The Political Economy of Subsidy Reform in the Persian Gulf Monarchies

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Abstract
Do citizens of autocracies feel entitled to cheap energy? How amenable are they to losing the subsidies behind those “entitlements?” In the six Persian Gulf monarchies, where subsidy-fueled energy consumption threatens to displace the region’s oil exports, these questions have important implications for demand management. A public survey reveals levels of entitlement to energy subsidies that are more subtle than expectations inferred by rentier theory. As theory would predict, a cohort of citizens claims entitlement to national resource wealth, and this group is relatively unwilling to accept higher prices on residential electricity. On the other hand, a substantial portion of the public neither claims entitlement to energy nor opposes higher electricity prices. Citizens are more supportive of higher prices when given a national-interest explanation, and when offered an alternate benefit. Separately, a survey of experts produced results more consistent with theory, in which citizens were expected to exhibit more “entitled” views of energy and more opposition to subsidy reform. Overall, the findings suggest that large segments of the Gulf public may be more amenable to necessary reforms of damaging subsidies than the current caution in policymaking implies.

Keywords
Energy subsidies, autocracy, rentier state theory, policymaking, Persian Gulf monarchies, social contract, GCC

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1. Introduction

The political economy Theory of the Rentier State, as sketched by Mahdavy in 1970 and expanded by Beblawi and Luciani in 1987, holds that the massive influx of oil rent plays a large, perhaps dominant, role in shaping the political and social relationships between state and society.\(^2\) Inflows of external rents allow governments to “purchase consent” of the governed without paying the political price of imposing taxes. This exchange of patronage for political acquiescence is enshrined within a social contract, which, in turn, is said to bring rulers wide autonomy in decision making, while releasing them from the need to concede democratic participation in policymaking. Citizens are portrayed as complacent and lacking in motivation for economic and educational self-improvement, since their incomes flow from citizenship rather than from hard work.\(^3\)

Recent studies on the Gulf Arab monarchies (Saudi Arabia, United Arab Emirates, Kuwait, Oman, Qatar and Bahrain) challenge some of these claims through close examination of state obligations, which might be described as the “supply” side of the social contract. These include work by Gray on the Gulf monarchies, Davidson and Calvert Jones on the UAE, Hertog on Saudi Arabia and Jocelyn Mitchell on Qatar, which dispel some of the more caricatural notions of early theory while enriching conceptualization of the rentier bargain beyond a simple trade of petroleum rents for allegiance. These theoretical revisions also depict Gulf autocracies as increasingly deferential toward citizens.\(^4\) However, other than Mitchell’s portrayal of Qatari activism, these works neither ascribe much agency to citizens nor suggest that Gulf nationals can mobilize to pursue their interests. Rather they imply that regimes have maintained or increased benefit allocations in the interest of avoiding citizen mobilization. As in the early literature, the state-society social contract is portrayed as difficult to change.

With this paper I illuminate a portion of the less-explored “demand” side of the rentier social contract, which comprises the expectations of citizens. My results challenge the literature’s monochrome view of the citizen by showing a more complex understanding of the interconnection between the state’s natural resources and citizen welfare benefits. I gather public attitudes toward reform of energy subsidies, a topic with present-day policy relevance, and show that, while many citizens do express notions of entitlement to welfare benefits and opposition to reform – in this case of subsidized energy – others are willing to consider the loss of those benefits under certain conditions.

\(^2\) Mahdavy 1970; Beblawi and Luciani 1987

\(^3\) Mahdavy 1970; Beblawi 1987; Luciani 1987; Gause III 1994; Crystal 1990

\(^4\) Such as Gray 2011 on the Gulf monarchies and Hertog 2010 on Saudi Arabia, Davidson 2005 on the UAE, Mitchell 2013 on Qatar. Earlier works touched on these themes, including Anderson 1986 on Libya and Tunisia, Chaudhry 1997 on Saudi Arabia and Yemen, and Vandewalle 1998 on Libya.
One reason why the citizen “demand” side of the social contract has been relatively unexplored is lack of data. There have been few public surveys on attitudes toward energy in the Gulf and none (that I have found) that delve into matters comprising the foundations of ruling family support.\(^5\) To compensate, I gathered views of the general population by conducting a major public survey of 730 Gulf nationals that sought insights into their sense of entitlement to energy and attitudes toward higher retail prices. I use these responses to revise theoretical assumptions in three ways. First, by measuring citizen interpretations of the patronage distribution mechanism, to which scholars ascribe so much magnitude in generating regime support; second, by contrasting citizen interpretations with expectations in the literature; and third, by contrasting citizen views with those of elites and experts.

