Jordan

Douglas Spencer

Stéphane Verguet

Copy Editors

Laura Henry

Lauren Lambie-Hanson

Deborah Landis

Sarah Martin-Anderson

Elizabeth Whalen

Crystal Williams

Advisory Board

Michael Nacht, GSPP Dean

Jack Glaser

David L. Kirp

Larry Rosenthal

Layout/Design

Sasha Horwitz

Douglas Spencer

CONTENTS

FEATURES

Cost, Coverage and Choice: Where Are Consumer-Driven Health Plans Taking Us?

Sonya Blesser 7

Does Your Legislator's Sex Matter?

Marianne A. Ferber and Michael Brun 11

Private Educational Services: Whom Does the Market Leave Behind?

Matthew Steinberg 17

California's Photovoltaic Gamble

Adam Langton, Hai Guan, and Anne Su 23

POLICY IN PRACTICE

Courting an Efficient Bureaucracy: Lessons in Judicial Reform

Kate Harrison 29

SPECIAL SECTION: ELECTORAL POLICY

Combating Voter Fraud (All of It)

Paul Leistra 34

Restoring Local Voting Rights to Non-Citizens

Chris Finn 37

In Defense of Electronic Voting Machines

Ernie Tedeschi 40

Where Do We Draw the Lines? Redistricting Revisited

Brian Leubitz 43

Cost, Coverage and Choice: Where are Consumer-Driven Health Plans Taking Us?

Sonya Blesser

IN AUGUST 2006, the Census Bureau reported that 46.1 million Americans were uninsured, an increase of 1.3 million people in the last year alone.¹ Traditionally, employers sponsored health insurance for workers and their families, but high premiums have forced many employers to reduce or withdraw coverage altogether. Currently, only 59 percent of employees in the United States receive health insurance from their employer.² Experts expect this percent will drop in the coming years if annual premium increases remain high. Last year, premiums rose by only 7.7 percent, down from a high of 13.9 percent in 2003, but well above inflation.

The increase in premiums, representing a rise in overall health care expenditures, can be explained with a variety of theories but one predominant philosophy is that comprehensive insurance masks the true cost of services. The most common form of health insurance, the HMO or PPO, provides comprehensive coverage with little or no out-of-pocket costs for each treatment and may encourage consumption of unnecessary and expensive treatments (often referred to as moral hazard). A proposed solution to reduce consumption of low-benefit health services applies cost-sharing in the form of large deductibles and/or co-payments. This strategy, sometimes referred to as “consumerism,” attempts to empower patients to make better choices when selecting treatments because they are aware of the real cost of health care.

Consumer-Driven Health Plans (CDHPs), a common application of consumerism, is an umbrella term used to describe health insurance plans with very high deductibles. In exchange for a low annual premium, enrollees pay for medical expenses out of pocket until the deductible is met. Once enrollees spend beyond the deductible, the plan resembles the typical HMO or PPO insurance plan with moderate co-payments.

High-deductible insurance is often paired with a tax-favored personal savings account for medical expenses. The account, set well below the deductible, ensures enrollees will purchase health care with personal funds before

meeting the deductible. The Health Savings Account (HSA) is the latest version of the personal savings account and has become increasingly popular after the Medicare Modernization Act of 2003. HSAs are funded with pre-tax dollars by both the employer and employee, and rolled over at the end of the year.

Employees can carry the HSA to their new insurance plan if they change jobs. Withdrawal of HSA funds for non-medical expenses is taxed and subject to an additional 10 percent penalty if the enrollee is under age 65.

The goal of CDHPs is to force consumers to equate the true cost of care with the benefit they receive, thereby lowering total health spending. Until they meet the deductible, consumers pay 100 percent of the cost of each treatment or medication. This plan structure encourages consumers to search for

the lowest price among competing providers or reduce consumption to necessary and valuable services. Patients also have an incentive to select high-quality providers or hospitals, though the applicability and utility of existing quality data is debatable. Unlike the comprehensive coverage of a generous HMO or PPO, the coverage gap discourages consumers from demanding services that are less beneficial than their marginal cost. Once consumers reach the deductible threshold, they receive comprehensive coverage, in effect limiting out-of-pocket costs and eliminating the incentive to match the price of treatment with its benefit.

Conclusions from the RAND Health Insurance Experiment should be carefully applied to CDHPs

CDHPs are a novel technique to address a pressing problem, but little is known about their effect on overall health spending or medical outcomes. Estimates of expenditures rely on previous research evaluating the effects of cost-sharing or surveys of the few employers who offered early versions of CDHPs. These studies are helpful, but their limitations must be acknowledged when predicting

Currently, only 59 percent of employees in the United States receive health insurance from their employer.

Sonya Blesser is an M.P.P./M.P.H student at the University of California, Berkeley. This paper is based on a report originally prepared for the Joint Economic Committee of the United States Congress

CDHPs' potential to reduce health spending. Although some indicate that CDHPs may lower the cost of healthcare as intended, additional analyses conclude that they may actually increase health spending and worsen outcomes in the long term.

The definitive study of the effect of cost-sharing on consumer behavior is the RAND Health Insurance Experiment (HIE).³ To date, this study remains the largest controlled experiment evaluating the effect of cost-sharing in health insurance. In 1974, 5,809 people in six cities were randomly assigned to health insurance plans with a variety of cost-sharing mechanisms. Among the tested health plans were four fee-for-service plans requiring patients to pay some percentage of total health care costs. These percentages, called coinsurance rates, were set at zero (i.e. free care), 25, 50 and 95 percent.

Those with 95 percent coinsurance also had an out-patient deductible and full coverage for in-patient care. Through careful monitoring and data collection over five years, researchers calculated the effect of cost-sharing on health care expenditures.

Results from the RAND HIE showed that while cost-sharing lowers health spending considerably, there are diminishing returns. The largest difference in use of outpatient services occurred between those given free care and those with a 25 % coinsurance. The reduction in utilization between enrollees in the plan with 25 % coinsurance and those facing higher rates was far smaller, though still significant. There was no significant difference in inpatient utilization, most likely due to the limited out-of-pocket expenses for all study participants.

The health care market has changed dramatically since the RAND experiment was conducted thirty years ago.⁴ Today, total health spending is a far larger percentage of GDP, reflecting the high prices of innovative procedures and pharmaceuticals. Diseases and conditions that were considered fatal thirty years ago are manageable today with the aid of a host of new maintenance medications. In addition, a deductible or maximum out-of-pocket that is the same proportion of income today as it was in the 1970s will have a reduced cost-sharing effect given the current price of most health services.⁵

Applying the results from the RAND HIE directly may overstate the amount of cost-savings that will arise from increased cost-sharing. The study provided strong evidence that some amount of cost-sharing reduces spending, but also showed that moving from moderate

coinsurance to catastrophic care will not substantially lower health spending. Unlike the 1970's, most standard health plans today already involve a moderate amount of cost-sharing. There is little evidence from the RAND study that shifting to the catastrophic level of CDHPs will reduce spending significantly. In addition, HSAs are a recent development and we know very little about their effect on patient behavior. One estimate found that they may offset expected reductions in spending by up to 50 %.⁶

Combining results from RAND HIE with empirical studies and theoretical models of CDHPs

Each year, more firms offer CDHPs to employees and enrollment grows. In 2005, 2.4 million workers had enrolled in CDHPs,⁷ and yet many health experts doubted consumerism would prove to be a solution to the looming health care crisis. In an attempt to predict the potential cost savings from the new health plans, social scientists returned to the RAND HIE, incorporating empirical results from the large-scale, controlled study into theoretical models. Researchers from the original RAND study built a behavioral simulation model in order to evaluate changes in health expenditures if some or all consumers in the United States switched from traditional fee-for-service or comprehensive HMOs to plans with high-deductibles and HSAs. The researchers calculated that if *all* Americans switched, health care expenditures would decrease between zero and 13 percent. The large range is due to the negative relationship between cost-sharing and health care spending. Small deductibles will be easily exceeded with little effect on expenditures, while large deductibles encourage consumers to spend less. If *some*, but not all, Americans made the switch to the new plan, health expenditures would change between -2 and +1 %. The reason for the small—and possibly even positive—effect on spending is due to the dangers of adverse selection, discussed below.⁸

An analyst at the Congressional Budget Office built a model based on the price elasticity calculated by the RAND HIE which showed that people facing a 10 or 20 % increase in out-of-pocket costs will reduce demand by one percent. He estimated that people moving from a comprehensive plan with moderate cost-sharing to one with a high deductible and personal savings account would reduce health spending between 2 and 8 %. However, individuals in very high tax brackets may find the accounts attractive and may even spend more than under traditional comprehensive insurance.⁹

Health Plans - continued

To support the conclusions of theoretical models, researchers also collected empirical data from CDHP participants. Because this form of consumerism is relatively new and only 6% of all firms sponsoring health insurance offer CDHPs,¹⁰ the studies are small and focus on immediate cost savings rather than long term effects. In 2003, Aetna introduced its first CDHP to enrollees in its PPO plan. Those who switched had lower overall health costs, reduced facility-based services, and increased reliance on generic drugs.¹¹ A similar study of employees at the University of Minnesota showed that total medical expenditures in the CDHP were lower than those in the PPO, but higher than the HMO. Employees in the CDHP had reduced out-of-pocket expenditures as a result of shifting to cheaper drugs and increasing their use of the nurse hotline. However, the employer's total costs actually increased, perhaps as a result of increased utilization and expenditures associated with both in-patient and out-patient hospital services.¹² These studies indicate CDHPs have the ability to reduce consumer expenditures and utilization in the short run, but researchers quickly point out that conclusive results require evaluation of large-scale enrollment over many years.

In the long term, CDHPs may actually increase health costs through self-selection

Traditional health insurance has been based on the concept of pooled risk, meaning many diverse consumers are grouped together and share the risk that any one person will need treatment. The healthy subsidize the sick, knowing that at some point they may become ill and require health care services themselves. However, when enrollees are given the choice of plans with different benefit levels, there is concern that they will become grouped by health status. This selection pattern, often described as adverse selection, is used to explain skyrocketing premiums caused by insurance pools with highly correlated health risk. The resulting high premiums will encourage some consumers to drop insurance coverage altogether or shift to leaner and cheaper benefit plans.

Unless employers offer CDHPs as a single replacement health plan, consumers who do not find cost-sharing mechanisms appealing will remain in their original HMO or PPO, or forgo insurance altogether. The low premiums of CDHPs will likely attract young, healthy consumers, who will switch out of the comprehensive HMO or PPO plan despite the corresponding reduction in

benefits. Those who remain in the comprehensive plan will be older, sicker, and afraid of possible high-cost health expenses. These older, sicker enrollees cost the insurance companies more on average. To compensate for the higher proportion of risky consumers, insurance companies will be forced to increase premiums again, encouraging the remaining relatively healthy people in the pool to switch to the catastrophic plan. This pattern of shifting enrollment and increasing premiums is often referred to as a "death spiral."

Though CDHPs are touted as a solution to rising premiums, they may in fact exacerbate the problem.

Research studies of CDHPs indicate fears of self-selection are well founded. A study of employees at the University of Minnesota showed that those with pre-existing chronic conditions were more sensitive to insurance premiums and tended to prefer the PPO plan over the CDHP.¹³ The Federal Employee Health Benefits Program also showed that early adopters were more likely to be young and healthy.¹⁴ A simulation of out-of-pocket spending showed that those who are moderately sick will spend \$6,000 per year out-of-pocket on average, in contrast to healthy enrollees who saved \$495 in the HSA annually.¹⁵

CDHPs are a boon to the wealthy and harmful to the poor

Multiple studies of CDHP offerings have shown that employees with higher incomes are more likely to enroll. One analysis found that employees with incomes over \$80,000 per year were twice as likely to enroll as those who earn less than \$80,000.¹⁶ A possible explanation is that higher-income individuals may be less concerned with the gap between the health savings account and the deductible, and therefore are unlikely to change their spending habits in the face of cost-sharing. Another hypothesis is that wealthy employees may view the HSA as a retirement savings tool, where pre-tax funds can be invested and withdrawn after age 65 for non-medical spending without paying the 10 % penalty.

Some researchers argue that consumer-driven health plans will force low-income individuals and families to reduce consumption of preventive services, increasing the risk of dangerous and expensive chronic conditions in the future.¹⁷ On the surface the RAND HIE seems to refute this claim. The study found few statistically significant differences in behavior between income groups, however low-income consumers were allocated a Participation

Incentive limiting out-of-pocket costs to 5, 10, or 15 % of income. Despite the capped out-of-pocket expenses, the health of low-income participants who began the experiment with chronic conditions, specifically high blood pressure, improved more when they were enrolled in the plan with free care than one with cost-sharing.

More recent studies have shown that low-income populations without insurance have much worse health outcomes than those with health coverage, indicating there is some level of cost-sharing which has a harmful effect on health. An analysis of various prototypical CDHPs found that, if enrolled, almost 50% of families living below the poverty line would face out-of-pocket costs exceeding 10% of their income.¹⁸ Insurers should be cautious when designing CDHPs to ensure cost-sharing does not harm low-income consumers.

Cost-sharing may be the future of health care, but how much and for whom?

The RAND HIE was the first study to prove that some amount of cost-sharing reduces health expenditures. Though often cited in support of CDHPs, the results of the study are no longer directly applicable. Today innovative technology, the mounting burden of chronic disease, and the introduction of personal health savings accounts complicate health care pricing and consumption.

With the growth of health costs still outpacing inflation, health plans will continue to reduce premiums through moderate co-payments and deductibles. A 2005 study by the Kaiser Family Foundation found more than half of all workers with employer-sponsored health insurance face some form of cost-sharing.¹⁹

Researchers using carefully designed models and data analysis cannot agree if CDHPs will decrease or increase health costs in the future. Early adopters of CDHPs have realized some cost savings in their first years of enrollment. Proponents of consumerism maintain the reason is better decision-making by enrollees. Those who object to CDHPs are concerned that consumers are avoiding necessary or preventive care to save money in the short run, creating expensive long-term conditions that will erase any initial cost savings. Others suspect self-selection as the reason for the apparent savings and hypothesized that those remaining in traditional health plans will struggle with the rising premiums found in the death-spiral of adverse selection. As the number of employers offering some form of CDHPs grows,

researchers will need to investigate the effect on total health expenditures in the long run to prove that this form of consumerism is a viable solution to our health care crisis.

Endnotes

- ¹ Cook, A., J. Holahan. "Why did the number of insured continue to Increase in 2005?" Kaiser Commission on Medicaid and the Uninsured. October, 2006.
- ² Kaiser Family Foundation and Health Research and Education Trust. *Employer Health Benefits 2006 Annual Survey*.
- ³ Newhouse, J.P. and the Insurance Experiment Group. *Free for All? Lessons from the RAND Health Insurance Experiment*. Cambridge, MA: Harvard University Press. 1993.
- ⁴ James Baumgardner from the Congressional Budget Office at a conference at American Enterprise Institute for Public Policy Research. "Price Sensitivity in Health Care: A New Look at the Evidence and Implications for Policy". September 15, 2005. <http://www.aei.org/events/filter.all,eventID.1147/summary.asp>
- ⁵ Paul Ginsburg from the Center for Studying Health System Change at a conference at American Enterprise Institute for Public Policy Research. "Price Sensitivity in Health Care: A New Look at the Evidence and Implications for Policy". September 15, 2005. <http://www.aei.org/events/filter.all,eventID.1147/summary.asp>
- ⁶ Ozanne, L. "How Will Medical Savings Accounts Affect Medical Spending?" *Inquiry* 33(3): 225-236, 1996.
- ⁷ Claxton, G., J. Gabel, I. Gill, J. Pickreign, H. Whitmore, B. Finder, S. Rouhani, S. Hawkins, and D. Rowland. "What High-Deductible Plans Look Like: Finding From a National Survey of Employers, 2005". *Health Affairs* 24: 434-441, Jul-December 2005.
- ⁸ Keeler, E.B., J.D. Malkin, D.P. Goldman, and J.L. Buchanan. "Can Medical Savings Accounts for the Nonelderly Reduce Health Care Costs?" *JAMA*. 275(12):1666-1671, 1996.
- ⁹ Ozanne, L. "How Will Medical Savings Accounts Affect Medical Spending?" *Inquiry* 33(3): 225-236, 1996.
- ¹⁰ Kaiser Family Foundation and Health Research and Education Trust. *Employer Health Benefits 2006 Annual Survey*.
- ¹¹ Buntin, M.B., C. Damberg, A. Haviland, N. Lurie, K. Kapur, and M.S. Marquis. *Consumer-Directed Health Plans: Implications for Health Care Cost and Quality*. RAND. June 2005.
- ¹² Parente, S.T., R. Feldman, and J.B. Christianson. "Evaluation of the Effect of a Consumer-Driven Health Plan on Medical Care Expenditure and Utilization". *Health Services Research*. 39(4): 1189-1209, August 2004.
- ¹³ Parente S.T, R. Feldman, and J.B. Christianson. "Employee Choice of Consumer-Driven Health Insurance in a Multiplan, Multiproduct Setting". *Health Services Research*. 39(4): 1091-1111. August 2004.
- ¹⁴ General Accountability Office. *Federal Employee Health Benefits Program: Early Experience with Consumer-Directed Health Plans*. November 2005. <http://www.gao.gov/new.items/d06143.pdf>
- ¹⁵ McNeill, D. "Do Consumer-Directed Health Benefits Favor the Young and Healthy?" *Health Affairs*. 23(1). January/February 2004.
- ¹⁶ Lo Sasso, A.T., T. Rice, J.R. Gabel, and H. Whitmore. "Tale from the new Frontier: Pioneers' Experience with Consumer-Driven Health Care". *Health Services Research* 39(4): 1071-1089, August 2004.
- ¹⁷ Parente S.T, R. Feldman, and J.B. Christianson. "Employee Choice of Consumer-Driven Health Insurance in a Multiplan, Multiproduct Setting". *Health Services Research*. 39(4): 1091-1111. August 2004.
- ¹⁸ Shearer, G. "Defined Contribution Plans: Attracting the Health and Well-Off". *Health Services Research*. 39(4 Pt 2): 1159-1166. August 2004.
- ¹⁹ Collins, S.R., "Health Savings Account. Why They Won't Cure What Ails U.S. Health Care". Invited Testimony, Committee on Ways and Means, U.S. House of Representatives. June 28, 2006.
- ¹⁸ Trude, S. *Patient Cost Sharing: How Much is Too Much?* Center for Health Systems Change. Issue Brief #72. December 2003. <http://www.hschange.com/CONTENT/630/630.pdf>
- ¹⁹ Kaiser Family Foundation and Health Research and Education Trust. *Employer Health Benefits 2005 Annual Survey*.

