



economists incorporated

Economists Ink

a brief analysis of policy and litigation
winter 2003

In This Issue

Consumer Surplus and the Evaluation of Government Policies

Philip B. Nelson, Stephen E. Siwek and Su Sun discuss the concept of consumer surplus, an economic tool that is receiving increased attention from policymakers. They describe the use of this tool in two very different contexts: to judge the effectiveness of government merger enforcement policy, and to measure the effects of the Federal Communications Commission's line sharing rule.

Lessons from England and Wales on the Design of Electric Power Markets

Manny A. Macatangay describes several ways in which England and Wales have attempted to increase competition in the wholesale electric power market. Their experience provides insights for restructuring in the United States.

Evaluating the Impact of Legal Aid on the Poor

Bruce M. Owen and Jorge E. Portillo describe their work evaluating the economic impact of a World Bank funded pilot program that supports legal aid clinics for poor women in Ecuador. As part of a multidisciplinary team, they developed a two-front research strategy that combines quantitative data from a survey with qualitative data from focus groups. They found that legal aid brought significant monetary and non-monetary benefits to recipients.

Consumer Surplus and the Evaluation of Government Policies

By Philip B. Nelson, Stephen E. Siwek and Su Sun

The use of consumer surplus by policymakers is becoming increasingly common. Because the ultimate goal of antitrust and regulation is to protect consumers, government agencies often need to evaluate the effects of their policies on consumer welfare. The economic concept of consumer surplus provides a useful framework for measuring these effects. Consumer surplus measures the difference between the total value that consumers place on their consumption of a good or service and the actual payment they make for that good or service. The effect of a policy on consumer welfare can be measured by estimating the change in consumer surplus due to the policy. Two recent examples, one from antitrust and one from regulatory policy, illustrate the increased importance of this concept.

The Government Performance and Results Act of 1993 (GPRA) requires government agencies to report the outcomes of their program activities using performance indicators. As part of the efforts to meet this requirement, the Federal Trade Commission and Department of Justice estimate the consumer benefits resulting from their merger enforcement actions. For example, in fiscal year 2001, the year for which the most recent data are available for both agencies, the FTC estimates that it saved consumers \$2.5 billion, and the DOJ estimates that it saved consumers \$2.4 billion.

Although the FTC and the DOJ both try to estimate changes in consumer surplus due to their merger enforcement, they use somewhat different methodologies. Each agency tries to estimate consumer savings for each case in which it believes that it stopped an anti-competitive merger. The agency estimates consumer savings by multiplying the annual sales in the market that would have been specified in the complaint by the estimated price increase that would have been caused by the merger. Both agencies use estimated price increases developed during the investigations if they are available and believed to be reliable. However, the agencies use very different methods when they develop new estimates for the GPRA calculation. In the absence of case-specific evidence, the FTC assumes a one-percent price increase. The DOJ often uses an oligopoly model to estimate the price increase that would have resulted from an anticompetitive merger. In particular, for homogeneous product markets, anticompetitive price effects are estimated using the Cournot model that links the price changes to the Herfindahl-Hirschman Index (HHI) and market elasticity. For differentiated products markets, price effects are simulated using a variation of the Bertrand model. These models often require information on market shares and various demand elasticities. Estimates from the simulations are adjusted if they are thought to be unrealistic. In addition, the agencies assume different durations for the consumer benefits from the merger. The FTC assumes that these benefits will last for

Continued on page 4

Lessons from England and Wales on the Design of Electric Power Markets

By Manny A. Macatangay

Before the Federal Energy Regulatory Commission seeks additional comments on its proposed Standard Market Design for wholesale electric power markets, it is useful to review the restructuring experience of other countries. For more than a decade, England and Wales have struggled to increase competition in the wholesale electric power market. Their experience provides insights for restructuring in the United States.