The data reveal a disparity which suggests that commonly held assumptions – and academic theory – are wide of the mark. Where theory and elite observers remain beholden to views of a rigid social contract that precludes “extraction” from the public, citizens reveal notions of a more flexible compact. While elites see citizens as fierce opponents of proposals that would erode public “rights” to cheap domestic energy, only a subset of the public conforms to this view. A substantial portion of the public appears more amenable to increases in subsidized electricity prices, especially when changes are portrayed as being in the national interest.

This disjuncture between views of citizens and those of scholars and elites is consistent with the “dictator’s dilemma” problem, in which policymaking in autocracies is insufficiently informed by public opinion.\(^6\) Results of an expert elicitation reveal overestimation of public opposition that is symptomatic of this view. Elites, policymakers among them, develop understandings and make policy under certain assumptions and conditions. Given their imperfect information on public opinion, those assumptions may be misguided, as this paper will illustrate.

The survey results suggest that policymakers may have more scope than commonly understood for reducing high levels of per capita resource consumption that characterize these monarchies. This paper focuses on reform of residential electricity tariffs because of the large and growing amount of exportable energy consumed, and because the nature of electricity billing allows regimes leeway to impose discriminatory pricing in ways that reflect a customer’s economic status or political clout. Electricity pricing thus provides more information on political entitlements than would be the case for transportation fuels, for example.

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\(^5\) Willis Energy Services and the Nielsen Co. used survey methodology to prepare their Study of Modes of Energy Consumption in the UAE (2011), a government document obtained by the author. However, the survey does not address public conceptions of entitlement.

\(^6\) Wintrobe 2001; Tullock 1987; Desai, Olofgard, and Yousef 2009
The reform challenges facing these regimes are of enormous significance for their countries, as well as for international energy markets and resource-importing states. As emphasized in a previous paper, subsidies are fueling unrestrained growth in energy demand that threatens longstanding commodity exports from the Gulf, while driving regional per-capita carbon emissions to world-leading levels. Oil and gas exports remain the economic underpinning of these states, the chief source of government revenue, and the main source of distributional rents. The manner in which these societies confront domestic subsidies will provide clues about the longer-term economic viability of these states and their role in energy markets, and, ultimately, about the longevity of the world’s last remaining absolute monarchies.

The rest of this paper unfolds as follows: Section two reviews literature on social contracts and subsidy reforms, with a focus on rentier states. Section three offers research design, hypotheses and methods, as well as the statistical model. Section four provides the results of the statistical analysis. Section five offers an in-depth discussion of the survey results and introduces additional qualitative research data from an expert elicitation and discusses potential biases that could affect results. A brief section on policymaking uncertainty precedes the conclusion.

2. Subsidy Reform and the Social Contract

The Rentier State Theory, which Herb describes as “the most influential theoretic paradigm in the study of the comparative politics of the eastern Arab world,” presents the most relevant theoretical lens for an examination of the energy sector in the Gulf monarchies, the engine of the rents that support these political economies. Rentier scholarship affords little ambiguity on regime options vis-à-vis citizen subsidies. Welfare benefits are portrayed as vital components of citizenship which, collectively, comprise the citizen’s most important inducement for acquiescence to his government’s legitimacy. Authors declare that benefits cannot be retracted without offsetting their loss with a corresponding increase in democratic legitimacy. This acquiescence is typically framed as a social contract or “ruling bargain.” Authors declare that benefits cannot be retracted without offsetting their loss with a corresponding increase in democratic legitimacy. To do otherwise would challenge the basis of the state.