Does Your Legislator's Sex Matter?

Marianne A. Ferber and Michael Brun

FEMINISTS AND OTHER promoters of democracy have advocated for women's right to vote and for their expanded representation among public officials for several reasons. One is fairness: all adults should have the opportunity to participate in governing, and in determining who governs, commensurate with their capabilities. Another reason is that arbitrarily excluding some groups from standing for office reduces the pool of talented individuals among whom voters can choose.

Some, however, also believe that women bring a different perspective to public policy issues. As political scientist Susan Carroll says, "Most feminists view the election of more women as a means for social change and not merely an end in itself."¹ In fact, there is evidence that women are more concerned with interpersonal relationships, more often emphasize the importance of caring for others² and are generally "less militaristic, ... more often opposed to the death penalty, more likely to favor gun control, more likely to favor measures to protect the environment, more supportive of programs to help the economically disadvantaged, less critical of government, [and] more critical of business" than men.^{3, 4} The reason most often suggested for these differences is that women are more involved with raising children as well as caring for the sick, the disabled, and the elderly, and are therefore likely to have different priorities for social and economic policies.

The first two reasons for enfranchising women are no longer in dispute in most parts of the world,⁵ but there is little agreement on the third. Critics can and do cite women who have been heads of state during the last half century, such as Indira Gandhi, Golda Meier and, most particularly, Margaret Thatcher, who are not noted for their advocacy of generous social policies, nor for being pacifists. On the other hand, Prime Ministers Gro Harlem Brundland of Norway, Virginia (Vidgis) Finnbogadottir of Iceland, and Jenny Shipley of New Zealand, though not as well known as the three "women warriors" mentioned above, were much closer to the ideal "woman ruler" that feminists envision. As for the three most recently elected women executives, Angela Merkel, Chancellor of Germany, Ellen Johnson-Sirleaf, President of Liberia and Michelle Bachelet,

President of Chile, it is too early to determine the direction they will follow. In any case, we would argue that women who have succeeded in becoming heads of state in a world still largely dominated by men are hardly representative of most women.⁶ Therefore we believe that it is more useful to examine the considerably larger number of women in parliaments in order to gauge the effect that a substantial representation of women is likely to have on government.

Studies performed at the level of the general electorate provide useful information about the effect of the enfranchisement of women on government expenditures. More than two decades ago economists Allan Meltzer and Scott Richard demonstrated that as the income of the "decisive voter" declined relative to the mean, the size of government increased.⁷ More recently, Burton Abrams and Russell Settle⁸ and John Lott and Lawrence Kenny, building on these results, showed specifically that the enfranchisement of women, who tend to have lower incomes than men⁹ and who presumably "benefit more from various government programs that redistribute income" had this effect.^{10, 11} These economists further concluded that women were merely acting in their own self-interest.

Many feminists, however, while readily acknowledging that female legislators often promote policies to help women,¹² reject the view that this is their sole concern. Many of the policies women support equally benefit men, and others primarily benefit children. Moreover, many policies favored by women are likely to benefit particularly men. For instance, women are more inclined than men to oppose capital punishment although a substantially larger proportion of people who are executed are men.¹³ Women are also less likely to support militarism, although women are rarely drafted. Further, in households where husbands and wives are in control of their own incomes women spend a substantially larger share of theirs on children than men do.¹⁴ ¹⁵ Such evidence supports the view that women have greater empathy for others, especially the weak and the destitute.¹⁶

Hypotheses and Results

There is by now a substantial literature that examines the effect that the increasing proportion of female

Marianne A. Ferber is Professor of Economics and Women's Studies Emerita at the University of Illinois, Urbana-Champaign. She is also the past president of the Midwest Economic Association and of the International Association for Feminist Economics.

Michael Brun is an Assistant Professor of Economics at the University of Illinois, Urbana-Champaign.

legislators has had in the U. S., in jurisdictions within the U.S. as well as some other countries.¹⁷ In this paper, we go further than previous research has to systematically examine, within the limitation that all data are not available for all countries, the effect of varying proportions of women legislators on a number of specific policies in countries throughout the world.

For countries with two chambers, we examine only the lower house in order to make the data more comparable to those from countries that have only one chamber.¹⁸ The proportion of representatives in parliament who are women ranges from zero in eight of the 108 countries in our sample (Bahrain, Kuwait, Micronesia, Nauru, Palau, the Solomon Islands, Tuvalu, and the United Arab Emirates) to 35% or more in six countries. Five of these are in Northwestern Europe (Denmark, Finland, the Netherlands, Norway and Sweden) and the last, Rwanda, is in Africa. Countries where more than 25% but less than 35% of legislators are women include Spain from southern Europe, Bulgaria from Eastern Europe; Mozambique, Namibia, the Seychelles and South Africa from Africa; Costa Rica, Cuba and Grenada from Central America, Argentina from South America, and East Timor from Asia (summary data by region may be seen in Appendix Table 2). This enables us to examine the effect of the percent of women legislators (W) on government expenditures on education and health care (two areas of special concern to women) in countries with very wide ranges of representation of women.

We selected two key policies that tend to loom large in government budgets for special attention: expenditures on education and health (EH), and military expenditures (M), each as percentages of gross national income (GNI). Originally we investigated expenditures on education and on health care separately, but found the two so highly correlated that we thought it advisable to combine them for the purposes of our study.

Two other variables were included to enable us to better separate the impact of the representation of women from the effect of other variables. One is per capita GNI, expressed in dollars calculated according to purchasing power parity (PPP), which serves as a rough indicator of the wealth and level of development of the country; the other is the percent of total income received by the top 20% of earners (IT), which serves as a rough indicator of the distribution of income.

Our interpretation of the results of a regression with EH as the dependent variable (see Regression 1 in the Appendix) is that even after the higher percent of GNI spent on education and health as GNI/capita rises is accounted for, a greater representation of women in parliament leads to a larger share of expenditures on health and education. As to the magnitude of the effect, our calculations suggest that if women occupied an additional seventh of the seats in parliament, then *ceteris paribus* an additional one percent of GNI would go to public spending on health and education. On the other hand, there is no evidence that income distribution (IT) or military expenditures (M) have any significant effect on education and health care spending.

Not surprisingly, a similar equation proved useless for explaining variations across countries in military expenditures (see Regression 2 in the Appendix), and all but one of the variables in this regression failed to achieve statistical significance, as did the equation as a whole. Most likely geopolitical considerations trump the social and economic factors of the type we examine. There was, however, one variable that was statistically significant in the otherwise insignificant equation: the percent of women in parliament. This provides evidence that a higher percentage of women in parliament leads to a lower percentage of GNI spent on the military, in marked contrast to the results for spending on education and health care. These results are presented in the appendix as a simple regression that is statistically significant.

We then go one step further and reverse the implied causal relation between per capita GNI (again in dollars adjusted for PPP) and the other variables in our model. In effect we are now exploring the impact of women legislators and expenditures on health, education, and the military on the average income of a country (see Regression 3 in the Appendix).

We interpret these results as showing that if women were to win an additional seventh of the seats in parliament, *ceteris paribus*, GNI/capita would be expected to increase by almost \$3000; if the share of total income going to the top 20% of earners were to drop by ten percentage points, GNI/capita would be expected to increase by almost \$4000; and finally, if public expenditures on education and health were to rise by one percentage point of GNI, GNI/capita would

A greater representation of women in parliament leads to a larger share of expenditures on health and education.

Women Legislators - continued

be expected to increase by almost \$2000.¹⁹ The share of military spending, however, appears to have no impact one way or the other.

Of course, it is risky to draw policy conclusions for individual countries about effects over time from cross-section studies. Even so, it is noteworthy that our results are consistent with the conclusion that public expenditures on education and health are investments in human capital that contribute to higher incomes rather than diversions that lead to lower incomes, and that higher income inequality does not lead to higher but rather to lower average income. Hence, to the extent that a larger representation of women in parliament leads to greater expenditures on these items and greater income equality, it may well be conducive to higher average incomes.

The results of these investigations shed a good deal of light on the effects a larger proportion of women legislators tends to have on the economy but they do not help to answer the question whether women are simply concerned with improving their own economic position as neoclassical economists would claim. Even women's lesser enthusiasm for military expenditures can be viewed either as selfishly feeling less need for the best possible weapons systems because they are less likely to be involved in fighting, or perhaps as simple disinterest in an institution with which they feel no great involvement. Though it could equally well be seen as selflessly opposing military ventures even though women are not likely to be drafted and therefore not likely to bear as much of the cost as men.

In order to resolve the question whether women are more likely than men to support legislation that clearly benefits primarily others rather than themselves we first investigate whether they favor more foreign aid (FA) than men do. For the purpose of determining the relationship between women legislators and foreign aid²⁰ (in U.S. cents per capita per day) we use a far smaller sample of 21 countries, each of which has been donating significant amounts of foreign aid (see Regression 4 in the Appendix).

We find that for a given level of per capita GNI adjusted for PPP, a ten percentage point increase of women in parliament leads to a roughly \$7.30 increase in foreign aid per capita per year; and for a given percent of women in parliament, a \$2000 increase in per capita GNI, leads to a roughly \$3.65 increase in foreign aid per capita per year. In perspective, this would add respectively 85% and 43% to current annual U.S. per capita foreign aid of \$8.54; it would add just under 10% and 5% to the current annual Norwegian per capita foreign aid of \$76.79

and around 18% and 9% to Sweden's per capita foreign aid of \$43.21. It should be noted that since the predicted increase is in the form of a lump sum, the percentage increase predicted will be greater in countries currently offering lower levels of per capita foreign aid.

Last, we investigate whether women are more inclined than men to oppose the death penalty, although the vast majority of people who are executed are men. When we divide countries into those that have abolished the death penalty entirely, have abolished it for all ordinary crimes, plus countries that have not executed anyone for at least 10 years, and countries that retain and practice the death penalty we find that the average percent of women in the parliaments of the 80 countries that no longer use the penalty is 22.2, while it is only 15.0 in the 40 countries that do.²¹

Thus, the fact that countries with a higher proportion of women in parliament tend to offer more foreign aid on a per capita basis and use the death penalty more sparingly, although neither of these policies specifically impacts women's own wellbeing, leads us to conclude that more is involved than merely women's self-interest.

Conclusions

This paper provides evidence that the relationship between the proportion of women legislators and government spending, previously found for a limited number of countries, and for some jurisdictions within countries, also holds across countries throughout the world. More specifically, public expenditures on health and education tend to increase as the proportion of women in parliament increases. This relationship is not only statistically significant but of a magnitude worthy of serious attention. If an additional seventh of seats in parliament were to go to women, the model predicts increases in spending on education and health care on the order of one percent of GNI, or roughly 20% of previous expenditures. There is also some evidence that the opposite is true for military expenditures. Further, when we explored the reverse causal relations, we found that higher expenditures on health and education, higher levels of representation of women in parliament, and lower levels of income inequality are associated with higher levels of GNI/capita. Hence the policies women favor, some of which undoubtedly benefit them, do not do so at the expense of growth, but rather succeed in promoting it. Since expenditures on health and education are investments in human capital, the existence of such a "virtuous circle" should afford no

great surprise—but to date this view is far from “conventional wisdom.”

Finally, although there can be no doubt that electing greater proportions of female legislators often results in programs and laws favorable to women, we provide evidence that parliaments with higher proportions of women legislators also provide greater support for humanitarian legislation that has no obvious relation to women’s simple self-interest. This most likely reflects not only the preferences and efforts of women legislators, but also the preferences of citizens who vote for them. Neoclassical economists and other devotees of unfettered private enterprise find this difficult to accept, given their faith in Adam Smith’s famous dictum that it is by pursuing their own gain that individuals promote the good of society as if “led by an invisible hand.” They might be more willing to recognize that women and even men can be genuinely altruistic if they broadened their horizons by also reading Smith’s *Theory of Moral Sentiments*. For there Smith says, “How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.”

Endnotes

¹ Carroll, Susan J. “Representing Women. Women in State Legislatures as Agents of Policy-Related Change” in Susan J. Carroll, ed. *The Impact of Women in Public Office*. Bloomington, IN: Indiana University Press, 2001b. pp. 3-21.

² Gilligan, Carol. *In a different Voice: Psychological Theories and Women’s Development*. Cambridge, MA: Harvard University Press, 1982. p3. Bloomington, IN: Indiana University Press, 2001a, pp. ix-xvi. pxiii.

⁴ “Ecofeminists” even argue that “women possess a supra-material bond with nature that endows them with a privileged understanding of the environment and an innate ability to care for it” (Zein-Elabdin, 1996, p.929) and to the extent that women are less corrupt than men (Swamy, Knack, Lee and Azfar (2001)) they may be more willing to speak out about shady business practices even at the price of losing financial support.

⁵ Ramirez, Soysal, and Shanahan (1997, p. 735) suggest that the enfranchisement of women has become part of a new model of political citizenship on which authentic nation-statehood is now predicated.

⁶ Burk’s (2005, pp. 65-66) comment that women who have risen to the top in the business hierarchy have managed to do so because they are more interested in holding on to power and accumulating more of it than in remaining loyal to their earlier values is relevant here. Meltzer, Allan H. and Scott F. Richard. “Tests of a Rational Theory of the Size of Government” *Public Choice* 41 (1983): 403-18.

⁸ Taking advantage of an opportune natural experiment, found that government expenditures, particularly expenditures on welfare programs, increased substantially in Switzerland after women obtained the right to vote in 1971.

⁹ Lott and Kenny explain that even women married to wealthy men are likely to be aware that in case of divorce they cannot expect to recoup the full compensation for their family-specific investments through alimony. They do not spell out why women tend to make family-specific investments while men acquire skills valued in the labor market. Some may agree with traditional proponents of essential differences between males and females, such as Tiger and Fox (1971) or with the views expressed far more recently by Lawrence H. Summers, president of Harvard University that innate differences between men and women might explain differences in their careers.

¹⁰ Abrams, Burton A. and Russell F. Settle. “Women’s Suffrage and the Growth

of the Welfare State” *Public Choice* 100 (1999): 289-300.

¹² Carroll (2001b). Women might also be expected to favor government programs that help people in need because they tend to be more risk averse than men (see, for instance, Charness (2004); Falaschetti (2003); Gupta, Poulsen, and Villeval (2005)) and would be more inclined to want to have safe guards in place should they need them.

¹³ O’Regan, Valerie. *Gender Matters. Female Policymakers’ Influence in Industrialized Nations* Westport, CT: Praeger, 2000.

¹⁴ Blumberg, Rae L., “Income Under Female versus Male Control. Hypotheses from a Theory of Gender Stratification and Data from the Third World,” *Journal of Family Issues* 9 (1988): 51-84.

¹⁵ We note that women’s greater involvement with children is thought to explain their greater concern for the environment that is so crucial to the wellbeing of future generations (Warren, 1997), even though we do not look at this issue here.

¹⁶ Chowdhury, Nalma and Barbara J. Nelson with Kathryn A. Carver, Nancy J. Kathlene, Lyn.. “In a Different Voice: Women and the Policy Process,” in Sue Thomas and Clyde Wilcox, eds. *Women and Elective Office: Past, Present, and Future*. New York, Oxford: Oxford University Press, 1998, pp. 188-202.

¹⁷ Carroll 2001a; Carroll 2001b.

Clark, Cal and Janet Clark “Whither the Gender Gap? Converging and Conflicting Attitudes Among Women” in Lois Lovelace Duke, ed. *Women in Politics: Outsiders or Insiders?* Englewood Cliffs, NJ: Prentice Hall, 1996. pp. 78-99.

Dodson, Debra L. “Representing Women’s Interests in the U.S. House of Representatives” in Sue Thomas and Clyde Wilcox, eds. *Women and Elective Office: Past, Present, and Future*. New York, Oxford: Oxford University Press, 1998, pp. 130-49.

Swers, Michele L. and Carin Larson. “Women in Congress. Do They Act as Advocates for Women’s Issues?” in Sue Thomas and Clyde Wilcox, eds. *Women and Elective Office: Past, Present, and Future*. New York, Oxford: Oxford University Press, 2005, pp. 110-28.

Thomas, Sue. *How Women Legislate*. New York: Oxford University Press. 1994.

Welch, Susan. “Are Women More Liberal than Men in the U.S. Congress?” *Legislative Studies Quarterly* 10 (1985), pp. 125-34.

Berkman, Michael B. and Robert E. O’Connor. “Do Women Legislators Matter? Female Legislators and State Abortion Policy,” *American Politics Quarterly* 21 (1993): 102-24.

Berman, David R. “Gender and Issue Voting: The Policy Effects of Suffrage Expansion in Arizona.” *Social Science Quarterly* 74 (1993): 838-50

Bers, Trudy Haffron. “Local Political Elites: Men and Women on Boards of Education” *The Western Political Quarterly* 31 (1978): 381-91.

Carey, John, Richard Niemi, and Lynda Powell. “Are Women State Legislators Different?” in Sue Thomas and Clyde Wilcox, eds. *Women and Elective Office: Past, Present, and Future*. New York, Oxford: Oxford University Press, 1998, pp. 87-102.

Dodson, Debra L. and Susan J. Carroll. *Reshaping the Agenda: Women in State Legislatures*. New Brunswick, NJ: Center for the American Woman and Politics, Rutgers University, 1991.

Saint Germain, Michelle A. “Does Their Difference Make a Difference? The Impact of Women on Public Policy in the Arizona Legislature.” *Social Science Quarterly* 70 (1989): 956-68.

Whicker, Marcia Lynn and Malcolm Jewell. “The Feminization of Leadership in State Legislatures” in Sue Thomas and Clyde Wilcox, eds. *Women and Elective Office: Past, Present, and Future*. New York, Oxford: Oxford University Press, 1998, pp. 163-74.

Bakker, Isabella, ed., *The Strategic Silence: Gender and Economic Policy*, London: Zed Books Ltd., in association with Ottawa: The North-South Institute, 1994.