In April 1990, the privatization of the power system in England and Wales established a uniform price market called the Pool. In a uniform price market, the bids of power plants are arranged in order from lowest to highest price, and the bid of the most expensive plant that actually sells electricity sets the market-clearing price for all sellers. However, substantial academic and governmental research suggested that the Pool was susceptible to the exercise of market power, and that prices failed to reflect declining production costs over time. Market power is the ability profitably to raise prices above competitive levels for a significant period. Many generation companies operate both low-cost base-load plants that run continuously as well as high-cost peaking plants that run only during times of peak demand. In a uniform price market, a generator may be able to exercise market power during high demand periods by withholding power from its peaking plants. In this way, the generator would achieve a higher market-clearing price for its low-cost, base-load plants. If the gains from the higher price for the output from the base-load plants are greater than the losses from not running some of its peaking plants, then the generation company can profitably exercise market power.

The industry regulator, originally the Office of Electricity Regulation but now restructured as the Office of Gas and Electricity Markets (OFGEM), worked diligently to address the concerns over high prices and weak competition. It conducted several price inquiries, one of which led to the imposition of caps on generators' bid prices for supplying electricity. The regulator also required the two largest generation companies, National Power and PowerGen, to divest some of their capacity, and it encouraged the entry of new gas-fired generators. It introduced a Market Abuse License Condition (MALC) prohibiting a generator, acting either alone or in concert with at least one other, from abusing market rules under the existing trading arrangements. There was some concern that the policy interventions of the regulator, most especially MALC, were too intrusive in the operation of generators.

OFGEM eventually began a process that culminated in the dissolution of the Pool. In March 2001, the uniform price Pool was replaced with the New Electricity Trading Arrangement (NETA) with a pay-as-bid market design. In a pay-as-bid market, the bids of power plants are also arranged in merit from lowest to

highest price, as they would be in a uniform price market. The difference is that instead of all plants receiving a single market-clearing price, the price earned by each winning plant is its bid. As a result, each plant potentially earns a different price, and the incentive to withhold power from peaking plants in order to increase the price received by low-cost plants is muted. On the face of it, NETA has been a success. In July 2002, after more than a year of operation, an OFGEM review concluded that NETA had performed well in accomplishing its objectives and, with other factors, had brought about a 40 percent reduction in wholesale prices.

But the jury is still out on the efficacy of pay-as-bid markets. Generation companies in pay-as-bid markets still want to receive a high market-clearing price for base-load generation, and they can submit bids based on their estimate of the market price that would have been charged under a uniform price market. Pay-as-bid markets put small generation companies at an informational disadvantage. A large generation company has a wide portfolio of plants through which it may obtain a better understanding of the market than a small company that has a narrow portfolio of plants. NETA in principle has not addressed the root problem: the concentration of generation assets. Moreover, the decline in market prices under NETA may have resulted not from NETA but from new generation facilities that entered before NETA. The pay-as-bid market may also cut the profits from (and thus the capital recovery contribution to) base-load generation. If the reduction in the capital recovery contribution is severe, then excessive exit and insufficient entry of base-load plants could occur, and this could raise average prices over time. Finally, implementing a different pricing rule is costly in terms of software, management systems, and professional staff. Implementing NETA has cost \$1 billion to date and the transition is not yet complete.

The design of electric power markets affects not only short-run operations involving the efficiency of electric power production, but also long-term investments determining the capacity of the future electric power system. The pay-as-bid system now used in England and Wales shows some promise for reducing the incentive to exercise market power. It is unclear whether such a system would be better than the locational marginal price system now being proposed in the United States.

Senior Economist Manny A. Macatangay had studied the power markets in England and Wales for both his doctoral research in the University of Manchester, UK and his post-doctoral work in the University of California Energy Institute, Berkeley. He has published on antitrust issues in the electric power markets of England and Wales, the US, and the Philippines. He is based in EI's San Francisco Bay Area office.



Evaluating the Impact of Legal Aid on the Poor

By Bruce M. Owen and Jorge E. Portillo

The World Bank recently needed to evaluate the economic effectiveness of a program to support legal aid clinics for poor women in Ecuador. The legal aid clinics are a small part of a project intended to promote legal and judicial reform in Ecuador, and in turn part of a World Bank initiative to promote such reforms throughout the developing world. Evaluating the effectiveness of these clinics was important in determining the future direction of this initiative.