The concept of the social contract is thus central within the rentier state and in the theoretical works examining these states. Whereas in democratic states, social contracts generally refer to collective
bargains among representatives of labor, capital and the state.\textsuperscript{12} In more autocratic states the social contract becomes a redistributive “authoritarian bargain” enshrining the terms by which citizens legitimate governing regimes, and the constraints and incentives that apply to both parties. In the rentier Middle East, these pacts assume the role of institutions that in more participatory polities confer government legitimacy through formal citizen input. Farsoun argues that rentier social contracts wind up according citizens with \textit{political rights to economic security} which go beyond mere humanitarian aspirations. In so doing, Farsoun argued presciently that Arab regimes unwittingly created a bargain they could not maintain forever, ensuring that the growing expense of providing subsidy “rights” would someday become unaffordable.\textsuperscript{13}

Benefit reforms have been amply covered in the political literature on democratic welfare states, which also contain much of relevance for autocracies. As in democracies, government subsidy creates solidarity among beneficiaries who can rise up and threaten political leadership when their interests are jeopardized. Pierson argues that welfare societies thus maintain a constant potential for mobilization that raises the stakes of reform.\textsuperscript{14} The highly centralized composition of the Gulf regimes poses an additional obstacle to subsidy reform, since it concentrates accountability. Reform-minded rulers are thus exposed to the full force of public reaction.

There is little doubt that Middle East social contracts are sheltered by formidable barriers to reform, despite their deleterious “effect on employment, productivity, foreign investment, trade, and macroeconomic performance.”\textsuperscript{15} Heydemann and others characterize reluctance to reform as an incumbent’s rational response to circumstances in which costs of reform are immediate, while benefits are delayed and uncertain. Victor argues that subsidy provision is a well-understood technique for regimes to satisfy interest groups that underpin power. The outsized energy subsidies that typical of oil-rich autocracies are sometimes described as a “populist paradox,” since regimes which provide them have no need to buy votes. However, the magnitude of these subsidies demonstrates the acute fear of unrest in petro-states which lack the useful pressure-relief effects of elections, and which face regular threats from regional unrest, including the Arab Spring uprisings.\textsuperscript{16}

\begin{itemize}
  \item\textsuperscript{12} Yousef 2004, 6
  \item\textsuperscript{13} Farsoun 1988, 231
  \item\textsuperscript{14} Pierson 1996
  \item\textsuperscript{15} Heydemann 2003, 2
  \item\textsuperscript{16} Victor 2009; See also: Andresen 2008
\end{itemize}
2.1 Dangers of Abrogating Gulf Social Contracts

Gulf scholars have speculated for decades on how the public might react to government violations of the social contract, including in the area of energy pricing. Writing during the long oil bust of the 1980s and 1990s, Crystal saw the threatened (but mostly unimplemented) reduction of welfare benefits and imposition of taxes in Kuwait and Qatar as a source of instability that would drive demands for participation.\(^{17}\) Gause argued that Gulf monarchies’ failure to meet their ends of the social contract would jeopardize the future of their political systems.\(^{18}\) More recently, Davidson forecast in 2012 that an inability to maintain social contracts – along with a technology-empowered political opposition – would bring about the demise of all six Gulf monarchies by 2017.\(^{19}\)

The electricity subsidies that are the focus of this research have long been understood as untouchable. Hertog and Luciani are among those arguing that higher prices would be helpful in reducing demand, while conceding that regimes would be unlikely to raise prices, especially on citizens’ residential consumption.

> “Encouraging (residents) to change their electricity consumption pattern is much more difficult than pursuing a more rational use of energy in industry, and it is especially difficult if the price lever cannot be used. It is therefore expected that emphasis will be on increasing electricity production rather than reining in consumption and, if anything, savings efforts will be focused on industry rather than the residential sector.”\(^{20}\)

Kazim, in his 2007 study outlining energy conservation options for the UAE, stretches as far as to recommend that the Emirates cut consumption by reducing population growth, but does not even broach the possibility of raising residential electricity prices.\(^{21}\) Perhaps the strongest reason for portraying subsidies and social contracts as so difficult to reform is the risk to the survival of the regimes which launch them. As Gurr writes, and as history shows, declines in state benefits and social welfare are common triggers for political violence and even overthrow of governments.\(^{22}\)