Chattopadhyay, Raghavendra and Esther Duflo “Women as Policy Makers: Evidence from a Randomized Policy Experiment in India,” *Econometrica* 72 (2004): 1409-1443

¹⁸ While in countries with two chambers the representation of women in most cases is somewhat higher in the lower chamber, the average for the two is not very different, 15.2% for the former, 14.2% for the latter. (The data we use were compiled by the Inter-Parliamentary Union on the basis of information provided by National Parliaments no later than March 2003.)

¹⁹ A plausible explanation for this is that in these instances public expenditures are, to a great extent, substitutes for private expenditures and apparently are more efficient. Appendix Table 1 provides evidence that this is the case when we compare life expectancy and infant mortality in the U.S., which spends far more on health care per capita than any other country, but where 55% of health expenditures come from the private sector, with those in a number of other economically advanced countries where health expenditures are largely publicly financed. To this we would add that when compared to all countries for which data are available, the U.S. ranks 26th in life expectancy for women, 94th in life expectancy for men, and for infant mortality is tied

Women Legislators - continued

for 36th place with Hungary, Poland, and the United Arab Emirates.

²⁰ Source for data on foreign aid: Rasmusen Weblog: Countries' Generosity with Foreign Aid: Drezner Post (www.rasmusen.org/x/archives/000368.html, last accessed 9-26-06.

²¹ Data for the death penalty were obtained from the internet, ENCARTA, Capital Punishment Worldwide. If we excluded six countries where there are relatively large percentages of women in parliament (Rwanda 48.8%, Cuba 36.0%, Afghanistan 27.3%, Iraq 25.5%, China 20.3%, and North Korea 20.1%), but the parliament clearly has no real influence, the contrast would be even more striking.

²² Smith, Adam. *The Theory of Moral Sentiments*. New York: A. M. Kelly, [1759] 1966.

Additional References

Becker, Gary S. *A Treatise on the Family*. Cambridge, MA: Harvard University Press, 1981.

Burk, Martha. *Cult of Power. Sex Discrimination in Corporate America and What Can be Done About It*. New York: Scribner, 2005.

Charness, Gary and Uri Gneezy. "Gender Differences in Financial Risk-taking" Unpublished paper, 2004.

Falaszchetti, Dino. "What You See is What You Get: Gender Differences in Risk-Taking and Female Representation in Legislatures" Unpublished Paper, 2003.

Gupta, Nabanita Datta, Anders Poulsen, and Marie-Claire Villeval. "Male and Female Competitive Behavior: Experimental Evidence" IZA Discussion Paper 1833 Nov. 2005.

Kanter, Rosabeth M. *Men and Women of the Corporation*, New York: Basic Books, 1977.

Ramirez, Francisco O., Yasmin Soysal, and Suzanne Shanahan. "The Changing Logic of Political Citizenship: Cross-National Acquisition of Women's Suffrage Rights, 1890 to 1990." *American Sociological Review* 62 (1997): 735-45.

Swamy, Anand, Stephen Knack, Young Leec and Omar Azfar. "Gender and Corruption" *Journal of Development Economics* 64 (2001): 25-55.

Tiger, Lionel and Robin Fox. *The Imperial Animal*. New York: Holt, Rinehart and Winston, 1971.

Warren Karen J. ed., *Ecofeminism. Women, Culture, Nature*, Bloomington, IN: Indiana University Press, 1997.

Yoder, Janice D. "Rethinking Tokenism: Looking beyond Numbers" *Gender and Society* 5 (1991): 178-92.

Zein-Elabdin, Eiman. "Development, Gender, and the Environment: Theoretical or Contextual Link? Toward an Institutional Analysis of Gender" *Journal of Economic Issues* 30 (1996): 929-947.

Appendix

Regression 1

EH = 4.014 + 0.0000154*GNI + 0.0739*W + 0.0124*TT + 0.103*M

t-value: 6.38** 2.64** 0.42 0.64

N = 108 Adjusted R-square = 0.432

Regression 2

M = 2.66 - 0.0327*W

t-value: -2.20*

N=108 Adjusted R-square = 0.035

Regression 3

GNI = 11,485 + 202.46*W -384.57*TT + 0.070*M + 1840.3* HE

t-value: 2.06* -4.06** 0 6.38**

N = 108 Adjusted R-square = 0.499

Regression 4

FA = -16.5 + 0.21*W + 0.000484*GNI

t-value: 2.85* 2.95**

N = 21 Adjusted R-square = 0.44

* indicates a significance level between 1% and 5%.

** indicates a significance level below 1%.

Table 1

International Health Care Comparisons

	Canada	France	Germany	Japan	Switzerl.	UK	U.S
Health Spending As percent of GDP (1)	9.9	10.5	10.9	8.0	11.6	8.3	15.3
Life expectancy for women (2)	82.8	82.7	80.5	83.4	82.3	80.2	79.7
Life expectancy for men (2)	76.1	74.8	74.0	77.0	75.8	74.7	73.0
Infant mortality Per 1,000 births (2)	5	4	4	3	5	5	7

Sources: (1) OECD Health Data 2006, June 2006. (2) Internet, Differences in the life expectancies of the sexes in various countries in the world.

Table 2

Percent of Women in Single House or Lower House

Nordic countries	40.1%
North America	20.1%
West Indies, Central and South America	19.4%
Europe excl. Nordic countries	15.4%
Asia	15.4%
Sub-Saharan Africa	13.6%
Pacific	11.4%
Middle East and North Africa	6.4%

Data compiled March 28, 2003 by the Inter-Parliamentary Union Based on information provided by National Parliaments.

Private Educational Services: Whom Does the Market Leave Behind?

Matthew Steinberg

THE *NO CHILD LEFT BEHIND ACT OF 2001 (NCLB)* was signed into law by George W. Bush in January 2002, a reauthorization of the Elementary and Secondary Education Act (ESEA) of 1965. NCLB broadens the federal monitoring of state accountability, imposes new federal requirements for annual testing of students in grades 3-8, and sanctions districts and schools that do not make adequate yearly progress (AYP). NCLB is also marked by a shift toward market-based solutions. The Supplemental Education Services (SES) provision of NCLB is a federally mandated intervention for Title I schools that fail to meet yearly performance benchmarks. NCLB defines SES as “additional academic instruction designed to increase the academic achievement of students in low-performing schools” and stipulates that these services must be provided “outside the regular school day.”¹ The SES provision essentially creates a market for tutoring services for students in failing Title I schools.

On the supply side of the market SES providers may take the form of public- or private-sector companies that are approved by the state, such as public schools, charter schools, local education agencies, educational service agencies and faith-based organizations. Private-sector providers may either be nonprofit or for-profit entities. Services include tutoring, remediation, and other academic instruction.

On the demand side, any low-income student is eligible for SES services if he or she is enrolled in a Title I school that has not made AYP for three years or more. As the text of NCLB explains, “Eligibility is not dependent on whether the student is a member of a subgroup that caused the school

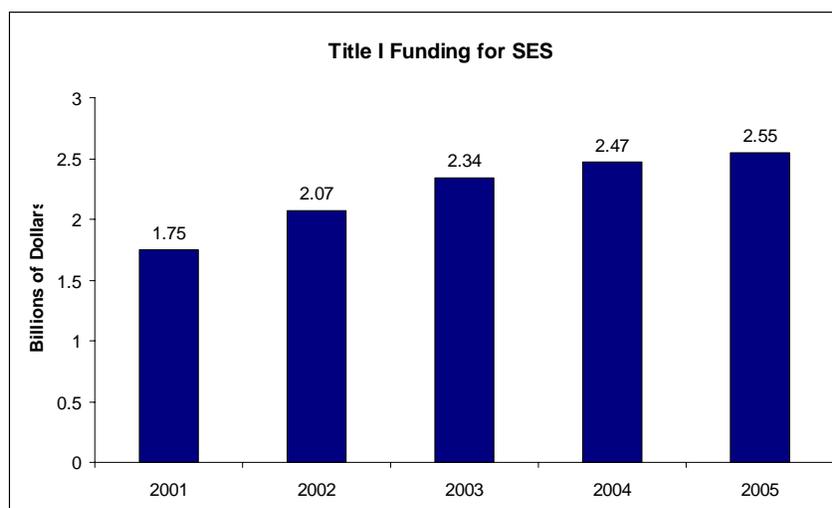
to not make AYP or whether the student is in a grade that takes the statewide assessments.”²

As the SES mandate now enters its fifth year of implementation, the SES market has shown signs of information asymmetries. Weimer & Vining (2005) explain that a market fails due to information asymmetries when “the buyer and the seller in a market transaction have different information about the quality of the good being traded.”³ In the case of the SES market, buyers are often required to transact with incomplete information. SES firms do not advertise or publicly certify the hourly per student price that

they charge the school district; this omission directly affects the total number of tutoring hours available to eligible students. Firms do not provide information on whether (and in what way) their tutoring curriculum is aligned to state learning standards; this omission has implications for whether the services of tutoring companies enhance a student’s ability to meet state-prescribed perform-

ance benchmarks. Under the current design of the supplemental services provision, SES firms are not required to report performance outcomes in raising student achievement; this omission makes it nearly impossible for buyers to make meaningful performance comparisons across firms. In addition, SES firms are not required to provide operational and financial data to the public, beyond a very cursory summary of operations posted on state department of education websites.

As a result, parents of children in Title I schools with consistently failing performance—the proposed beneficiaries of free after-school tutoring—ultimately bear the burden



Source: US Department of Education Budget Office

Matthew Steinberg is a graduate student at the La Follette School of Public Affairs at the University of Wisconsin-Madison, and is interested in the intersection of markets, privatization and education policy. Portions of the analysis presented in this article are from a larger study of privatization for which the author is a graduate researcher (see Burch, P., Steinberg, M., and Donovan, J. 2006).

of finding the best product for their children. Unfortunately, these parents are expected to make decisions about additional academic instruction for their children in the context of very incomplete information. The information asymmetries of the SES market not only constrain buyers, they constrain the public as well. Policymakers are unable to fully assess the performance of SES providers toward the goal of increasing student achievement in some of the most resource-strapped schools in the nation.

The SES Market

A Local Education Agency is required under NCLB to use up to an amount equal to 20 percent of its Title I, Part A allocation to cover costs related to the intra-district choice requirements, including SES. With the amount of funds available for supplemental education services tied to the number of Title I schools who fail to make AYP for three consecutive years, the market for SES providers is expanding on both the demand as well as the supply side of the market. Between fiscal years 2001 and 2005, the amount of federal funds available (though not necessarily used) for supplemental education services increased by 45 percent from \$1.75 billion in FY 2001 to approximately \$2.55 billion in FY 2005.⁴ This growth in the total federal allocation for SES represents a growth in the demand for supplemental services at the national level.

In response to this growth in the demand-side of the SES market, entry into the SES market by tutoring companies has risen dramatically. Nationwide, the number of approved providers increased from 997 in April 2003 (the first full year of implementation) to 1,859 during the 2005-06 academic year—an increase of 86.5 percent.⁵ On the supply-side, expansion in the SES market is illustrated by the revenue gains at some of the largest national SES firms. For example, Plato Learning, an approved provider in 45 states during the 2005-06 academic year, saw revenues increase by 91 percent from 2002 to 2004.⁶ Education Station, providing SES in 33 states, experienced revenue increases of 402% from year-end 2003 to year-end 2004. In dollar terms, Educate Inc.'s NCLB business earned \$5.5 million in 2003 and \$27.6 million in 2004.⁷ Princeton Review, approved SES provider in 29 states, saw revenues in its K-12 Services division increase by 178% from 2002 to 2004.⁸

Information Asymmetries: Implications for the Quality of SES

The availability of capital in the SES market has increased the number of SES firms approved to provide

tutoring services across the country and has supported robust revenue growth for many of the largest tutoring companies. Moreover, NCLB positions SES providers outside of the traditional bureaucracy inhabited by failing public schools, endowing these companies with the flexibility of free-market agents to make entry and exit decisions regarding the public education market. Proponents of market-based solutions perceive SES providers to be immune to the inefficiencies that have plagued our nation's public schools.

However, in an era of standardization as the benchmark of accountability, the dearth of formal measures to evaluate the performance of SES providers has significant efficiency and equity implications for student achievement. Private companies are often considered more efficient providers of supplemental services; this assumption is predicated on the idea that the goal of private companies is to maximize profits through active management of costs in delivering educational services. Implementation issues have arisen, however, that challenge the validity of this assumption, spotlight structural inefficiencies in the delivery of supplemental services, and cast a shadow over revenues earned by SES firms as a result of unequal information afforded to parents and children, the intended consumer of supplemental services.

Curriculum & Instructional Strategies

Among the top three SES providers by states approved in 2005-06 (Plato Learning, Failure Free Reading, and Huntington Learning Centers), there is significant variation in the curriculum that each company offers to students receiving supplemental services (See Table 1). The variation in the programs offered among SES providers is only one objective of the SES provision. Indeed, the Federal guidelines indicate that districts “should strive to identify more than one supplemental educational service provider” for eligible schools.⁹ Consumer choice, however, is limited not only by the inaccessibility of information on curriculum differences across SES providers but also, and perhaps more critically, by the absence of formalized metrics in which to compare the efficacy of different curricula in terms of students' individual learning needs.

Some companies (Newton Learning, Education Station, Princeton Review, and Kaplan) advertise the alignment of their curriculum to state standards. Two issues are implicit here. If each state has different learning standards, and a company is using the same curriculum materials in all the states in which it is an approved provider, to what extent is

Private Educational Services - continued

this curriculum actually aligned to individual state standards? In some states the curriculum used by the SES provider will be better aligned than in other states, which introduces equity considerations in the delivery of these services. Second, how does a company proceed with the alignment of its curriculum to state standards? The companies provide no information on which states they are aligning their curriculum to (perhaps as a benchmark), nor the procedures they might use to do so.

Although NCLB describes the importance of curricular alignment with state education standards (noting that “the instructional content and methods of a potential provider must...share a focus on the same State academic content and achievement standards and be designed to help students meet those standards”¹⁰) there is little, by way of quantitative measures, in the federal regulations that outlines how to assess the compatibility of a provider’s proprietary instruction with state learning standards. Inequities are the result, due in large part to the disconnect that exists between the curriculum taught by the SES providers and the learning standards of the states in which the providers operate.

Operational Costs Affecting Quality of Services

As the demand-side expands, SES firms have experienced significant revenue growth. With competition for district and school contracts intensifying, however, these firms can expect to face rising costs. As reflected in Table 2, each company has a pattern of rising operating costs and decreasing operating profit margins. Firms are experiencing declining profits relative to increasing revenues, indicating that, among this sample of SES providers, economies of scale do not exist (at least thus far) in the supplemental services industry. In order to maintain acceptable levels of profit while remaining competitive in the SES market, firms must actively manage their operational costs. This cost containment strategy has direct implications for the quality and effectiveness of services provided to students.

Some SES providers are offsetting rising operational costs by charging higher hourly rates for their services. A firm providing SES can charge the local school district any hourly per-student rate; in fact, the federal guidelines allow for such pricing differences, noting that districts “should avoid arbitrarily setting uniform pricing or hourly rates.”¹¹ For example, hourly per student rates charged by SES providers in one large Midwest district in 2004-05 ranged from \$25/hour per student to \$80/hour per student. Each SES provider within a district earns the same total per-student allocation

when a student enrolls and attends their program, regardless of the quality or quantity of tutoring services provided. This reveals a fundamental violation of the principles of the competitive market. If the SES market were truly competitive, firms would disclose and compete on the per-pupil price. SES firms, however, do not advertise the hourly rates that they charge. This leaves parents a choice among programs whose cost structures are hidden. While each parent, by enrolling their student for supplemental services, receives the same per-student voucher amount, the actual per-student costs differ substantially among SES providers; the differences in cost structures lead to wide variation in the total hours of SES provided by each firm.

While the design of SES intends to assure the provision of high quality services to children, the presence of information asymmetries in the SES market limits the access to and effectiveness of quality after-school instruction delivered to at-risk students. Some policymakers at the state level are beginning to build accountability into the SES market, but further progress is needed.

Policy Recommendations

SES seeks to address the achievement gap that exists between low-income and minority students and their middle-class counterparts. Furthermore, SES provides free tutoring to students who otherwise would not be able to afford additional academic services. While these goals are laudable, imputing a private tutoring market into public education raises a number of efficiency and equity concerns; in fact, the SES market-based solution may have adversely affected the very students it was intended to benefit. If federal legislation should continue to mandate SES for Title I schools that have failed to make AYP for three consecutive years, a number of amendments to the existing policy ought to be considered.

Greater Transparency around SES Provider Operations

The SES policy should be amended to assign greater accountability to the tutoring companies and private vendors that have thus far profited from the SES market. In order to mitigate the information asymmetries present in the SES market, a clearinghouse/monitoring agency should be established to certify the operations of private SES providers. This agency would mandate that approved SES provider firms submit annual audited operational and financial statements for public review.

These audited statements would provide a detailed

description of the curriculum that individual SES firms are implementing in each state and district in which they operate. Firms would be required to describe how they align their curriculum to state learning standards and proficiency exams. Firms would also be required to describe hiring and training practices for their teachers/tutors, and the specific qualifications and credentials that they require of these teachers/tutors. This is especially important as a form of comparison across SES providers, since the current federal guidelines do not require SES providers to hire ‘highly certified’ teachers (as is the requirement in all public schools). Furthermore, firms would be required to describe the teacher-student ratios employed as part of their program, as well as how these ratios might be maintained across school sites where demand may differ. Finally, tutoring companies would be required to report detailed performance data, describing how their curriculum increased student performance through a rigorous value-added methodology established and certified by the SES clearinghouse/monitoring agency. This performance data would allow for valid cross-provider performance comparisons.

Increased School Participation

The SES policy should be amended to strengthen the capacity of local school districts by allowing schools to participate in the SES market. At present, local schools whose students are eligible for SES are themselves prohibited from providing SES to their students. While the underlying theory behind the SES provision is that schools that have not met AYP have failed thus far to increase student achievement, the current arrangement, which allows outside vendors to use school space, establishes an inherent conflict between school practice and private companies.

