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Power to Choose? An Analysis of Consumer Inertia in the Residential Electricity Market

Many states have opened retail electricity markets to competition so that households can choose their electricity provider. As a result, consumers have the ability to choose their retail provider at unregulated prices, creating new markets where entrant retailers procure wholesale energy and market that energy to consumers. Across the world, the retail electricity sector is being opened to competition – over one-half of households in Europe have retail choice. In April 2016, the entire retail electricity market in Japan will be deregulated. Retail competition can lead to more competitive pricing and incentivize retailers to develop innovative new energy services.

However, choice frictions can reduce the consumer gains of retail choice as the transition to competition occurs. Households that are given the ability to switch providers may not exercise the option to select an alternative lower priced energy retailer. For example, households may not actively acquire information about other energy retailers, or pay attention to offerings by other retailers, even if better options exist. Alternatively, even if households are aware of other options, they may value the brand name of the incumbent and this may reduce the amount of switching to new entrant retailers.

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How can newly opened retail electricity markets be designed to minimize choice frictions so that consumers benefit from competition? Texas was one of the first jurisdictions in the United States to offer retail electric choice, so it is a valuable laboratory to study the design of retail competition. In ***PERC*** Working Paper 1508, Ali Hortacsu, Seyed Ali Madanizadeh and ***PERC*** **Professor of Free Enterprise** Steven L. Puller study the Texas retail choice program to measure the size of choice frictions and understand the underlying mechanisms. Using data from residential meters from 2002-2006, the authors identify how many consumers switch retailers and address the causes of consumer inertia by developing an econometric model of household choice to distinguish between two equally plausible explanations: inattention and incumbent brand advantage.

Historically, residential electricity markets were vertically integrated utilities with regulated prices. States were divided into service territories, each with a vertically integrated firm. In 2002, Texas began allowing customers to choose their retail provider, as customers were assigned by

default to a retail firm that was affiliated with the incumbent utility provider.

In conjunction with the retail choice program, the Public Utility Commission of Texas created a website (www.powertochoose.com) where households could search all electricity retail options and switch providers at no cost. Consumers enter their zip code on the website to view a list of retailers as well as the average price per 1,000 KW. It is important to note that since retail choice does not impact the technical operations of power provision, the quality of power service is independent of the retailer. Therefore, one would expect consumers to switch to the cheapest retailer in the absence of choice frictions.

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However, many households do not switch to lower-priced retailers. After four years of retail choice, over 60% of households remain with the incumbent despite the fact that buying from other retailers would reduce electric bills by 8%, or around $100 per year.

To understand the cause of this inertia, the authors developed an econometric model of household decisionmaking to decompose the effect of inattention from incumbent brand advantage. Findings indicate that households do suffer from inattention – the typical household searches for alternative retailers in only 2% of months. And when search does occur, consumers attach a significant brand advantage to the incumbent, despite the fact that the incumbent is selling the same power as other retailers.

How can policy reduce this inertia? To evaluate the policy implications of consumer inertia, the authors simulate low-cost information interventions alerting consumers to the fact that: (i) the powertochoose.com website as an easy way to view retail options and (ii) power quality will be the same under any retailer. This intervention can be considered equivalent to consumers receiving an informational flyer. Such an intervention would increase both the probability of a customer searching for alternative retailers as well as reduce the brand advantage of the incumbent. Results indicate that information interventions could meaningfully increase consumer surplus. The paper suggests that if policymakers adopt very active information interventions when opening retail markets to competition, then consumers will enjoy larger benefits of retail choice.

The Impact of Teacher-Student Gender Matches: Random Assignment Evidence from South Korea

Despite the fact that girls and boys perform similarly on achievement tests when entering kindergarten, subject-specific gender gaps appear and widen as students advance through school. While girls generally outperform boys in language arts, boys generally outperform girls in math. Two main arguments support the notion that a root cause of these disparities is whether a student and teacher are of the same gender. First, role-model effects predict that students will be more engaged when taught by the same-gender teacher. Second, teachers may privilege one gender over the other, and treat students accordingly in terms of better feedback or consideration. For example, a teacher may assign more difficult reading homework questions to girls, if he or she believes that girls are more capable than boys.

In ***PERC*** Working paper 1509, ***PERC*** **Professor** Jonathan Meer and Jaegeum Lim examine test scores

for over 12,000 South Korean middle school students to estimate the effects of teacher-student gender matches on student achievement. Students in the sample were tested at the beginning of the second semester of ninth grade in three courses: Korean language, English language, and mathematics. One threat to identifying the causal effect of teacher-student interactions is the typical nonrandom sorting of students into classrooms. For instance, a male teacher may be more likely to be assigned to a classroom with higher achieving students.

To address this concern, the authors exploit a unique feature of secondary education in South Korea: random assignment of students into a classroom as a way to identify the causal effects of teacher-student gender matching on student achievement. At the beginning of each academic year, public and private middle school students in South Korea are assigned to a classroom which they remain throughout a school day, and where each teacher visits to present a lesson. Teachers are assigned to classrooms in an ad hoc way unrelated to teacher characteristics.

The authors provide evidence for the identification assumption in a number of ways. First, they check if the as-good-as-random assignment of students to classrooms within a school is uncorrelated with observable characteristics. Second, they confirm that the main results do not differ when adding control variables.

Generally, results show that female students are positively influenced by having a female teacher, although there is little evidence to support the same-gender teacher effect for males. The authors' findings indicate that female students perform better than male students by about 15% of a standard deviation on average, across Korean, English, and math classes when paired with a male teacher. The change in the performance gender gap when classrooms switched from a male to female teacher increases female performance by nearly 8% of a standard deviation, equivalent to over a third of a year of schooling.

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Since the gender gap differs substantially by subject, the authors test how female students perform across subjects when matched with the same-gender teacher. When switching from a male to female teacher, the gender gap for math and English increases significantly, by 8% and 10% of a standard deviation, respectively, although the gender gap does not widen significantly for Korean language courses.

To further examine the mechanisms behind these results, the authors explore both student-centered and teacher-centered channels. The authors utilize data from a survey that questioned both the students and parents about classroom interactions and private tutoring, respectively, to address potential underlying causes of the gender-based achievement disparities. Such questions include information on whether the student feels comfortable asking the teacher a question, feels encouraged to express themselves, or participate in class as well as if the subject is his or her favorite. Questions to the parents include those that ask whether the student receives tutoring in the subject as well as a log of tutoring expenditures, if any.

Overall, the data indicate that female students are significantly less likely to interact and participate in class activities when the teacher is male. Specifically, female students report that female teachers are more likely to encourage them and give them an equal opportunity to express themselves. Moreover, female students report that a particular subject is their favorite when the teacher is female. Finally, the authors show that neither number of study hours nor tutoring can explain the gender gaps. These findings support the notion that improved performance for female students matched with female teachers is driven primarily by teacher, not student, behavior. Thus, such interactions reflect changes in the classroom environment, not necessarily the environment itself.

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