\(^{17}\) Crystal 1990, 191–2  
\(^{18}\) Gause III 1994, 147  
\(^{19}\) Davidson 2012, ix  
\(^{20}\) Hertog and Luciani 2009, 6–7  
\(^{21}\) Kazim 2007  
\(^{22}\) Gurr 1970, 338-40
2.2 Subsidy Reform in Energy Exporting States

What does history reveal about subsidy reform in oil exporting countries? The record is mixed. On the one hand, raising energy prices has been a prime driver of unrest. Examples include overthrown regimes in OPEC members Venezuela in 1993 and Indonesia in 1998. However, positive outcomes are also possible. All but five of 28 substantial energy subsidy reform efforts documented by the IMF in the past two decades met with some success.23 Most reforms occurring in exporting states have come amid a decline in oil production.

Among energy exporters, Indonesia, after failed attempts in 1997 and 2003 successfully raised fuel prices in 2005 and 2008. Indonesia reduced its subsidy load from 3.5% of GDP in 2005 to 0.8% by 2009. Yemen also managed small reductions in fuel subsidies, which, however, still accounted for 7.4% of 2009 GDP. Mexico reduced gasoline subsidies in 2005 and 200624 after failing to reform electricity prices between 1999 and 2002. Malaysia underwent a series of attempts to reduce fuel subsidies (which stood at more than 1% of GDP in 2012) but most were reversed following public outcries.25 Nigeria’s fuel price reforms of 2011-12 triggered anti-government unrest but still managed to reduce subsidy costs from 4.7% to 3.6% of GDP.26 However, the most relevant example of subsidy reform has arisen in a neighboring OPEC member state in the Gulf, itself a former monarchy, and the country for which the term “rentier state” was coined.27

2.2.1 Iran’s Subsidy Reform of 2010

In December 2010, Iran became the first major energy-exporting country to drastically cut indirect subsidies28 as well as the first country in the world to replace energy handouts with a universal cash transfer program for households.29 Iran’s dramatic reform achieved positive welcomes from the IMF and, at least initially, the Iranian public.30 The IMF and other reports credited the reform with initial reductions in domestic energy demand, including a 6% decrease in gasoline consumption,31 while halving the world’s largest energy subsidy burden, with a pre-reform value near $100 billion or a quarter of 2010 GDP. Demand reduction was sufficient to permit a temporary increase in oil exports, before Iran’s oil

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23 International Monetary Fund 2013a
24 Uri and Boyd 1997
25 Malaysia was not included in the IMF’s case study report. See instead Chyi 2012 and International Monetary Fund 2013b
26 International Monetary Fund 2013a
27 First use of the term “rentier state” is generally credited to Mahdavy 1970 on Iran.
28 International Monetary Fund 2013a; Guillaume, Zytek, and Farzin 2011
29 Tabatabai 2011
30 Initial public support is documented in Guillaume, Zytek, and Farzin 2011
31 FGE Gas Insights issue 216 (July 3, 2014). “What Happened to Iran’s ‘Most Radical Subsidy Reform Plan?’”
trade was blocked by international sanctions. The government built support for the reform by creating bank accounts for each household and depositing two monthly payments worth about $40 per person prior to the program’s launch. Recipients could only access those payments after prices were raised.

Iran’s reform confronted a structure of energy underpricing similar to that in the Gulf monarchies, but with more advanced harmful effects. Domestic demand was curtailing oil exports while forcing Iran to import market-priced gasoline at around US$2 per gallon, which it then sold domestically for 38 US cents. Some 70% of these subsidies were said to accrue to the richest third of the population. When subsidies were reduced, the largest increase in price affected smuggling-prone diesel fuel, which rose from US 1.6 cents to 37 cents per liter (an increase of more than 2,000%), followed by electricity for large residential consumers, where prices for consumption in excess of 600 kilowatt-hours per month jumped from US 1.6 cents to 19 cents per kWh (a rate nearly double the average US price in 2012). Rising price bands were designed to encourage conservation and protect the poor, with the first 100 kWh of electricity per month remaining available for 2.7 US cents. (Fig. 10.1)