Schools should have the option to partner with (and not just open their doors to) outside vendors as consultants, recapturing the Title I funds that would otherwise be removed from the school budget, and re-dedicating these funds to refining instructional practice within the school. Schools could utilize the technological infrastructure of private companies to enhance their ability to better identify the learning needs of struggling students, while seamlessly integrating tutoring services into the school curriculum. Linking these additional services to the regular school day

might enhance the efficacy of the SES program, as well as better address the local needs of individual struggling schools.

The Federal Government's Role

As mentioned, the federal government would establish a monitoring agency to establish performance metrics. The agency would create pre- and post-tests specific to each state’s learning standards, and would require SES providers to administer these tests to their students. The agency would also standardize the methodology behind which SES firms report their performance data. By formalizing common evaluation procedures and standardizing state-specific SES tests, greater transparency would exist in comparing the value-added performance of SES firms.

Furthermore, the agency would create incentives for local community organizations and private firms to partner with local schools to provide SES outside of the immediate school site. This would expand parents’ options for available providers outside of those who capture the limited space at school-sites. In addition, by supporting the cooperation of local civic organizations and private firms with local schools, after-school tutoring efforts could be better linked to raising student achievement and building community capacity.

[S]chools whose students are eligible for SES are themselves prohibited from providing SES.

Educational Privatization and SES - *The Jury is Still Out*

This paper has argued that the introduction of market-based solutions to address problems endemic in public education can have unintended and adverse consequences for the students for whom the policy was created to benefit. Is it the case then that private markets adversely affect educational outcomes? I believe that only by rigorously evaluating the value added by private firms within the context of the public education sphere can we begin to arrive at this answer. For now, we must move to establish and implement reliable metrics and standards for identifying whether private companies are successful or not in raising student performance.

By extension, is a policy mandating supplemental education and tutoring services to low-income students a legitimate means of supporting and increasing student achievement? Any program that offers (not mandates)

Private Educational Services - continued

Table 1: Sample of National SES Providers ¹²

SES Provider	# of States Approved ¹³	Sector ¹⁴	Curriculum	Staff & Training Practices
Plato Learning, Inc.	45	Public (NASDAQ: TUTR)	Computer-based online instruction guided by teachers	Regular-school teachers support delivery of Plato curriculum
Failure Free Reading	40	Private	A combination of computer and teacher directed lessons	Regular-school teachers implement curriculum
Huntington Learning Centers, Inc	37	Private (franchise-owned)	Individual instruction at off-site center	Bachelors Degree Required Teacher Certification not required
Newton Learning	36	Private (Division of Edison Schools, Inc.)	Small-group instruction in school	Regular-school teachers deliver after-school instruction
Education Station	33	Public(Division of Educate, Inc. – NASDAQ: EEEE)	Small-group instruction in school (6-8 students)	Teachers meet all state specifications related to NCLB's 'highly qualified teachers' requirements
Princeton Review, Inc.	29	Public(NASDAQ: REVU)	Small-group instruction in school (6-8 students)	Princeton Review provides their own teachers for SES programs
Compass Learning, Inc.	14	Private(Subsidiary of WRC Media – formerly a public company)	Individual computer-based instruction	Teachers assess and monitor student during student's self-paced, project-based activities
Kaplan, Inc.	13	Public(Subsidiary of The Washington Post Company – NYSE: WPO)	Small-group instruction in school	Kaplan instructors who pass Kaplan's Teacher Development Program

Table 2: Operational and Financial Trends of SES Providers¹⁵

SES provider	Market strategy	Revenue trends ^a	Advertising cost trends ^b	Operating profit trends ^c
Plato Learning, Inc.	Merger/Acquisition of online education platforms to expand software business	Revenues increased by 91% from 2002-2004	SG&A ratio 60% in 2004	Operating profit margin declined by 85% from 2000-2004, even with increase of 34% from 2002-2004
Educate, Inc.	Created <i>Education Stations</i> to meet market demand for SES provision. Company looking to divest this business platform.	Revenues increased by 402% from 2003-2004	SG&A ratio 13% in 2004	Operating profit margin remained at 8% in 2003 and 2004
Princeton Review, Inc.	Integrating existing business platforms to meet demand for SES	Revenues increased by 178% from 2002-2004	SG&A ration 94% in 2004	Operating profit margin declined by 59% from 2002-2004
Compass Learning, Inc.	Acquired by WRC Media, Inc. to expand media products into the Pre-K-12 research-based, technology learning market	Revenues declined by 6% from 2003-2004	n/a	Operating profit margin declined by 476% from 2003-2004
Kaplan, Inc.	Targeted states with largest share of SES allocation. Approved in 7 of 10 states with largest SES allocation (of the 13 total states approved)	Revenue increased by 55% from 2002-2004	n/a	Operating profit margin increased by 27% from 2002-2003, but declined by 5% from 2003-2004

^a Revenue is the total amount of money received by an SES provider for supplemental services provided during a certain time period. Measures the amount of supplemental services that a particular company is providing.

^b Advertising trends measured by the ratio of Selling, General and Administrative expenses to total revenue. Ratio is calculated by dividing the SG&A expense by total Revenues, and is a measure of the cost efficiency of supplying supplemental services. A higher ratio measure, the less efficient a company is in providing supplemental services.

^c Operating profit trends measured by the ratio of operating expenses to total revenue. Ratio is calculated by deducting operating expenses (e.g. cost of goods and services, sales and marketing, general and administrative (SG&A)) from total revenues, and dividing the result by total revenues. Measures the profitability and performance of the SES provider. A higher ratio measure, the more profitable a company is in providing supplemental services.

additional and supplemental education services to at-risk students is worth supporting. The goal, however, is to refine the SES policy going forward. The policy should ensure that consumers – parents and students – are exercising their choice in the presence of complete information, and with awareness of the costs and benefits of each provider.

Sunderman, G. L. & Kim, J. (2004). "Expansion of Federal Power in American Education: Federal-State Relationships Under the No Child Left Behind Act, year one." *The Civil Rights Project*. Cambridge: Harvard University.
 Sunderman, G. L. & Kim, (2004). "Increasing Bureaucracy or Increasing Opportunities? School District Experience with Supplemental Education Services." *The Civil Rights Project*. Cambridge: Harvard University.
 U.S. Department of Education, *Supplemental Educational Services Non-Regulatory Guidance*, June 13, 2005.
 Weimer, D. & Vining, A. (2005) *Policy Analysis: Concepts and Practice*. 4th Edition. Pearson Prentice Hall, New Jersey.

Endnotes

- ¹ Sunderman, G. L. & Kim, (2004). "Increasing Bureaucracy or Increasing Opportunities? School District Experience with Supplemental Education Services." *The Civil Rights Project*; page 4.
- ² U.S. Department of Education, *Supplemental Educational Services Non-Regulatory Guidance*, June 13, 2005.
- ³ Weimer, D. & Vining, A. (2005) *Policy Analysis: Concepts and Practice*. 4th Edition. Pearson Prentice Hall, New Jersey; page 104.
- ⁴ Total title I allocations have increased from \$8.76 billion in 2001 to \$12.74 billion in 2005 (source: U.S. Department of Education)
- ⁵ Sources: Tutors for Kids (www.tutorsforkids.org); Anderson, L. M. & Laguarda, K. G. (2005).
- ⁶ Changes in revenue calculated by the author. Sources: Plato Learning website (www.plato.com); Plato 2004 Annual Report (Form 10-K)
- ⁷ Changes in revenue calculated by the author. Source: Educate, Inc. 2004 Annual Report (Form 10-K)
- ⁸ Changes in revenue calculated by the author. Source: Princeton Review 2004 Annual Report (Form 10-K)
- ⁹ U.S. Department of Education, *Supplemental Educational Services Non-Regulatory Guidance*, June 13, 2005
- ¹⁰ U.S. Department of Education, *Supplemental Educational Services Non-Regulatory Guidance*, June 13, 2005
- ¹¹ U.S. Department of Education, *Supplemental Educational Services Non-Regulatory Guidance*, June 13, 2005
- ¹² This table appears in a companion piece. See: Burch, P., Steinberg, M. & Donovan, J. "Accountability and Supplemental Education Services: Market Assumptions and Emerging Policy Issues." Paper presented at the 2006 Association for Public Policy Analysis and Management (APPAM) Fall Conference; November 2, Madison, WI
- ¹³ Source: www.tutorsforkids.org
- ¹⁴ Refers to whether the SES provider is a public-traded or privately-held company
- ¹⁵ This table appears in a companion piece. See: Burch, P., Steinberg, M. & Donovan, J. "Accountability and Supplemental Education Services: Market Assumptions and Emerging Policy Issues." Paper presented at the 2006 Association for Public Policy Analysis and Management (APPAM) Fall Conference; November 2, Madison, WI

Websites Accessed

- <http://www.catapultlearning.com>
- <http://www.educate-inc.com>
- <http://www.failurefree.com/>
- <http://www.kaplan.com>
- <http://www.huntingtonlearning.com>
- <http://www.newtonlearning.net>
- <http://www.plato.com>
- <http://www.princetonreview.com>
- <http://www.tutorsforkids.org>

Works Cited

- Anderson, L. M. & Laguarda, K. G. (2005). "Case Studies of Supplemental Services Under the No Child Left Behind Act: Findings from 2003-2004." *U.S. Department of Education, Office of Planning, Evaluation and Policy Development*.
- Burch, P. (forthcoming). "The New Educational Privatization: Educational Contracting and High Stakes Accountability." *Teachers College Record*.
- Burch, P., Donovan, J. & Steinberg, M. "The New Landscape of Educational Privatization in the Era of NCLB." *Phi Delta Kappan*, Vol. 88, Number 2, October 2006.
- Burch, P., Steinberg, M. & Donovan, J. "Accountability and Supplemental Education Services: Market Assumptions and Emerging Policy Issues." Paper presented at the 2006 Association for Public Policy Analysis and Management (APPAM) Fall Conference; November 2, Madison, WI.
- Casserly, M. (2004). "No Child Left Behind: A Status Report on Choice and Supplemental Services in America's Great City Schools." *Council of the Great City Schools*, January 2004.
- Center on Education Policy. *From the Capital to the Classroom: Year 3 of the No Child Left Behind Act*; March 2005.
- Farkas P. & Durham R. (2006). "The Role of Tutoring in Standards-Based Reform". Paper presented at the conference sponsored by the Institute of Poverty Research. University of Wisconsin – Madison. February, 2006
- No Child Left Behind Act: Education Actions Needed to Improve Local Implementation and State Evaluation of Supplemental Educational Services*. Government Accountability Office (GAO); August 2006.
- Peterson, Paul E. (2005). "Making up the Rules as You Play the Game." *Education Next*, Fall 2005.

California's Photovoltaic Gamble

Adam Langton, Hai Guan, and Anne Su

IN JANUARY 2006, the California Public Utilities Commission (CPUC) and the California Energy Commission announced plans for the California Solar Initiative (CSI). The program represents the latest state-level initiative to increase the generation of renewable energy and to reach the ambitious renewable energy goals of the Renewable Portfolio Standard (RPS). The CSI program hopes to add an unprecedented amount of solar capacity—3000 megawatts (MW)—to California's electricity grid by providing incentives for customers to install solar energy systems for their homes and businesses. With the CSI scheduled begin in 2007, California hopes that these incentives will create a long-term market for solar photovoltaic (PV) panels. CSI supporters claim that the creation of a stable and robust market demand for solar panels will increase PV production and improve production efficiency. They hope gains in production efficiency will decrease the cost of solar panels and will allow the PV market to operate without subsidies by the end of the 11-year program.

However, a careful look at the photovoltaic market suggests that, as currently structured, the CSI incentive program may not generate the demand levels that its promoters envision. Most notably, supply limitations for key manufacturing materials could generate price pressures that partially offset CSI incentives. Absent significant consumer demand, "learning curve" benefits from mass production may not be realized.

By focusing exclusively on photovoltaics, California misses a critical opportunity to promote the development of a broad range of solar technologies. An exclusive focus on PV may help fulfill the RPS goals, but it may not represent the best allocation of limited CSI funding. To better achieve the goals of the RPS, the CSI should expand eligibility to include all solar technologies, such as concentrating solar technologies. By prioritizing CSI incentives for systems that offer the highest energy yield, the CSI program could ensure that benefits are targeted toward projects that will help California reach its renewable energy goals.

Limits on PV "Learning Curve"

The CSI is designed to provide customer subsidies that gradually decrease over the 11-year life of the program. Benefit levels decline by 10% as state-wide installation targets, measured by megawatt capacity installed, are achieved. Benefits are expected to completely expire in 2016—at which point CSI advocates hope that reduced solar panel prices will generate sustainable demand levels.

PV supporters point to a long history of price decreases that they believe will continue in the future. Since the 1950s, the cost of PV has declined by a factor of 100.¹ With the help of temporary consumer subsidies, CSI advocates believe that continued price reductions will soon make PV cost-competitive with other energy sources.

The CSI program assumes that price decreases in PV will be driven by economies of scale and the production "learning curve," or advances enabled through the maturation of the production process. However, there is considerable uncertainty associated with the market effects of these

production mechanisms, and this uncertainty could threaten the effectiveness of the CSI. PV technologies are not guaranteed to improve simply because of mass production or the learning that may come from mass production. While the CPUC has designed a 10% reduction in consumer incentives as solar energy generation targets are met, the market-driven reductions in prices that consumers face are likely to be smaller.

A study by Greg Nemet from the Energy and Resources Group at UC Berkeley argues that the learning curve's effect in PV markets is limited.² The substantial change in cost for PV in the last half of the 20th century was primarily driven by economies of scale and knowledge spillover, the spread of innovation in a given field. Unfortunately, these factors can be discontinuous and unpredictable, as was the case for PV during the 1970s and 1980s. During the 1970s, when silicon prices declined by a factor of 12, PV costs also declined rapidly. These costs declined much more slowly during the 1980s. Knowledge spillover will not cause lower

By focusing exclusively on photovoltaics, California misses a critical opportunity to promote the development of a broad range of solar technologies

Adam Langton is a second-year M.P.P. student at the Goldman School of Public Policy. His policy interests include energy policy and international development issues. Hai Guan is an undergraduate majoring in economics and statistics at UC Berkeley. Anne Su is also an undergraduate at UC Berkeley, studying political economy and rhetoric.

costs if firms do not share new production methods with their competitors. Finally, production efficiency may yield quality improvements that are passed on to customers in the form of higher prices.

Potential Supply Shortages

The most significant threat to the near-term commercialization of PV comes from the limited supply of processed silicon. Silicon, an essential material for PV systems, is a major influence on PV price—accounting for 12% of the cost reductions between 1981 and 2001.³ While silicon is widely available (making up about 26% of the earth’s crust) it must be refined and processed for use in solar cells.⁴ PV manufacturers traditionally rely on unused polysilicon by-product from semiconductor manufacturers. Due to increasing worldwide demand for PV—largely from Germany and Japan—processed polysilicon is growing scarce. Refinery capacity needed to meet this demand has yet to materialize.

In 2005, PV manufacturers met 80-90% of their production plans by tapping polysilicon stockpiles, but stockpiles are now being depleted. PV manufacturers are being forced to dip into the computer industry’s more refined, higher quality, and higher priced silicon, rather than rely on the silicon by-product of the semiconductor industry.⁵ Market experts report that polysilicon contracts are sold out through 2007 and only 60-65% of planned production will likely be met.⁶

Since 2003, silicon prices have increased dramatically—from \$20/kg in 2003 to \$60/kg in 2005. In 2007, prices are anticipated to reach \$80/kg and short-term prices could spike over \$100/kg.⁷ Recent increases in the price of solar panels suggest that the silicon shortage is already having a significant impact on the cost of solar panels. Between 2004 and 2005, the price of solar panels increased by 13% and experts believe that this increase was largely driven by silicon prices.⁸

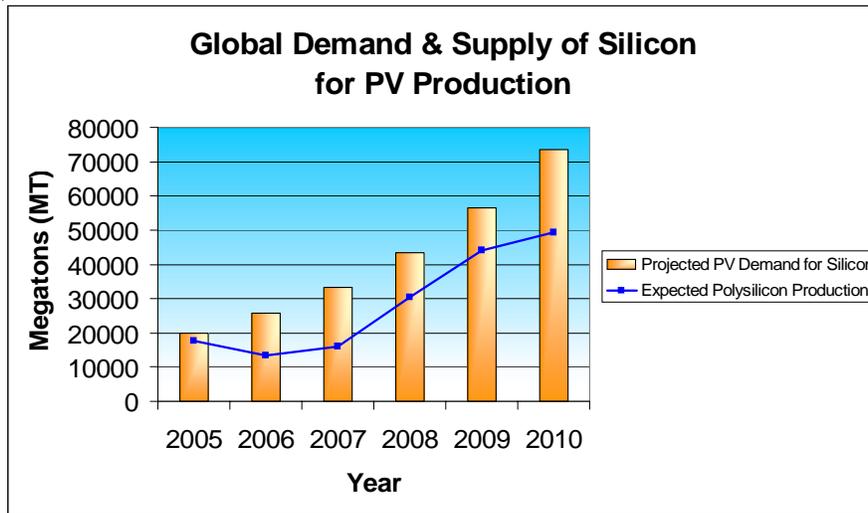
Additional polysilicon refinery plants are needed to meet the recent surge in demand; however, building the additional silicon refineries needed in California is estimated to take 2-3 years.⁹ The lag in refinery capacity on top of the silicon shortage could hurt the market’s ability to meet demand, introducing more questions about how close the PV market is to broad commercialization.

The silicon shortage, and resulting price effects, could render CSI incentives ineffective in generating customer interest, which in turn would threaten the production efficiency gains that solar

advocates hope to achieve. The U.S. Department of Energy projects silicon shortages to last until 2009 and that these shortages could prevent price cuts in PV from materializing.¹⁰ Increases in the price of silicon are expected to result in higher prices for solar panels, which will counteract incentives to generate consumer participation. Absent strong consumer demand, production economies of scale and learning curve efficiencies will not materialize.