The ultimate goal of the evaluation was to measure the impact of the legal aid program on the living standards of those receiving counseling and legal representation. Measuring the effects of legal aid can be difficult because the benefits from aid might take a long time to fully materialize. Moreover, the legal aid program might benefit people who are not directly involved. Specifically, those receiving improved access to legal entitlements could disseminate information concerning those entitlements to others in their community. Furthermore, legal actions taken by the clinics could create precedents that would induce changes in the behavior of non-litigants. This indirect benefit, or spillover effect, on non-litigants is perhaps the major impact of effective legal and judicial reform.

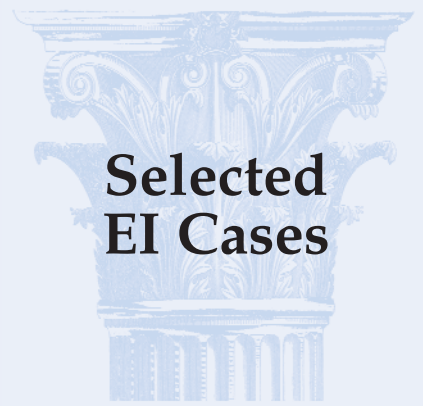
Measuring the effectiveness of the clinics presented two main challenges. First, it was necessary to decide what to measure. Second, it was necessary to find a practical way to measure performance *ex post*, given that the legal aid clinics did not collect or preserve ideal data and that an evaluation component was not built into the project. In order to simplify the analysis, the evaluation focused on one legal issue, child support entitlements, and confined the fieldwork to one city, Guayaquil, Ecuador. A key question was whether, holding relevant facts constant, there was a statistically significant improvement in outcome associated with

the use of the legal aid clinic or the judicial system.

Most of the data used in the study were derived from a survey designed for this purpose and administered in coordination with personnel from local Non-Governmental Organizations (NGOs). Specifically, the survey collected information on the legally relevant circumstances defining the existence and amount of the entitlement, the mother's use of the judicial system and the legal aid clinics, and the extent of financial support from the absent father. In addition, focus groups were conducted to explore the mothers' motivations for using (or not using) the judicial system, as well as their subjective valuation of the assistance provided by the legal aid clinics. The purpose of this two-front strategy was to cover both the quantitative and qualitative dimensions associated with the program under study.

A primary consideration in selecting the sample design and planning the fieldwork was gaining access to the relevant mothers. A pilot test showed that eligible mothers were reluctant to participate in the interviews unless the initial contact was made through somebody they already knew and trusted, like the personnel from the legal aid clinic. In addition, the pilot showed that the mother's home was not the most appropriate place to conduct the interview due to concerns about confidentiality and safety, particularly for women subject to domestic violence. Thus, it was necessary to adapt the scope of our survey to the limited reach of local NGOs.

During the period under study, 1998-2001, the program in Guayaquil provided legal advice specifically on child support to over 700 mothers. A simple random sample of 181 mothers was selected from this group. Also selected was a comparable sample of 181 mothers with similar legal circumstances who never received help from the legal aid clinics. Although the sample size is modest, it falls within the range used by comparable surveys.



Selected EI Cases

Federal Communications Commission (FCC) Broadcast Ownership Proceeding

In September 2002 the FCC began a review of a multitude of rules governing ownership of television and radio broadcast stations. At the request of major television network owners Fox, NBC and Viacom, Bruce M. Owen, Michael G. Baumann, Kent W Mikkelsen and other EI economists carried out several statistical and econometric studies to address questions raised by the FCC. The full text of these studies can be found at www.ei.com/publications/was14.pdf. An FCC decision is expected later in 2003.

FTC/DOJ Hearings on Health Care and Competition Law and Policy

Barry C. Harris and David A. Argue both testified in the FTC/DOJ Hearings on Health Care and Competition Law and Policy on antitrust issues in hospital transactions. Harris spoke at a session on geographic market definition. His talk warned of two common mistakes in applying the Merger Guidelines: defining a market that is inconsistent with the allegations of possible anticompetitive effects and ignoring the impact of firms that compete in only part of the merging firms' service area. Argue spoke at a session on issues in litigating hospital mergers. His talk concerned errors that government agencies have made in attempting to implement the Merger Guidelines. These errors include internally inconsistent theories, insufficiently dynamic analysis, and improper accounting of the Critical Loss.