Although initial plans called for prices to be increased to 90% of international levels over five years, the subsidy reform was halted in 2012 by rising inflation and a lack of parliamentary support. The tightening of international sanctions targeting Iran’s nuclear program made it difficult to separate the macroeconomic effects of the subsidy reform from those triggered by the embargo. Whatever the cause, severe inflation undermined the measure, reducing energy prices in real terms as well as the value of the replacement cash transfers. Dwindling political will also undercut the reform, since prices and payments were not adjusted for inflation. Although most goals were not achieved, the IMF in 2013 described the reform as “partially successful,” while the Iranian government in 2015 was said to be preparing new price increases.

33 Guillaume, Zytek, and Farzin 2011
34 International Monetary Fund 2013a
35 Tabatabai 2011
36 Note that 100 kWh is a fraction of Iran’s average monthly consumption of 2,500 kWh. Guillaume, Zytek, and Farzin 2011
37 Bozorgmehr 2012; International Monetary Fund 2013a
38 International Monetary Fund 2013a
39 International Monetary Fund 2013a, 6
Regardless, the Iranian reform and replacement stipends resonated within the six Gulf Cooperation Council (GCC) energy ministries. In Saudi Arabia, which operates amid similar levels of subsidy and budget dependence on oil exports, an adviser said Iran’s actions represented a potential path toward more efficient resource consumption.\(^40\) It bears asking: Would citizens in the Gulf monarchies accept reforms that reduce domestic pressure on exports, and, perhaps, compensate citizens for their loss in welfare?

3. Research Design

3.1 Hypotheses
Regime survival considerations are surely one of the chief inhibitors of subsidy reforms. If the literature’s picture of the inelastic social contract is accurate, regimes are in a bind. In an expert elicitation conducted for this research, 80% of experts (61 of 76) agreed that citizens consider subsidies as “rights of citizenship,” backing up the claims in the literature.\(^41\) This consensus appears to conflict with moves toward reducing benefits. If energy subsidies are “rights,” is it possible to reform them? Answering this question depends less on regime or expert concepts of the social contract, and more on the understandings of citizens. Policymakers contemplating a reduction in energy subsidies would therefore want to understand the boundaries of acceptable reform: Do citizens claim entitlement to energy resources? If so, does that mean they oppose higher prices? Would citizens require or even accept a replacement benefit in exchange for agreeing to pay more for energy? With this logic in mind, I designed three hypotheses that could be tested with public survey data.

First, I wanted to learn whether entitlement-minded citizens – those who express feelings of ownership over national resources – are more opposed to higher electricity prices. In numerous settings, including in Dubai in 2011, subsidized energy prices have been raised with little warning or explanation. Given their sense of entitlement to energy, it should logically follow that the entitled group would oppose encroachment on that benefit, especially if no justification is given. Therefore:

\[ H1: \text{Citizens exhibiting entitlement are less likely to support increased electricity prices} \]

However, what if the national interest is invoked as the rationale for higher prices? If citizens are told that higher prices were needed to reduce waste so that their country’s exports of oil and gas could be maintained, might entitlement-minded citizens be convinced to relinquish their problematic benefits? The

\(^{40}\) This author discussed its details with an adviser in the Saudi Ministry of Petroleum and Minerals, on Oct. 17, 2012. The official displayed thorough understanding of the Iranian reforms and their relevance for the kingdom.