Similar supply limitations are encountered in the market for indium tin oxide (ITO), another key component to solar panel production. ITO is transparent and electrically conductive, making it ideal in use for coatings on solar panels. It occurs most frequently as an impurity in zinc deposits. Due to the relative low worldwide demand during the past few decades, there were few suppliers that specifically extracted indium from zinc. Beginning in 2002, however, a boom in the LCD industry led to a sudden and rapid growth in demand for ITO.¹¹ Coupled with the small number of suppliers, the price of indium has since risen significantly. According to a study of indium supply and demand by AIM Specialty Materials, demand for indium is likely to outpace the supply of indium in the near future.¹²

The average price for indium in 2003 was about \$166/kg; as of July 2005, the average price for indium was as high as \$970/kg.¹³ Additionally, the price of zinc is rising due to a relatively weak zinc market. Since indium is a byproduct of



Source: Prometheus Institute, and Aud N. Waernes³⁹

CA Photovoltaics - continued

zinc, its price is expected to rise along with zinc's price. It is likely that a strong demand for indium will continue interminably, given the growth of the LCD and PV industries. Lacking a mature structure for indium collection and refining, the supply of ITO is likely to stay low.¹⁴ Increased ITO prices could further elevate the price of solar panels and further delay the development of a self-sustaining solar panel market.

Non-PV Alternatives

In light of the market realities facing photovoltaic technology, the CSI's nearly exclusive focus on PV incentives is risky and unjustified.¹⁵ In order to capture the optimal benefits of solar energy, the CSI should shift its focus to include non-PV technologies. Many non-PV solar technologies are closer to market, more effective at generating energy, and generate larger amounts of energy than solar panels. Incentives for non-PV would push for the maturity of an alternative solar market, while making a significant contribution towards California's renewable energy goals.

Non-PV technologies—particularly concentrating solar power technologies (CSPs)—rely on conventional raw materials rather than the specialty materials required by PV technologies. The production benefits of the learning curve and economies of scale apply to CSP technologies, but the supply risks associated with the specialized materials needed for PV do not. Some CSP technologies are nearer to commercialization than PV technology and would require smaller incentives to push these technologies to cost-competitiveness with fossil fuel sources.

Three leading concentrated solar technologies are solar trough, power tower, and Stirling dish technology. According to the California Energy Commission, CSP technologies have the potential to reach a capacity of approximately one million megawatts in California.¹⁶

Solar trough technology

Solar troughs use parabolic reflectors to concentrate sunlight on water. Like a turbine engine, steam from the heated water drives an electric generator. Reports indicate that the electricity costs from trough plants range from \$0.10-\$0.12/kWh. Compared to the current costs of electricity from PV (\$0.30/kWh), trough technology would need less push from the government to reach conventional generation costs, \$0.03-\$0.05 cents/kWh.¹⁷ Furthermore, there is low technical and financial risk for developing trough plants since trough technology has been used on a limited

basis in California during the past 16 years. Over 350 MW of installed capacity from nine trough plants in California's Mojave Desert are currently in operation.¹⁸ Given the low cost of trough plants, government incentives aimed at expanding commercialization could help trough plants reach cost levels comparable to that of traditional fossil fuel plants in only a few years.

Solar power tower technology

Solar power tower systems use mirrors to concentrate sunlight onto a power collector target, which can be used to store heat or generate electricity. This technology is a bit behind trough technology in terms of cost per kilowatt, but it still ranks ahead of PV.¹⁹ Several pilot plants recently tested, notably the 'Power Tower' in Australia, which is projected to generate 200 megawatts.²⁰ Solar power tower has large-scale generation potential since it uses conventional, scalable technologies.²¹ The electricity cost of a 200 MW plant is estimated to cost around \$0.06/kWh, which is much closer to conventional electricity costs than PV.²² Government incentives could be used to explore optimal production scale, and thereby develop production efficiencies.

Stirling dish technology

Stirling dishes use a parabolic dish to concentrate sunlight onto a collector, which captures heat to power a turbine engine.²³ Among the major solar technologies, Stirling dish technology is the most efficient, reaching an efficiency factor of roughly 30%.²⁴ In 2005, San Diego Gas & Electric and Edison International signed power purchase agreements to construct two 2 large (>300 MW) solar generating structures in Southern California.²⁵ Edison International claims that its systems are approaching cost-competitive prices. While dish assemblies are currently \$250,000 each, it is because "most have been handcrafted in sporadic lots of one or two units," according to a recent *Business Week* article. Manufacturers estimate that modest production increases could yield cost decreases of 40%. With mass production, that number could drop again by 50%, suggesting that incentives for Stirling technology could generate large production efficiency gains.²⁶

Concentrating PV (CPV)

CPV systems use reflectors or lenses to concentrate sunlight on PV panels. Although still subject to the supply limits facing other PV technology, CPV might be a good

alternative to traditional flat panel PV because it does not require as much expensive solar cell material and generates higher efficiencies than traditional PV panels.²⁷ CPV generate more energy per cell by using inexpensive optics to concentrate sunlight on solar cells.²⁸ By requiring fewer solar cells, CPV systems can utilize higher-efficiency solar cells than that of traditional flat panels.²⁹ Arizona already invests in CPV and Spain recently announced plans to build a 20-megawatt CPV plant.³⁰

Recommendations

California should consider modifying the CSI program to account for uncertainties in the PV market. The following recommendations would help provide incentives for the most promising solar projects and could make a significant contribution toward California's renewable energy goals:

California should delay PV incentives for at least 2 years and emphasize incentives for non-PV technologies. California should delay PV incentives to avoid high silicon costs and take advantage of the solar PV's learning curve when market conditions are favorable. During this delay, California should make incentives available for other competitive solar technologies. Allocating incentives between PV and non-PV would recognize the benefits to distributive generation (DG), but ensure that California does not incur any unnecessary risk by depending solely on a decrease in PV costs. This policy would be in line with the CPUC's goal to "demonstrate a long-term commitment to solar energy."³¹

The CSI size cap should be eliminated to encourage the development of central solar systems. Two caps presently limit the type of technologies that qualify for government incentives—the 1 MW cap on CSP technology³² and the 5 MW cap on PV and Solar Thermal Electric.³³ Eliminating the size cap for CSI eligibility would recognize the advantages of large-scale (central station) solar generators.³⁴ In Arizona, concentrating solar technologies have significantly contributed to the state's RPS. Arizona requires its electric utility to generate 1.1% percent of its energy from renewables, with an additional requirement that 60% of that total come from solar energy. According to an Arizona utility manager, this goal helped push the utility toward central solar. The manager stated, "The RPS was a

major catalyst for the solar trough project... we realized that we needed something on a large scale if we were going to meet the goals."³⁵

Implement competitive solicitations. The CSI employs a first-come, first-served standard for awarding incentives. A competitive solicitation system, however, could generate greater quality improvements.³⁶ Competitive solicitations would force projects to compete for approval on the basis of criteria like project cost, reliability, or efficiency. Competitive bids, along with an open and fair bidding process, would ensure that only the best projects receive subsidies. Additionally, competitive bids could help drive production efficiencies without prematurely endorsing a particular technology. To ensure that only the most effective systems receive funds, winning proposals could be selected based on energy generation, cost-effectiveness, or location. For example, New York's competitive solicitation system was successful at targeting PV systems on commercial buildings.³⁷ According to Ryan Wiser of the Lawrence Berkeley National Laboratory, New York's approach "has the advantage of a high project completion rate and cost minimization—receptive sites are identified up front, removing one large barrier to project completion."³⁸

Guarantee a limited pool of funds available exclusively for PV systems. To capture benefits from the different solar technologies, California should earmark some CSI funds exclusively for PV. Doing so would ensure that the distributive generation benefits of PV are not ignored and that a limited market for PV could be developed.

Conclusion

While photovoltaic technology is an attractive alternative to large fossil fuel plants, it is not clear that the CSI program will produce the necessary production efficiencies to make the technology cost-competitive with conventional energy sources. Several concentrating solar technologies appear to have more short-term commercial potential. The CPUC should focus its attention on developing incentives that target a broad range of technologies, rather than focusing all its efforts on solar panels. California should target solar projects that offer the largest energy-generating potential in order to help the state reach its renewable energy goals.

CA Photovoltaics - continued

Endnotes

- ¹ Gregory Nemet, "Beyond the Learning Curve: Factors Influencing Cost Reductions in Photovoltaic" Energy Policy 34, No. 17, 2005. p.2.
- ² Nemet, p.8.
- ³ Ibid.
- ⁴ Lena Nordland Berg, "Improving feedstock supplies for solar cells." InforPoint Renewable Energy. April 2002. p4. <http://www.iu.hio.no/~jans/artikler/Caddetdec42002.pdf>.
- ⁵ Russ Arensman, "Polysilicon Shortage," Electronic Business. May 1, 2006. <http://www.reed-electronics.com/eb-mag/article/CA6328374?text=Polysilicon>; Bruno Ceccaroli, "Silicon Meltdown," IEA Photovoltaic Power Systems Programme, PV power, Issue 16. June 16, 2002; H Harish Hande, "Does solar PV still make sense for the Developing World?," Renewable Energy Access. February 16, 2006.
- ⁶ Jesse W. Pichel and Ming Yang, "2005 Solar Year-end Review and 2006 Solar Industry Forecast Polysilicon supply constraint Limiting Industry Growth," Résosol. January 11, 2006. <http://resosol.org/controversee/controlPVlmites.html>.
- ⁷ Russ Arensman, "Polysilicon Shortage," Electronic Business. May 1, 2006. <http://www.reed-electronics.com/eb-mag/article/CA6328374?text=Polysilicon>.
- ⁸ "Solar Thermal and PV Collector Manufacturing Activities 2006." <http://www.eia.doe.gov>.
- ⁹ John Gartner, "Silicon Shortage Stalls Solar," Wired News. March 28, 2005.
- ¹⁰ Department of Energy, "Photovoltaics," US Department of Energy. May 16, 2005. http://www.eere.energy.gov/RE/solar_photovoltaics.html; Jackie Jones "California, not dreaming," EarthScan. February 3, 2006. <http://www.earthscan.co.uk/news/article/mps/UAN/640/v/1/sp/332157698966330899652>.
- ¹¹ O'Neill, Brian. "Indium: Supply, Demand & Flat Panel Displays" http://www.nrel.gov/ncpv/thin_film/docs/indium_supply_and_demand%5B1%5D.doc.
- ¹² Ibid.
- ¹³ III-Vs Review, "Indium prices set to remain high," The Advanced Semiconductor Magazine. http://www.three-fives.com/business_market_news/jun05/280605Indium_prices_remain_high.htm.
- ¹⁴ Michael W. George, "Indium" <http://minerals.usgs.gov/minerals/pubs/commodity/indium/indiumyb03.pdf>.
- ¹⁵ CPUC has publicly expressed interest in establishing benefits for non-PV technologies although recent regulatory decisions do not elaborated on these potential benefits, despite the fact that CSI includes detailed incentive system for photovoltaics.
- ¹⁶ George Simons, and Joe McCabe, "California Solar Resource in support of the 2005 integrated energy policy report," CEC draft staff paper, April 2005, p.18 <http://www.energy.ca.gov/2005publications/CEC-500-2005-072/CEC-500-2005-072-D.PDF>.
- ¹⁷ "Photovoltaic Industry Statistics: Costs," Solar Buzz. 2006. <http://www.solarbuzz.com/StatsCosts.htm>.
- ¹⁸ Sargent and Lundy LLC Consulting Group, "Executive Summary: Assessment of Parabolic Trough and Power Tower Solar Technology Cost and Performance Forecasts," National Renewable Energy Laboratory. Oct 2003. <http://www.nrel.gov/csp/pdfs/35060.pdf>.
- ¹⁹ Sargent and Lundy LLC Consulting Group, 2003.
- ²⁰ "Solar Power of Tower," Wired News, Feb. 24, 2005.
- ²¹ Sandia National Laboratories, "Solar Power Tower," 2000. <http://www.azsolarcenter.com/links/faqs/solar.pdf>.
- ²² Sandia National Laboratories, 2000.
- ²³ SES-Stirling Energy Systems, "FAQ," <http://www.stirlingenergy.com/faq.asp?Type=solar>.
- ²⁴ Thomas Mancini, Peter Heller, et al. "Dish-Stirling Systems: An Overview of Development and Status," Journal of Solar Energy Engineering Volume 125, Issue 2, May 2003. p. 135-151. <http://scitation.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=JSEED000125000002000135000001&ctype=ovps&gifs=yes>.
- ²⁵ Scott Elrod, "Solar Concentrators," Palo Alto Research Center. <http://www.parc.xerox.com/research/publications/files/5706.pdf> or <http://www.stirlingenergy.com/news.asp?Type=stirling>
- ²⁶ "Power From the Sunbaked Desert," BusinessWeek. Sept. 12, 2005. http://www.businessweek.com/magazine/content/05_37/b3950067_mz018.htm.
- ²⁷ L. Stoddard, J. Abiecunas, R. O'Connell, "Economic, Energy, and Environmental Benefits of Concentrating Solar power in California," May 2005-April 2006. p14, 69. <http://www.nrel.gov/docs/fy06osti/39291.pdf>.
- ²⁸ John R. Tuttle, "Alternative Energy," (Dec. 10, 2000) <http://experts.about.com/q/Alternative-Energy-Solar-2461/Concentrating-PV.htm?zlr=5#r>.
- ²⁹ US Department of Energy "What's new in Concentrating PV?," National Center for Photovoltaics http://www.nrel.gov/ncpv/new_in_cpv.html. Also see "PV FAQs," National Renewable Energy Lab. US Department of Energy <http://www.nrel.gov/docs/fy05osti/36542.pdf>.
- ³⁰ L. Stoddard, J. Abiecunas, and R. O'Connell, p14, 69.
- ³¹ <http://www.cpuc.ca.gov/published/RULINGS/47004-02.htm#TopOfPage>.
- ³² CPUC, Interim Order Adopting Policies and Funding For the California Solar Initiative, August 8, 2006. http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/52898.htm.
- ³³ http://www.cpuc.ca.gov/PUBLISHED/AGENDA_DECISION/52721.htm.
- ³⁴ Allen Chen, "A Path to Lower Costs in California," Science @ Berkeley Lab. January 30, 2006. <http://www.lbl.gov/Science-Articles/Archive/sabl/2006/Jan/07-photovoltaics.html>.
- ³⁵ Energy Service Bulletin, "Arizona solar plant revives neglected technology-with a twist," Western Vol. 25, No. 4, August 2006. <http://www.wapa.gov/es/pubs/esb/2006/aug/aug064.html>.
- ³⁶ Ruling 04-03-017. Aug 11, 2006. <http://www.cpuc.ca.gov/published/RULINGS/47004-02.htm>.
- ³⁷ Mark Bolinger, "A Multi-Faceted Approach to Supporting PV in New York," Berkeley Lab and the Clean Energy Group. September 2002 p1, 5. http://eetd.lbl.gov/ea/ems/cases/PV_in_NY.pdf.
- ³⁸ Mark Bolinger and Ryan Wisner, "Customer-Sited PV: A survey of clean Energy Fund Support," May 2002. p12. <http://eetd.lbl.gov/ea/ems/reports/49668.pdf>.
- ³⁹ PV Production demands for polysilicon are based on estimates from "EU Seminar – Fornybar Energi Muligheter" (Aud N. Waernas, 2004). Polysilicon production estimates are based on Flynn, Hilary and Travis Bradford, "Polysilicon: Supply, Demand and Implications for the PV Industry" (Prometheus Institute, 2006).

Courting an Efficient Bureaucracy: Lessons in Judicial Reform

Kate Harrison

A NUMBER OF democracy building efforts that focus on judicial reform and the expansion of the rule of law are underway in the former Soviet Union and Central and Eastern Europe. Recent judicial reform projects in Armenia and Macedonia,¹ performed under the auspices of the United States Agency for International Development (USAID) and the World Bank, and in which I participated, provide interesting case studies on the role of internal judicial management for successful judicial and, ultimately, democratic reform. While many academic studies have centered on the formal arrangements by which courts are established under a constitution or other laws, the projects examined here demonstrate that the judiciary's effectiveness relies equally on its ability to independently and transparently manage its operations and build relationships with the other branches of government.

Although significant historical, ethnic and religious differences exist between the nations considered here, there are also many similarities in their histories: both were ruled by the Ottoman Empire for over 500 years, both formed part of a larger socialist nation for much of the 20th Century, and both achieved independence only very recently. Of particular relevance to enhancing the rule of law, the judiciaries of both Armenia and Macedonia have traditionally been weak institutions with little independence or accountability and very limited discretion. As in much of Western Europe, while the constitution identifies the Armenian and Macedonian judiciaries as a separate branch of government, they continue to fall administratively under the auspices of the Ministry of Justice and, thus, the executive branch. From an American perspective accustomed to the clear separation of the three branches of government, this arrangement in itself would imply that judicial independence is at risk and the judiciary is a weak institution. However, this is not necessarily the case. As pointed out by William Davis, in most Western European countries, sufficient protections for independent judicial decision making are in place and "...the trend is toward increasing the authority of the judiciary to administer its own activities ..." ^{2, 3}

On the other hand, in countries where a tradition of independent judicial decision-making does not exist, the

centralization of power in the executive branch leaves the judiciary susceptible to undue government influence. Influence in individual cases can take the form of direct pressure. For example, judges may be asked to discuss cases with prosecutors (who also fall under the Ministry of Justice). More subtle forms of pressure may be applied to judges through appointment, promotion and threat of removal.

Macedonia and Armenia have come under increasing criticism for lack of transparency in judicial decision-making as well as inefficiency in judicial operations, reflected most clearly in the slowness with which cases are adjudicated. Reform in these areas is a common requirement for receiving donor funding and entering the European Union. Lacking institutional autonomy, however, the judiciary has little incentive to adopt internal reforms that would improve its effectiveness and efficiency. Treatment of the judiciary by the Ministry of Justice, which is tasked with providing managerial and policy support to the courts, ranges from benign neglect to hostility.

Underlying and compounding this weakness is the existence, or at least the public perception, of corruption in the judicial branch. Parties do not trust the courts and resolve many disputes privately. There are few, if any, avenues for the public to complain of unfair treatment by the judiciary. Lack of public confidence in the judicial system leaves the judiciary without allies to help achieve enhanced autonomy and resources. Judges and court staff themselves express a sense of fatalism, believing that improvements in the system cannot be achieved.