Continued on page 4

Consumer Surplus and the Evaluation . . . (Continued from Page 1)

two years; the DOJ assumes that they will last for one. The methodologies are constantly under review by both agencies and may be modified in the future.

The consumer surplus framework can also be used in evaluating consumer benefits from regulatory policies in a specific industry. For example, this tool was recently used in a Federal Communications Commission (FCC) proceeding to estimate the effects of that agency's line-sharing rule.

Although the available data did not allow precise estimates of the consumer benefits from the rule, it was possible to put a lower bound on those benefits. Data were not available for estimating the exact shape of the demand curve for the affected services. Still, changes in consumer surplus could be estimated based on information on price and the number of subscribers before and after the entry that incurred following the line-sharing rule. Importantly, these estimates do not take into account any shift in underlying

demand. Because the demand has increased in recent years, such estimates thus serve as a lower bound of the true benefits to consumers.

Consumer surplus is a well-established tool for measuring consumer welfare changes. The proper use of this tool enables one to evaluate the effectiveness of government policies by quantifying the resulting consumer benefits. Consumer surplus is likely to see increased use in a wide variety of contexts.

Principal Philip B. Nelson and Senior Economist Su Sun have published a related article "Consumer Savings From Merger Enforcement: A Review of the Antitrust Agencies' Estimates" in the Antitrust Law Journal, Volume 69, Issue 3, 2002. Principal Stephen E. Siwek and Senior Economist Su Sun worked on estimating consumer benefits from entry in a specific service following the FCC's line-sharing rule.



Evaluating the Impact . . . (Continued from Page 3)

The study results showed that, holding relevant characteristics constant, former clients of the legal aid clinics are better off than non-clients. Specifically, participation in the legal aid clinics increases the probability of both having a child support award and actually receiving a transfer, decreases the incidence of domestic violence after separation, and is associated with a more positive outlook towards the judicial system.

In addition, the focus group results indicate that important non-monetary gains result from the legal aid clinic's intervention. Participants cited improved self-esteem and help in coping with the aftermath of domestic violence. Due in part to the stigma carried by illegitimate children, the primary concern for some mothers was to prove paternity, even if at the end they did not get child support payments.

The results also show some evidence of the leverage spillover effect of legal intervention. Some focus group participants used the threat of legal action as a way to reach an out-of-court settlement with the absent father. In fact, some participants believe that the amount of child support

fixed by the court is smaller than what could be received via an out-of-court settlement. In two instances, the mother indicated that, apart from any personal gain, standing up for her rights was a way to improve the conditions of all women.

Despite the many difficulties encountered, the study shows that empirical evaluation of the contributions of legal and judicial reform to economic development is possible. The study could measure only a hint of the most important benefits of the clinics--their spillover impact on non-participants. But even without this potentially very large positive effect, the clinics appear to have made a contribution to the economic well-being of poor women in Ecuador.

Bruce M. Owen is the Gordon Cain Senior Fellow in the Stanford Institute for Economic Policy Research (SIEPR), Professor of Economics, by courtesy, Stanford University, and a special consultant to Economists Incorporated. Jorge E.

Portillo is an EI Senior Economist with a keen interest in applied econometrics. They recently assisted the World Bank in its evaluation of the effects of legal aid clinics in Ecuador.



Economists Incorporated

Suite 400
1200 New Hampshire Ave.
Washington, DC 20036
Phone: (202) 223-4700
Fax: (202) 296-7138

Suite 250
5980 Horton Street
Emeryville, CA 94901
(510) 547-6910
(510) 547-5162

Website: www.ei.com

President, Jonathan Walker Editor, Henry McFarland
Layout, Gregory E. Wurz

In affiliation with RBB Economics, London and Brussels