The Pillars of Successful Administrative Court Reform

The projects considered here focus specifically on enhancing the judiciary as an institution, viewing institutional reforms as precursors to larger changes in attitudes within and toward the judiciary. Establishing structures under which courts can operate independently, effectively, and transparently is a particular challenge in Macedonia and Armenia. Three essential pillars support these goals: (a) a comprehensive governance structure, (b) budgetary authority and competency, and (c) greater control

Kate Harrison, Goldman School of Public Policy class of 1984, is Owner and Principal of Kate Harrison Consulting, a firm specializing in strategic planning, process reengineering, and management consulting for trial courts and allied criminal justice and social service agencies.

over human resources. In Armenia and Macedonia, the judiciary is hampered by the absence of robust governance and management structures, extremely limited budgetary authority and resources, and unclear human resources systems. These challenges and the possibilities for reform in these areas are discussed below.

Court Governance

The United States federal judiciary and many state judiciaries have developed unified policy bodies, known as judicial councils, and centralized administrative offices of the courts to provide broad managerial and strategic direction for court operations, planning, and budgeting. In contrast, the judiciaries in Macedonia, Armenia and many other countries in the region have not functioned as unified institutions with strong internal governance. Often, no judicial management body exists. If there is one, it is weak, sparsely staffed and focuses primarily on research, with no direct control of judicial branch operations or budgeting.

In addition, because the courts are institutionally part of the executive branch, they have historically been responsible for adjudicating minor violations (such as parking offenses) and carrying out notary and customs duties that would elsewhere be handled by administrative agencies. These functions distract the courts from fulfilling functions for which they are uniquely responsible: protecting human rights and promoting economic and social stability through adjudication of criminal and civil cases. Long-term success in enhancing the reputation of the judiciary and obtaining increased appropriations requires that the judiciary communicate its vital role in a democracy and its programmatic and budgetary needs to the other branches of government and to the public. Developing and communicating this strategic vision requires a strong central administration.

Lastly, the Armenian and Macedonian judiciaries lack coordination in areas that would benefit from economies of scale or uniformity in policy, such as automation, human resources, and formalization of best practices.

Approach

In order to enhance the capacity and authority of judicial management bodies, we developed the structure, staffing and training plans for an administrative office of the courts. This office would have overall responsibility for (a) representing the judiciary in relations with executive branch and legislature, (b) preparing and defending the

branch's budgetary requests, (c) creating common human resources policies, and (d) collecting statistics to conduct research into court practices and means of improvement. Determining the optimal organizational structure of the office required us to clarify the judiciary's proper role relative to other parts of government, and to consider economies of scale and the importance of policy consistency in determining the degree to which functions should be centralized.

The Macedonian judiciary made great strides by establishing a legal framework for judicial independence through the Court Budget Act and the creation of a branch-wide Court Budget Council (CBC). By creating a budget council with broad representation from the courts, the judiciary has ensured a stable basis for instituting significant budgetary and programmatic reforms. While it will initially focus on the budget process, the CBC has the potential to become a significant policy making body for the judiciary.

In Armenia, we developed a centralized capacity in the judicial management body to manage public information and educate the public about the importance of the judiciary. The project provided models from the United States and European Union member nations, in which the judiciary prepares an annual report detailing past accomplishments and future goals. The project also created plans for the organization and staffing of a public information office. Other recommended educational efforts included inviting legislators and representatives of the executive branch to visit the courts to see court operations and conditions first hand.

We also developed court-user surveys to assess perceptions of court access, equal treatment, and ease of understanding of court procedures. By collaborating with local law students, we were able to administer the survey to all parties leaving the courthouse during a one-day period. The results of the initial surveys served as a baseline to evaluate the impact of reforms made in the courts and provide a continuous and regular measurement of court performance. In order to encourage the courts to actively use the surveys as part of a continuous improvement strategy, and not view them as a tool to be used by the executive branch to criticize the judiciary, we shared the results for each court solely with that court and provided only a summary to the Ministry of Justice. This in itself was a radical departure from the 'normal' top-down relationship of the judicial and executive branches.

Judicial Reform - continued

Budgeting

The Armenian and Macedonian courts have inadequate budgetary authority and severely constrained resources to carry out their functions. The courts lack funds to purchase even basic supplies and have very limited flexibility in the use of appropriated resources, impacting their ability to function effectively. For example, funds in Armenia are inadequate even to replace toner cartridges, requiring staff to replicate documents by hand. Law clerks do not have computers to conduct legal research, draft verdicts, or perform other appropriate duties on behalf of judges. In other courts, inadequate funds require that judges personally pay for much of the cost of postage and telephones, and unpaid debts are carried forward from year to year. These shortages persist despite judicial branch efforts to rectify them because budget requests are often significantly reduced by the Government without explanation.

Several factors contribute to the judiciary's ineffectiveness in budgeting. Most critically, the judiciary has limited ability to influence decisions concerning its funding since it has no opportunity to discuss budget requests with the Government or National Assembly. This function is instead performed by the Ministry of Justice. The judicial management body, where it exists, does not monitor or analyze the courts' fiscal status throughout the year, reducing its ability to advocate court needs, detect patterns in expenditures or create economies of scale. Instead, each court is treated as an individual budget user whose budget requests, annual and monthly financial expenditure reports, and fund transfer requests are submitted directly to the Ministry of Finance.

Budgeting is a critical input into, and an integral part of, long-term strategic planning. Properly implemented, budgeting complements strategic planning by developing agreed-upon performance standards of effectiveness and efficiency, analyzing impediments to meeting these performance standards, and proposing enhancements to remove those impediments. From this perspective, several impediments to effective budgeting in these countries emerge:

- The next year's budget submission is essentially a recap of the current year. There is no process for reflecting changes in workload or increased jurisdiction. When bankruptcy adjudication (a concept that did not exist under socialism) was

added to the court's jurisdiction, a corresponding budget increase was not entertained. Even unequivocal instances of increased resource needs do not result in budget increases. A court in Armenia, for example, is moving to a new facility with 30 additional offices to be heated, furnished, and cleaned, but there is no evident process for making a formal request for these increased costs.

- The budget is not set within the framework of strategic goals and there is little multi-year planning. Critically, in the case of Macedonia, the budget did not explicitly consider the reform efforts required for entrance into the European Union.
- Little or no narrative or supporting performance data is presented with the budget. Without these, the justification for increases is weak.
- There are no means for seeking mid-term budgetary increases under exigent circumstances.

Local court staff also lack training in budget preparation and expenditure monitoring, and there are no automated financial tools. The courts need more analytical strength to fulfill the expanded management responsibilities envisioned for the judiciary.

Approach

Several avenues were pursued to bolster the judiciaries' budget processes. The projects first worked with the judiciaries to enhance their autonomy in the budgetary arena, including proposals for direct judicial branch budget submission to the legislature, judicial representation in the budget process, and protections against reductions in salaries and already allocated funds. Other approaches focused on the method by which the judiciaries prepare their budgets to increase the likelihood of receiving additional funds and improve the internal controls over their use. These included:

- Determining priority needs in the areas of current expenses, workload growth and new initiatives. These priorities will be used to inform budget submissions and make organizational changes. Ongoing strategic planning capacity must be built into the leadership organization.

- Linking practical and measurable performance measures to budget requests. Performance indicators focusing on three key areas were developed: 1) how efficiently cases are adjudicated (e.g., cost per resolved case), 2) how quickly cases are adjudicated (time to disposition) and 3) how effectively cases are adjudicated (number of reversals; satisfaction of employees and customers assessed through surveys).
- Developing workload measurements. Unlike performance measures, which seek to measure outputs (how well an organization is performing), workload formulas measure the inputs in the budget process, for example the number of cases filed per judge or available resources such as staff per judge. These formulas were introduced in addition to, and not as a replacement for, outcome performance measures.
- Creating a narrative describing the benefits of budget requests.
- Developing systems to project costs nationally, compare costs across courts and make mid-year budget adjustments, without which the central authority cannot exercise its authority effectively.

Finally, we assessed specific training needs in strategic planning, budget preparation, expenditure monitoring, and the use of automated financial tools through a survey of court managers. Checklists for budget development, budget review and budget monitoring were provided to ensure budget submissions were complete and adequate.

Human Resources Management

Although civil service reform has swept the former Soviet Union and Central and Eastern Europe, including Armenia and Macedonia, the judiciary has been largely overlooked in these reforms. Most executive branch political, professional, and support positions have been clearly

separated and defined. Criteria for admission to and withdrawal from the civil service and job descriptions have been established for these positions. The judiciary, on the other hand, continues to lack merit or salary protections, defined job descriptions, formal recruitment, selection and evaluation procedures and training programs.

For example, in Armenia, court employees fall outside the broad umbrella of the State Service. There is no legislative framework for court employment that provides employee protections or guarantees maintenance of existing salaries (such

as have been established for State Service employees). Each year, the government sets the salary levels for court staff by decree; there is no provision prohibiting the government from reducing court staff salaries. Absent a principle of general parity between judicial and executive branch staff salaries, judicial salaries fall far below those of the other branches. As pointed out by the Armenian Poverty Reduction Strategy, “The main prerequisite for successful reforms in public administration and judicial systems, as well as the most important

factor to mitigate corruption in these sectors, is the increase of salaries for the sector employees.”²⁴ Additionally, there may be no disciplinary rules or code of conduct for court staff, also increasing the likelihood of corruption.

One mandate of rule of law projects is to identify functions that could be effectively devolved to staff from judges, who are overloaded with case management and administrative duties at the expense of timely hearing of cases. In both countries, it was estimated that judges spend as much as 50% of their time on administrative matters. The courts suffer from a stultified reporting structure, under which most staff report directly to the President Judge, and there is reluctance to change this. Professional court administrators are rare and there is a general perception that the administrators that do exist are not capable of absorbing management responsibility for the court.

Approach

A number of significant reforms have been achieved in human resources management, in particular in Armenia where corruption in the government service was considered a particular problem. These included:

Each year, the government sets the salary levels for court staff by decree; there is no provision prohibiting the government from reducing court staff salaries.

Judicial Reform - continued

- Legislation to provide employment protections to court staff
- Job descriptions for all staff, and clarification of reporting relationships between judges, managers and staff
- Linkage of judicial branch compensation to that of similar positions in the executive branch, and provision of a statutory basis for salary setting and salary increases.
- Creation of uniform recruitment, selection and disciplinary procedures.
- Introduction of training programs for new and continuing staff.
- Implementation of a uniform code of conduct for court staff.

The Future

Developing a cadre of professional administrators who are seen as leaders in the justice system is a long term prospect. In both Armenia and Macedonia, however, we created and worked with a core group of court executives to make and present recommendations on court governance, budgeting, and human resources management to national officials. These working groups provide the nucleus of a total quality management approach to court improvement. This may be the most important legacy of the projects as it sets the stage for ongoing reform.

Endnotes

¹ Officially known as the Former Yugoslav Republic of Macedonia (FYROM), the United States recently announced it would refer to FYROM as Macedonia.

² The Role of Court Administration in Strengthening Judicial Independence and Impartiality," William Davis, in Guidance for Promoting Judicial Independence and Impartiality, United States Agency for International Development, January, 2002. Davis goes on to point out that both Spain and Italy created judicial councils in the 1980s and the French judges' association recently adopted a resolution supporting the separation of judicial from executive branch functions.

³ The legislative branch also does not provide an adequate counterweight to the executive branch in the countries considered here. For example, in Armenia, while the draft budget is forwarded to the National Assembly, the legislature is a weak participant in the budget process, having no staff and operating under a requirement that it vote on government budget proposals within 24 hours. Any objection to the budget constitutes a "no-confidence" vote in the government and carries serious consequences.

Special Section: Electoral Policy

The midterm elections are over, but debates about our electoral process continue. Electoral and voting policy choices shape the foundations of democracy, however consensus is lacking on how best to provide fair and open elections. In this special section, four authors provide short essays on confronting malfeasance, expanding participation, the ease and accuracy of the process, and geographic representation. We hope you enjoy their perspectives on this rich and evolving branch of policy.

Combating Voter Fraud (All of It)

Paul Leistra

SEVERAL STATES HAVE recently enacted “voter identification” laws to reduce the incidence of voting fraud. In Arizona, a contentious law requires voters to present government-issued photo identification at the polls, as well as having proof of citizenship when registering to vote.¹ Similar voter ID laws in Missouri and Georgia were struck down by the Missouri Supreme Court and the US 11th Circuit Court of Appeals, respectively. Each law is intended to prevent non-citizens from voting and targets undocumented immigrants. Can such laws meet their common underlying goal of ensuring honest elections?

In a word, no. Such measures are too narrowly tailored to provide a comprehensive solution to the problem of electoral fraud. Traditional definitions of fraud include, but rarely transcend, casting fraudulent ballots, not counting or destroying ballots, and vote-buying.² A full definition of electoral fraud must encompass more than these basic concerns and include all violations of one-person one-vote, the bedrock principle of democracy. This definition, then, must encompass both voter fraud and voter suppression. The separation of fraud and suppression in our political lexicon obscures the simple fact that both prevent the honest conduct of elections. Fraud and suppression should be treated with equal seriousness, prevented with equal assiduousness, and punished with equal severity.

Our political system rests on an ideal of free, fair, honest, and open elections that all too often has gone unrealized. Efforts to rectify this problem have focused chiefly on traditional fraud, and only sporadically on voter suppression. The Help American Vote Act (HAVA) of 2002 constitutes a fine example of this failure: enacted after the Florida presidential recount debacle of 2000, HAVA focuses mainly on introducing electronic touch-screen

voting machines to replace antiquated polling equipment.³ While HAVA contains admirable provisions for updating registration processes, adding poll worker training, and improving disabled and non-English-reading voters’ access to ballots, it does not address suppression. Indeed, several of the states’ voter ID laws, which were written to comply with HAVA requirements, may themselves have suppressive outcomes. In HAVA, then, an opportunity to extend protections to the entirety of the voting franchise was missed.

Under an expanded concept of fraud, possible violations would extend far beyond casting illegal votes to include instances of suppression. They would include the following:

Placing undue burdens on voters. A Georgia court placed that state’s voter identification law on hold in 2005 after it determined that the law constituted a de facto poll tax, as it required voters to obtain photo identification prior to voting. Georgia charges \$20 for this service.⁴ Even after the law was amended to provide free identification for impoverished citizens, the court deemed the law too burdensome, noting, “Any attempt by the Legislature to require more than what is required by the express language of our Constitution cannot withstand judicial scrutiny.”⁵ Laws themselves can be suppressive and thus, in a sense, defraud the public.

Challenging legitimate votes at the polls. In many states, political parties are allowed to “poll-watch” on Election Day, and pre-registered operatives may challenge any voter’s qualifications. Such challenges can have the effect of lengthening lines at the polls, frustrating voters, and reducing overall turnout. While provisional ballots address the problem of borderline votes, the voters who simply

leave the polling stations go uncounted. Originally designed to prevent fraud, the practice of vote-challenging has become distorted and now serves as a major form of suppression.

Fraudulent robocalling. “Robocalls” are automated phone calls that go directly to voters’ homes. While many states have laws prohibiting automated political calls to people whose numbers are on the federal Do Not Call Registry, many voters in key congressional districts have reported receiving such calls anyway. While this is in itself illegal, many robocalls misidentify their sources; in New Hampshire, the National Republican Congressional Committee paid for repeated robocalls that misleadingly appeared to be coming from Democratic candidate Paul Hodes.⁶ This strategy is predicated on voters’ intense dislike of such calls. While there are complex state and federal issues surrounding the legality of these tactics, even clear violations of the law carry only small fines.

Inaccurate counting. While America has a lengthy tradition of failing to count its votes properly, notably including the 19th-century depredations of New York’s Tammany Hall and Chicago’s long history of questionable elections, concerns over accurate results have been magnified recently with the HAVA-driven advent of electronic voting machines. The Maryland primary vote in September 2006 was fraught with problems, including delays in opening the doors at 238 precincts, inaccuracies in the state’s electronic roll books, and the misplacement of dozens of memory cards containing votes.⁷ Even more worrisome, Edward Felten of Princeton University has demonstrated the vulnerability of one popular voting machine to quick and undetectable hacking and machine-to-machine viruses.⁸ Preliminary early-voting election results from the 2006 midterm elections have likewise indicated severe problems, as some touchscreen votes have gone uncounted or were switched to another candidate.⁹

Hindering Get-Out-the-Vote (GOTV) campaigns. While not technically electoral fraud or suppression, interfering with campaigns’ GOTV operations certainly reduces the number of legitimate voters at the polls. Both parties’ GOTV efforts provide transportation to and from polling places for their supporters, and without

GOTV, some voters would be unable to find alternate transport. This form of suppression is not hypothetical: in 2002, James Tobin, working on behalf of the Republican National Committee, engineered a phone-jamming attack on the GOTV headquarters of New Hampshire Democratic field offices as well as those of the firefighters’ union.¹⁰ Tobin was convicted of “telephone harassment” in 2005, but the \$500,000 fine (paid by the GOP) and Tobin’s 10-month jail sentence pale in comparison to the impact this action carried in a close senatorial race.

Interfering with absentee ballots. Members of the

armed forces stationed at sea and abroad reported missing absentee ballots in both 2000 and 2004. Ballots frequently arrived after the election or not at all.^{11,12} Many rank-and-file soldiers had little or no recourse, as complaining to commanders was often perceived to be impossible, ineffective, or as indicative of disloyalty. While the Department of Defense has taken steps in recent years to improve the access of overseas personnel to absentee ballots, serious flaws in the

registration process and in electronic voting security remain.¹³ If the denial of ballots to the military is due to intentional efforts by partisan state election officials, rather than bureaucratic snafus, this must be seen as a form of voter suppression as well. Absentee ballots are also associated with many counting irregularities and attempts to vote illegally.

An effective policy to reduce the incidence of election misconduct would focus equally on stamping out both the purposeful reduction of legitimate votes and the addition of illegitimate ballots. Extra vigilance is required to prevent suppressive actions, as they are far easier to carry out: in a nation of perpetual low voter turnout, actions further depressing the electorate garner less notice than those attempting to add fraudulent votes, yet each have the potential to swing an election by the same amount.

A realization of the importance of voter suppression may be growing. The U.S. Electoral Assistance Commission (EAC)’s researchers use an expansive definition of fraud that includes voter intimidation, though not all forms of intentional suppression. This represents a step forward from traditional concepts of fraud. While the EAC found

If the denial of ballots to the military is due to intentional efforts by partisan state election officials, rather than bureaucratic snafus, this must be seen as a form of voter suppression as

that measuring electoral fraud in a scientific way is “extremely difficult from a methodological perspective” and “would require resources beyond the means of most social and political scientists,” they were nonetheless able to conclude that absentee ballot fraud and challenging legitimate votes at the polls were by far the nation’s largest problems, while the casting of fraudulent votes at the polls was relatively rare.¹⁴ Yet despite this warranted attention, few states and localities are acting to protect the vote from the most serious threats it faces.

The nation’s election laws should be reformed both nationally and on the state level to incorporate voter protections, including serious penalties for placing undue burdens on voters (either by demanding unconstitutional forms of identification or inaccurately declaring voters to be felons) and vastly increased fines and prison sentences for conducting fraudulent calling campaigns or interfering with GOTV operations. Paper trails for electronic voting machines are a necessary preventive measure, given that technology’s present vulnerability. HAVA calls only for the ability to conduct a recount, but does not specify a paper trail—a serious oversight, as a “recount” could merely entail double-checking the compromised machine’s tallies, rather than checking those tallies against hard copies. Finally, efforts should be made to reform the absentee ballot system, which functions as both the major source of additional fraudulent votes and the site of de facto voter suppression.

Endnotes

- ¹ Associated Press, “Ruling has election workers gearing up to require voter ID again,” *Arizona Republic*, 23 October 2006. <http://www.azcentral.com/news/articles/1023az-voter-ID23-ON.html>
- ² Lori Minnite and David Callahan, *Securing the Vote: An Analysis of Election Fraud*, Demos, 2003, 14. http://www.demos-usa.org/pubs/EDR_-_Securing_the_Vote.pdf
- ³ Help America Vote Act of 2002, 107th Congress, 2nd session, Public Law 107-252. http://www.fec.gov/hava/law_ext.txt
- ⁴ Darryl Fears, “Voter ID Law is Overturned,” *Washington Post*, 28 October 2005, A3.
- ⁵ Errin Haines (Associated Press), “Judge throws out Georgia’s photo ID law,” *Columbus (Ohio) Ledger-Enquirer*, 19 September 2006. <http://www.ledger-enquirer.com/mld/ledger-enquirer/news/politics/15557118.htm>
- ⁶ Eric Moskowitz, “Repeat calls not from Hodes: National Republicans spend nearly \$20,000,” *Concord (New Hampshire) Monitor*, 5 November 2006. <http://www.concordmonitor.com/apps/pbcs.dll/article?AID=/20061105/REPOSITORY/611050397>
- ⁷ Christian Davenport and Ann E. Marimow, “Ehrlich wants paper ballots for Nov. vote,” *Washington Post*, 21 September 2006, A1.
- ⁸ Ariel J. Feldman, J. Alex Halderman, and Edward W. Felten, “Security Analysis of the Diebold AccuVote-TS Voting Machine,” Center for Information Technology Policy, Princeton University, 13 September, 2006.
- ⁹ Todd Ruger, “Voting glitch prompts warning,” *Herald-Tribune (Southwest Florida)*, 5 November 2006. <http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20061105/NEWS/611050530>
- ¹⁰ Eric Moskowitz, “Ex-GOP official guilty on two counts,” *Concord (New Hampshire) Monitor*, 16 December 2005. <http://www.concordmonitor.com/apps/pbcs.dll/article?AID=/20051216/REPOSITORY/512160355/1031>
- ¹¹ Erica Werner, “Official: Absentee votes may go uncounted—again,” *Army Times*

(AP), Aug. 4, 2004.

- ¹² Associated Press, “Election officials say military absentee ballots sent,” 28 October 2006. <http://www.msnbc.msn.com/id/15269668/>
- ¹³ Derek B. Stewart, Elections: DOD Expands Voting Assistance to Military Absentee Voters, But Challenges Remain, transcript of testimony before the Committee on Armed Services, United States Senate, 109th Congress, U.S. General Accounting Office, 28 September 2006, 2. <http://www.gao.gov/new.items/d061134t.pdf>
- ¹⁴ U.S. Election Assistance Commission, Status Report on the Voting-Fraud Voter-Intimidation Research Project, 17 May 2006. <http://www.usatoday.com/news/pdf/2006-10-11-election-report.pdf>

Restoring Local Voting Rights to Non-Citizens

Chris Finn

“NO TAXATION WITHOUT representation!” This ideal was supposedly powerful enough to motivate the American Revolution. But how deeply ingrained is this value in the U.S. today? Regarding the people—the governed—observers lament a decreasing voter turnout over the last several decades. The U.S. now has the lowest turnout of any organized democracy,¹ demonstrating what some view as voter apathy. Possibly fewer than 40% of eligible voters voted in this year’s general election.² Even in the narrowly-decided 2000 Presidential election, turnout was only about 50%.

And regarding those doing the governing, numerous stories emerge after each election about thousands of eligible voters denied the opportunity to vote. Some authors claim at least a million votes were not counted in the 2000 election—due to incorrectly purged voter rosters, long lines, insufficient ballots, closed polling places, and other acts of voter suppression or intimidation.

Paperless machines, butterfly ballots and the like aside, some democracy advocates are focusing on the more than 15 million constituents 18 years and older who are still legally denied the right to vote. The 2000 U.S. Census reported 18.5 million non-citizens, 16 million of them of voting age. In California, 19% of all voting-age residents are not citizens. Though this article concentrates on non-citizens, almost 5 million U.S. citizens with felony convictions are also denied the right to vote. This especially impacts African American males, with “13% of the African American population permanently barred from voting.”³ Granting the right to vote to these populations would likely boost voter turnout significantly. More important to some are the policy implications for the already-marginalized communities from which these populations come.

Voting rights for non-citizens are not new. For most of this country’s history—176 of the 230 years of the United States’ existence—non-citizens *did* have the right to vote.⁴ Non-citizens and immigrants held the right to vote in at least twenty-two states from the nation’s founding until the 1920s. This was so even when property-less white men, African Americans, women, and anyone under 21 did not have the right to vote.

Several factors led to non-citizens losing the right to vote. As indicated by the term ‘franchise,’ voting was considered a state-granted privilege, whereby states had certain latitude in determining voting rules and eligibility.⁵

For instance, property-ownership requirements were instituted at the state level, then gradually dropped, with North Carolina being the last to do so in 1856. The expansion was meant to benefit Revolutionary War veterans, militiamen, and those in the urbanizing economy who could be wealthy without the traditional base of land and agriculture. The abolishment of the property-ownership criteria, however, made characteristics such as race and gender more salient in determining voter eligibility, leading to literacy tests, poll taxes and other such restrictions.⁶

As the demographics of the immigrant population shifted from being primarily White Anglo-Saxon Protestant to more Eastern or Southern European and Catholic, sentiment toward non-citizens also shifted. This was largely fueled by political rhetoric blaming immigrants for the effects of economic downturn, and was followed by a period of anti-immigrant legislation that lasted through the 1920s. Of particular impact was the Naturalization Act of 1870, which limited citizenship to “white persons and persons of African descent.” The states gradually removed the ability of non-citizens to vote, with the last state ending the practice in 1926.

The most recent major Constitutional extension of voting rights came in 1971. During the Vietnam War, people could be drafted, serve in the military, and die for this country at eighteen years old, but were not deemed responsible enough to vote until twenty-one. Massive protests resulted in the adoption of the 26th Amendment, granting the right to vote to 18-year olds.

Although there is currently no draft, some claim non-citizens are in a similar position. Large numbers of non-citizens serve in the military and are regularly sent to war. The Defense Manpower Data Center estimates that there are 35,000 non-citizens on active duty, with another 12,000 serving in the Guard and reserves.⁷ Since their lack of political representation often leaves them economically marginalized, and the military offers an accelerated citizenship process as a recruitment device, many non-citizens join the military.

One argument opponents make is that would-be voters do have access to the electoral process—they just have to become citizens. But, the path to citizenship is not easy, and can take 10 years or more. Advocates also point out that this argument misses the fundamental point: tax-

Chris Finn is a Ph.D. student at the Goldman School of Public Policy at the University of California, Berkeley. He is interested in economic and political institutions regarding participation and outcome.

paying constituents deserve democratic representation. Other arguments against non-citizen voting are that citizens have fought hard for the right; it would discourage immigrants from becoming citizens; or that voting is the essence of citizenship. These might sound rational, but aren't supported by the evidence. Non-citizens have served and died for the U.S. from the American Revolution to Iraq. Far from discouraging citizenship, granting non-citizens the right to vote encourages civic participation and understanding, making participants feel more a part of the society—a key factor in deciding to apply for citizenship.

As far as voting being the essence of citizenship, low turnout numbers belie the idea; the right to vote is more about political power than citizenship.⁸ Many citizens have been denied the right to vote from the beginning of this country's history, while non-citizens have enjoyed the right. Far from being a complete list, property-less white males, women, African Americans, persons with felony convictions, those subjected to poll taxes or other hurdles, and even differently-abled citizens have all suffered disenfranchisement (it was only recently that the ADA mandated accessibility to polls for differently-abled citizens). Citizenship has not always guaranteed the right to vote and non-citizens have often had this right.

The drive to re-instate voting rights for non-citizens can claim a number of successes. Non-citizens currently enjoy or have recently enjoyed the right to vote in local elections in New York City, Chicago, and in five cities in Maryland. Two municipalities in Massachusetts also passed legislation allowing non-citizens to vote, with other Massachusetts cities following suit. Campaigns have been launched in at least a dozen other locations throughout the country. The San Francisco version narrowly lost when the sole donor to the opposition, GAP Chairman Don Fisher, gave \$60,000, allowing the opposition to massively outspend the grassroots proponents.

Harking back to the civil rights movement, a broad campaign of "Freedom Rides" crisscrossed the country in the fall of 2004. Labor unions and a coalition of housing organizations, welfare rights groups, and advocates for health and education reached out to non-citizens, hoping to build the civil rights and suffrage movement of the decade.

Except for the San Francisco proposal, recent moves to reinstate the right to vote for non-citizens have applied explicitly to Legal Permanent Residents. All the campaigns have sought the right to vote in local elections, with some considering state, but not federal, elections. These proposed reforms typically contain a residency requirement and a commitment to stay in the U.S.. They are aimed at legal residents who live here, work here, own homes here, pay taxes here, and own and patronize

businesses here. Some even serve in the military. These residents also tend to come from the most marginalized communities; denying them the right to vote is often part of disenfranchising their larger communities. This is significant when considering numbers as high as 15 million or more.

Immigrants have become an important political force in the last few years. This is a double-edged sword as, on the one hand, the major political parties recognize this and have been trying to woo the immigrant vote. On the other hand, some view this shift as

a threat and have been working to restrict the political strength of the growing population. Acts of voter suppression and intimidation are common and have been well-documented in a number of sources.⁹

This tension will not be resolved any time soon. Congress' attempt this spring to limit immigrant rights resulted in several million rights advocates taking to the street on May 1st. Soon after, Congress delayed renewal of the Voting Rights Act, partly due to opposition to the Act's requirement that states provide materials in other languages where necessary.

Public opinion will be affected not just by political and economic considerations, but also largely by psychological ones. Priming and framing of the issue by political elites will have an effect, as will the extent to which members of the public view immigrants as part of a common group (in-group), rather than as part of a distinct group (out-group). Populations with large immigrant sectors, as well as other marginalized populations who face common issues and political opponents, could come to see immigrants as part of their in-group. Rhetoric describing America as a nation of immigrants, or pointing out that we all come from immigrant roots, has been found to be effective in helping others to view immigrants as part of the in-group.

***[G]ranting non-citizens
the right to vote
encourages civic
participation and
understanding, making
participants feel more a
part of the society—a key
factor in deciding to
apply for citizenship.***

Non-Citizen Voting - continued

These are just some of the factors that will play a role as political actors decide and demonstrate how deeply they value supposedly core U.S. principles. Given that this issue is bound to remain on the table for years to come, with political, psychological, legal and economic components, the field of Public Policy has plenty of opportunities to help inform this debate.

Endnotes

- ¹ Voice of America News, Nov. 8, 2005. Former US Ambassador to the U.N. Andrew Young determined the US was 36th out of 36 organized democracies in voter turnout. 12 November, 2006 <http://www.voanews.com/english/archive/2005-11/2005-11-08-voa62.cfm?CFID=8787265&CFTOKEN=43934620>
 - ² United States Election Project, Dr. Michael McDonald, George Mason University, 11 November, 2006, http://elections.gmu.edu/voter_Turnout_2006.htm
 - ³ Briffault, Richard. "The Contested Right to Vote." *Michigan Law Review*, Vol 100, No. 6, 2002. pp. 1523
 - ⁴ "The Next Suffrage Movement?: Restoring Immigrant Voting Rights, Ron Hayduk, Demos, Democracy Dispatches, 3/9/2006, 12 November 2006 <http://www.demos.org/democracypatches/article.cfm?type=2&id=DB75B199-9027-F611-583BA45022EA192A>
 - ⁵ Briffault, 1506-1531. Citing Alexander Keyssar's *The Right to Vote: The Contested History of Democracy in the United States*. New York: Basic books, 2000.
 - ⁶ Briffault 1511
 - ⁷ The CNA Corporation, "Non-Citizens In Today's Military: Final Report," Anita U. Hattiangadi, Aline O. Quester, Gary Lee, SgtMaj, USMC (Ret.), Diana S. Lien, Ian D. MacLeod, with David L. Reese, Robert W. Shuford, April 2005, 11 November, 2006, <http://www.cna.org/documents/D0011092.A2.pdf#search='noncitizens%20in%20military'>
 - ⁸ "Common Misperceptions About Immigrant Voting," Immigrant Voting Project, 11 November, 2006, <http://www.immigrantvoting.org/>
 - ⁹ "The Long Shadow of Jim Crow: Voter Intimidation and Suppression in America Today," People For The American Way, National Association For the Advancement of Colored People, 2004, 11 November, 2006, http://www.pfaw.org/pfaw/dfiles/file_462.pdf.
- Keyssar, Alexander, *The Right to Vote: The Contested History of Democracy in the United States*. New York: Basic Books, 2000.

In Defense of Electronic Voting Machines

Ernie Tedeschi

LIKE A BARBARIAN horde gathered at the city gates, journalists around the world were ready to pounce at the opportunity to blame electronic voting machines—used in 38% of American jurisdictions on Election Day—for irregularities in the midterm elections. In the week before Election Day, the *Pittsburgh Post-Gazette* editorialized about the “Fear of Vote Fraud” while *The New York Times* ran an article titled “In the Land of ‘Every Vote Counts,’ Uncertainty on Whether It’s Counted Correctly.” Even the international press couldn’t resist: the British *Observer* proclaimed “Just Hack Your Way to Victory, Mr. President,” while the *Irish Times* went with a more measured “E-vote of Confidence No Shoo-in.” American democracy itself seemed on the brink of collapse.

The result must have sorely disappointed the doomsayers. Besides the smattering of alleged tally irregularities in a few districts with razor-thin races, the electronic voting machine Class of 2006 has yet to face the same firestorm of criticisms, both valid and frankly paranoid, that stemmed from the 2004 Presidential election. Cleveland’s *Plain Dealer* summarized Tuesday’s test of electronic voting machines thusly: “Still imperfect, but much better.” The *Washington Post* agreed, saying “[t]he system worked.” The republic, it seems, may endure another two years after all.

The failure of an electoral apocalypse should be little comfort to Americans, however. Electronic voting machines have not redeemed themselves quite yet. Beneath the conspiracy theories posted daily in the blogosphere lay legitimate flaws in both the hardware and software of these systems that have yet to be addressed. Now is not the time to be complacent. Rather, as I imagine the Republican Party is doing with its own organization right this minute, we need to revisit the core principles of electronic voting, remind ourselves of its lofty promises, and review where the machines went critically wrong. In short, we should become born-again electronic voters.

Why electronic voting machines are, or can be, worth it

With the national dialogue consumed by serious allegations against electronic voting machines, a quick reevaluation of why, exactly, state officials thought these machines were such a good idea in the first place is in order.

First, a bit of context. When we refer to “electronic voting machines,” what we usually mean are direct-recording electronic (DRE) voting systems, those touch-screen units you’ve likely seen on the news or on the Internet. The optical scan ballots we use here in Alameda County, California, as well as the old punch-card ballots, are also counted by computer. But, because the inputs are paper ballots, election experts classify them in a different category from DRE machines, which store voter selections electronically.

Therein lies the first major advantage of DRE systems over optical scan ballots: speed and accuracy in the end-count. When each precinct delivers its DRE election data to county offices at the end of the day, the tally is nearly instantaneous and a 100% accurate reflection of what the precinct officer delivered. Admittedly, however, machines that cost between \$3,000 and \$4,000 per unit,¹ as the flagship DRE systems do right now, ought to deliver more substantive advantages than speed and a marginal increase in end-count accuracy.

As it turns out, DRE systems offer the best hope to date of addressing a fundamental problem endemic to democracy since the invention of the secret ballot. The flaw is called “residual voting,” and refers to those cases when human error prevents a ballot from accurately reflecting the voter’s true electoral preferences. The reason we ought to be concerned about residual voting is that, often times, the limitations of the ballot medium (paper) or indeed the very ballot design itself (think of the “butterfly” ballots in the 2000 election) can encourage these errors.

The two most problematic varieties of residual voting are over- and under-voting. Over-voting occurs when a person marks off more candidates than she is supposed to, such as voting for two presidential candidates. Under-voting is a bit harder to measure: it happens when a voter misses a race on the ballot for which she otherwise has a preference and doesn’t mark a vote. In a country so closely divided, where many elections deliver a margin of victory less than the margin of error, lost residual votes are far from insignificant. MIT political scientist Charles Stewart estimates the nationwide rate of under-voting at 1.9% in the 2000 election, or about 2.3 million votes.²

DRE systems address over-voting in the most

Ernie Tedeschi is a second-year M.P.P. student at the Goldman School of Public Policy. He's interested in urban policy, social equity, and military issues.

straightforward way possible: the software simply won't allow you to vote for more than the allowed number of choices. The DRE prescription for under-voting is, like the problem itself, less concrete but, short a psychic in every polling place, it's the best solution to date. Since most DRE machines go one-by-one through each race on the ballot and require voters to actively choose to move on to the next race, we can be confident that a voter who submits a ballot has reviewed all the races and issues. Our confidence can only be strengthened by those DRE machines with voter-verified paper receipts, offering another opportunity for ballot review.

The benefit of DREs, then, is manifest: Stewart found that after applying statistical controls, jurisdictions that adopted DRE voting systems after 2000 saw a 33 - 100% greater decline in residual voting rates than those that either adopted optical scan systems or didn't change systems at all.³

That deserves emphasis: DRE voting machines are *more* accurate at registering voter preferences than optical scan systems. If you scaled Stewart's findings nationwide, a DRE America would effectively enfranchise 250,000 - 800,000 more people. That potential alone makes electronic voting machines worth consideration.

Where it all went wrong and how we can make it right

It's unfortunate that with so much that DRE systems could make better about American elections, voting machine firms found ways of making them worse. For this, the state and federal governments deserve some blame. The Help America Vote Act (HAVA), passed by Congress in 2002, allocated \$650 million to local jurisdictions to replace antiquated voting equipment in the wake of the 2000 election. States passed their own spending bills to augment federal generosity; Californians, for example, approved in Proposition 41 a \$200 million bond the same year that HAVA was enacted. Since these funds were available on a first-come, first-served basis, counties had an incentive to upgrade their voting systems as quickly as possible.

The problem was that America's voting machine firms weren't ready. Now-notorious Diebold had developed

ATM-like technology for Brazilian elections that performed brilliantly. However, these machines were ill-equipped to handle the needs of U.S. jurisdictions, where ballot regulations differed from state to state and the ballot measures themselves came in almost every imaginable variety. Anticipating the government largesse of HAVA, Diebold bought Global Electronic Systems of McKinney, Texas —

and with it their AccuVote TS model—for \$30 million in June 2001.⁴ Unfortunately, the AccuVote TS was, like almost all electronic voting machines at the time, essentially a first-generation system. It was a small Texas company's first crack at the burgeoning electronic voting market and exemplified the problems common to almost all the DRE systems available then and, unbelievably, still today.

First, DREs tend to be both heavy and bulky. The AccuVote TSx, Diebold's latest incarnation of the line, weighs in at 26 lbs.⁵ Sequoia's AVC Edge is an even more unmanageable

40 lbs.⁶ Even Election System & Software's iVotronic, the industry's lightest machine at 15 lbs,⁷ is almost three times as heavy as the average laptop computer. Given the computer industry's amazing success in cramming more computing power into progressively smaller packages, the sheer mass of these systems is unforgivable. Weighty computers are not only harder to set up, especially for elderly poll workers, but they prove less accessible for disabled voters who need ballots brought to their cars.

Second, DRE machines are expensive, and this leads to polling congestion. Most of the long lines in DRE precincts are not due to computer malfunctions; they're due to the fact that, at \$4,000 a unit, most jurisdictions can't afford to set up the same number of DRE polling stations as they did punch-card polling stations in years past. When Santa Clara County in California bought 5,000 Sequoia AVC Edges in 2003, they effectively reduced the number of polling stations per precinct by almost half.

Thirdly, and most importantly, there's the issue of security. To their credit, all three of the nation's biggest voting machine firms now offer voter-verified paper trails as a peripheral to their flagship systems, and this move has addressed some of the integrity concerns raised by computer scientists over the years. There is still, however, insufficient

[T]hese machines were ill-equipped to handle the needs of U.S. jurisdictions, where ballot regulations differed from state to state and the ballot measures themselves came in almost every imaginable variety.

oversight given to each machine's source code. Most firms hold their systems' machine and source codes in escrow, which is in practice little different from keeping them secret. The drawback to this approach is a lack of transparency, which not only depresses voter confidence in the integrity of their vote, but also lowers the likelihood that malicious code written by someone within the firm will be detected.

In the end, though, we can address each and every one of these problems. An industry on the verge of selling ultra-mobile PCs weighing less than 2 lbs. each and priced under \$1,500 is certainly capable of developing secure voting solutions both portable and affordable to local jurisdictions. However, because jurisdictions that purchase these machines presumably will only do so only once every 15 years or more, we cannot rely on steady and consistent consumption to eventually yield reliable voting machines. We instead need to provide incentives to mobilize America's wealth of computer talent. A large monetary prize awarded to the firm or individual who designs a voting machine that is at once lightweight, inexpensive, and secure, would be an appropriate entrepreneurial solution.

The problems with DRE machines certainly deserve prompt action. But it's a bit ironic that the most frequent charge against them is their openness to manipulation when, in an era of gerrymandering, push-polls, and deceptive campaign advertising, DRE systems are one of the few political innovations in recent years that aim to increase the accuracy with which we record voter preferences. It would be a tragedy for our democracy if America let the perfect be the enemy of the good and wrote off electronic voting machines entirely.

Endnotes

¹ Letter from Diebold Election Systems to Supervisor Blanca Alvarado, 3 February 2003, <http://www.sccgov.org/SCC/docs/SCC%20Public%20Portal/attachments/keyboard/545629TMPKeyboard200436511.pdf>.

² Stewart, Charles. "Residual Vote in the 2004 Election," Caltech/MIT Voting Technology Project, February 2005.

³ *Ibid.*

⁴ Gimbel, Barney. "Rage Against the Machine," *Fortune*, November 3, 2006.

⁵ http://www.diebold.com/dieboldes/pdf/dieboldes_TSX_brochure.pdf

⁶ <http://www.sequoiavote.com/productguide.php?product=AVC%20Edge&type=Introduction>

⁷ <http://www.essvote.com/HTML/docs/iVotronic.pdf>

Where Do We Draw the Lines? Redistricting Revisited

Brian Leubitz

AS A “BLOGGER” of California politics, I have many opportunities to see the state’s deficiencies, especially the Legislature’s inability to work together on issues larger than trivial naming bills and other inanities. This has led me to question why the tone and tenor in Washington, Sacramento, and capitals across the nation have soured to such an extent. There is surely no simple answer to this question. Part of the blame lies in the ever-increasing divide of the country; the modern red state/blue state split has some basis in fact. However, much of the blame lies in the structure of the representative system itself.

This essay will focus on one aspect of this system that is in need of reform—the redistricting process—and will discuss its role in the bitter partisanship in Sacramento and Washington. I advocate a complete overhaul of California’s redistricting process in favor of a system that will ensure a more transparent and open process while simultaneously creating a fair map of representation for all Californians.

Currently, in California and 37 other states, the Legislature has exclusive jurisdiction over districting.¹ Legislatures around the country use the redistricting process to consolidate political power, or gerrymander, when confronted with competing interests to create safe seats for incumbents or to create additional seats for the majority party. These interests are mutually exclusive, as was evident in the 2006 midterm elections,² and both are potentially dangerous to our republican form of government. Both also encourage the development of districts that have few commonalities, either in interests or in geography.

In California, the Legislature opted to draw district lines in order to create safe seats for both parties. The result is a lack of competitive races between the parties, with the only real races occurring at the primary level. Even in the Democratic Wave of 2006, no seats in the California Legislature were “flipped” from one party to the other, and only one Congressional seat changed parties.³ These safe seats push candidates to seek support only from their base, in order to do just enough to ensure victory in the

general election. In doing so, they also discourage compromise by marginalizing independent and moderate voters. Further, gerrymandering facilitates loyalty to a party or to a particular person rather than to a set of ideas, partially due to the fact that there is a complete lack of alternatives. For an example of this, see the (soon to be former) House Appropriations Committee Chairman, Jerry Lewis (R-CA), who won his chairmanship through a bidding war, was embroiled in scandal, and yet still had no substantive challenge for his Southern California district.

One effort to combat this trend in California was Proposition 77, considered in the 2005 special election, which would have legislated “fair, competitive” districts. While Governor Arnold Schwarzenegger was personally responsible for several of the propositions on the ballot in the special election, he did not author this initiative. Proposition 77 was

introduced by Ted Costa, the original sponsor of the Recall Davis movement.⁴ Schwarzenegger endorsed the measure, however, as part of his “Year of Reform” package that was ultimately placed on the ballot. Many left-leaning voters opposed measures of Proposition 77, which called for a mid-decade redistricting and possible multiple redistrictings if the first map was rejected by the voters. These factors, plus the overall anti-initiative mood, contributed to a solid defeat of Prop. 77.

It is important to note that despite the support of Arnold Schwarzenegger and many other prominent Republicans in the state, the passage of Prop. 77 would have likely netted a *gain of one or two* seats for the Democrats. Prop. 77 called for “fair, competitive” districts.⁵ How those districts were to be drawn was not fully established and, with the defeat of the initiative, the methods will never be known. However, one can only assume that “competitive” would mean trying to draw districts in such a way that would try to even out the registration advantage in favor of one party or another. In a state that gave 54.4% of its vote to a not particularly overwhelming Democratic presidential nominee in 2004, competitive districts would,

[S]afe seats push candidates to seek support only from their base, in order to do just enough to ensure victory in the general election.

Brian Leubitz is a second-year M.P.P. student at the Goldman School of Public Policy. He operates Calitics.com, a progressive California political blog.

almost by definition, favor the Democratic candidate. In other words, smoothing out the partisan advantage evenly across districts would yield a Democratic lean to all 53 House seats, 80 Assembly seats, and 40 Senate seats.

The term “competitive” is not fully defined in Prop. 77, so it is not clear what the goal of its redistricting panel would have been. However, the goal of redistricting for competitive seats is a false nirvana. Imagine the havoc that a Prop. 77-inspired map would wreak upon the state. What would a competitive seat look like in the San Francisco area? The district containing the City of San Francisco, with its reliably Democratic votes, would have to be chopped up, and carried across the bay to meet up with some reliably Republican voters in the Central Valley and some possible swing voters in the exurbs of San Francisco. That process would have to be repeated several times to distribute the partisan votes on both sides of the San Francisco Bay. A similarly bizarre process would take place in districts throughout the Los Angeles area.

But isn't there an obvious problem with that scenario? Whose interests would that legislator represent? To say that those areas have vastly different interests is somewhat of an understatement. The City of San Francisco faces issues common to any large urban center while the Central Valley contains farming interests. Could both interests be represented by a shared Congressman?

Another problem with “competitive districts” is that they would decrease minority representation. For example, Mark Leno, an openly gay Assemblyman, or Leeland Yee, a Chinese-American Assemblyman, could have great difficulty winning in these “competitive” districts. Part of the reason that members of a minority cluster in one community, such as the gay community in San Francisco, is to gain political power. These “competitive” districts would remove that power and probably reduce minority representation in the California Legislature.

Drawing “competitive districts” is just another form of gerrymandering. Instead, districts should be drawn as reasonably compact areas that share common interests. There should not be any more bizarrely-shaped districts like California's 11th district,⁶ which (until recently) has repeatedly re-elected Richard Pombo, or Texas' 25th under the Tom Delay plan.⁷ Districts should be drawn to encourage voter participation by keeping cities together, similar suburbs together, and similar geographic regions together. Lines should reflect natural boundaries, such as rivers

and mountain ranges, but there should not be a fear of creating long districts where interests coincide. For example, California's Northern Coast is currently represented by Mike Thompson. The Northern Coast is a fairly liberal Democratic region with specific interests, such as fishing, offshore drilling, and other environmental concerns. Just a few miles inland, however, voters have very different interests. The interior North is a conservative region, as voters have shown by electing Dan Lungren and John Doolittle.⁸ These two regions, then, cannot fairly be represented by one representative.

California is currently having a reasoned discussion about creating a fair redistricting process. The state must balance the lessons of the failure of Proposition 77 with the need to change the system. One attempt to do just that was State Constitutional Amendment 3 (SCA 3), written by Senator Alan Lowenthal (D-Long Beach). SCA 3's final version prioritized its goals in the following manner:

- (C) Districts shall be geographically contiguous to the extent practicable.
- (D) District boundaries shall respect communities of interest to the extent practicable.
- (E) To the extent practicable, district lines shall use visible geographic features, city and county boundaries, and undivided census tracts.
- (F) Districts shall be geographically compact to the extent practicable.
- (G) To the extent practicable, competitive districts should be favored where to do so would create no significant detriment to the other goals listed in this paragraph.⁹

Thus, SCA 3 attempted to create practical, common-sense districts and to prioritize compact districts with sensible common interests or, if these goals conflicted, to ensure that the tradeoffs are addressed. The proposed amendment eventually failed due to complicated Sacramento politics.¹⁰ However, hopes are high that a similar amendment will be passed in the next legislative session.

Currently, twelve states have some form of redistricting commission that is external to the normal legislative process.¹¹ The California plan, therefore, would break little new ground. SCA 3 was a sound and just plan with solid bipartisan support that could have produced profound change for a dysfunctional Sacramento.

Redistricting - continued

Gerrymandering has damaged the republican nature of the state and federal government. We need fair and honest redistricting, applied with consistency across the state and the nation. It is often said that when California wades into governmental reform, the rest of the nation follows. Hopefully, California can make redistricting reform just one more example of our leadership.

Endnotes

- ¹ National Conference of State Legislatures, "Redistricting Commissions," <http://www.ncsl.org/programs/legman/redistrict/com&alter.htm> (accessed November 2006).
- ² Cummings, J. "Redistricting: Home to Roost," *Wall Street Journal*, November 10, 2006, http://online.wsj.com/public/article/SB116312053645719332-AOImZMSyJnp1DY5vC7Mgi7caig_20071109.html?mod=blogs.
- ³ Jerry McNerney defeated Richard Pombo in something of an upset in California's 11th district, and there were some close calls in the legislature. Lynn Daucher was narrowly defeated for the 34th District Senate Seat after leading on election day.
- ⁴ University of California, Berkeley, Institute of Governmental Studies, "Proposition 77 – California Redistricting Ballot Measure," <http://www.igs.berkeley.edu/library/htRedistricting.html> (accessed November, 2006).
- ⁵ California Secretary of State, "Proposition 77, Official Title, Summary, Argument, and Text," http://www.ss.ca.gov/elections/bp_nov05/voter_info_pdf/entire77.pdf (accessed November, 2006).
- ⁶ The 11th Congressional District of California is shaped like a seahorse. See http://nationalatlas.gov/printable/images/preview/congdist/ca11_109.gif.
- ⁷ Texas 25th District has since been altered by the Fifth Circuit Court of Appeals to be a more compact district. Under the Delay plan, the district ran from Austin, TX to the Mexican border. Additionally, four Congressmen had parts of the City of Austin, but none had the City of Austin as a majority of their district. Austin is known to be far more Democratic friendly than the rest of Texas. See <http://www.austinchronicle.com/gyrobase/issue/story?oid=oid%3A394224>.
- ⁸ *The Washington Post*, "Foreign Lobbies Took the Guise of Nonprofits," November 3, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/11/02/AR2006110201883.html> (accessed November 2006).
- ⁹ Lowenthal, Alan. SCA 3, http://info.sen.ca.gov/pub/bill/sen/sb_0001-0050/sca_3_bill_20060309_amended_sen.html.
- ¹⁰ The bill actually failed partly due to some confusion as to whether there would be a term limits extension tied to the plan. See Young, Samantha. "Lawmakers end talks to package redistricting, term-limit reforms," *San Francisco Chronicle*, August 15, 2006.
- ¹¹ For more details on the processes in other states, see "Redistricting Commissions: Legislative Plans" at <http://www.senate.leg.state.mn.us/departments/scr/redist/red2000/apecomsn.htm>.

CLASS OF 2005 ANNUAL AWARD FOR OUTSTANDING STUDENT-WRITTEN POLICY ARTICLE

CONGRATULATIONS

Ayesha Khan, GSPP Class of 2006

author of

“Pakistan’s Predicament: Corporate Social Responsibility in Action.”

Winner of the 2005-2006 Prize

The PolicyMatters Advisory Board is pleased to designate Ayesha Khan as the winner of the 2005-2006 Class of 2005 Outstanding Student-Written Policy Article Award for, for her Spring 2006 contribution, “Pakistan’s Predicament: Corporate Social Responsibility in Action.”

All Student contributions to PolicyMatters are eligible to win the Class of 2005 Outstanding Student Article Prize. The \$250 cash prize, is awarded annually in September to a student-written article from the previous academic year that represents exemplary policy commentary and analysis. PolicyMatters Editorial Board nominates student articles for consideration at the end of each academic year. Nominated articles are then reviewed and judged by the PolicyMatters Advisory Board. Award decisions are based the quality of both the original submission and published version of each article. To enter the 2006-2007 academic year contestant pool, please designate yourself as a student when you send your article contribution to PolicyMatters. Submissions should be sent to Douglas Spencer at dspencer@berkeley.edu.

CALL FOR SUBMISSIONS

POLICYMATTERS VOLUME 4 NUMBER 2, SPRING 2007

STUDENT JOURNAL OF THE

**GOLDMAN SCHOOL OF PUBLIC POLICY
UNIVERSITY OF CALIFORNIA, BERKELEY**

DEADLINE: February 17, 2007

Please email all submissions and questions to Douglas Spencer

Email:	dspencer@berkeley.edu
Submission Deadline:	February 17, 2007
Notification:	March 1, 2007
Publication:	April 30, 2007

Guidelines for Submissions:

- **Article Length:** We prefer articles between 2,500 and 3,500 words. Articles longer than 5,000 words will not be accepted.
- **Subject Matter:** We accept articles on all Public Policy topics, and encourage focus on timely and interesting issues.
- **Article Format:** We publish articles with well-reasoned viewpoints on policy design, creation, implementation, or practice. Feature articles should incorporate independent research and support claims with convincing evidence.
- **Article Style:** Language should be jargon-free, understandable to non-expert readers, and should explain clearly any economic, mathematical or statistical methods. Please follow Chicago Manual of Style citation rules.
- **Editing Process:** PolicyMatters subjects all submissions to rigorous editing, and expects authors to participate in that process.
- **Publishing:** Articles are published in print and online.

PolicyMatters is the student-run journal of the Goldman School of Public Policy at the University of California, Berkeley. PolicyMatters exists to provide fresh insight into current issues and to propose innovative solutions to complex problems. PolicyMatters is a forum for members of the policy community to learn and exchange ideas.

*PolicyMatters is published by the students of the Masters of
Public Policy program at the Goldman School of Public
Policy at the University of California, Berkeley.*

www.policymatters.net