\(^{41}\) Sixty-one of 76 respondents (80%) said “yes” to the question “Several academics have stated that subsidies in the GCC are perceived by nationals as rights of citizenship. Do you agree?” See further detail below.
second hypothesis tests the assumption that entitlement-minded citizens are still more inclined than others to oppose higher prices.

\[ H2: \text{Citizens exhibiting entitlement will express lower support for higher prices than the overall public, even if the national interest is invoked} \]

As mentioned, Iran designed its subsidy reform to include a compensation payment for lost benefits, and citizens largely supported this strategy. It follows that even entitlement-minded GCC citizens would support such a benefit swap, since it would give them a greater amount of flexibility to choose benefits that corresponded more closely to their preferences.

\[ H3: \text{Citizens exhibiting entitlement will demonstrate more support for higher prices if offered an alternate benefit} \]

I am also interested in measuring the relationship between demographic variables and support for higher prices. This is not because the rentier literature suggests certain categories of citizen are more prone to claiming subsidy rights, but to determine whether effects other than “entitlement” can better explain opposition to higher electricity prices. To test for these effects, I included demographic variables (presented in Table 10.1) as part of a regression which seeks to correlate support for higher prices with socio-economic status, education, gender, and age. One might expect in the patriarchal Gulf that women and younger citizens are less likely to control household finances or bear responsibility for paying bills and therefore could exhibit more support for higher electricity prices. Also, more educated citizens might be expected to possess a greater understanding of the region’s economic quandary and therefore might also support higher prices, while less educated citizens might be less willing to contemplate paying more.

3.2 Data and Methods

Data from the public survey provide the source for hypothesis testing. I also pursued a corresponding approach through an expert elicitation (EE) of Gulf energy experts to illuminate elite conceptions of energy subsidies and citizen entitlement. The two methods are logically complementary but statistically incompatible due to differences in selection of respondents and their available response categories. On the one hand, the public survey reflects an attempt to gather a representative sample of the public. On the other, the EE selects particular subject-matter experts, and makes no attempt to be representative. Therefore I did not compare the two datasets statistically, but instead provide the aggregated EE responses as an alternate view of the social contract to contrast with the citizen-participant view. These juxtapositions are useful in establishing whether prevailing views of elites, as well as those in the academic literature, reflect understandings held by citizens.
3.2.1 Public Survey
The polling firm YouGov conducted the public survey online, translating it into Arabic and providing it to its Middle East panel, which included 730 citizen respondents in the six GCC countries (Saudi Arabia, UAE, Kuwait, Oman, Qatar and Bahrain). The public survey responses were gathered between Nov. 28 to Dec. 4, 2011. The data is heavily skewed toward Saudi respondents and contains few responses from the smaller monarchies, which is due to the composition of the YouGov panel rather than the author’s intent. All responses are from GCC citizens. However, YouGov warned that its panel was not representative of the citizen population as a whole, and that it may be affected by errors in sampling and coverage. A company official said that, since the survey was conducted online, and Internet penetration remained less than universal in the Middle East in 2011, the results should be considered broadly illustrative of public opinion rather than statistically representative.

Due to small sample sizes in the smaller monarchies, I aggregated the GCC responses in the interest of statistical robustness. However, the dominance of Saudi responses means that the aggregated results are most strongly representative of Saudi opinion. While I had hoped to differentiate among countries, and I recognize the shortcomings of grouped responses, I believe the aggregated results can nevertheless guide the understanding of public opinion in the smaller monarchies given the close regional similarities in energy pricing, level of subsidy, and in political structure and culture. The terms of my agreement with YouGov limited me to six questions and did not allow for differentiating questions by country.

Given the urgency of reforming energy subsidies in five of the six monarchies (Qatar excepted), I wanted to learn how amenable citizens are to paying a cost-reflective price for electricity. How do citizens respond to a proposed loss of energy benefits? The survey allowed me to tease out perceptions of entitlement among citizens and evaluate levels of public opposition and support for a hypothetical retraction of citizen subsidies under conditions which might be useful in a policymaking context. Survey responses providing data for the three dependent variables were arrayed on five-point Likert scales.

- To test H1 and measure the first dependent variable (Dep 1), I asked how willing the citizen would be to paying the full cost of electricity without government assistance, explaining only that “the true cost without government subsidies is more than the average price that citizens in your country pay now.” Respondents were offered five choices ranging from “very willing” to “very opposed.”

42 Numbers of responses are lower than 730 because I excluded “don’t know” and incomplete responses from the dataset.
• To test H2 and measure the second dependent variable (Dep 2), I asked how willingly citizens would pay higher prices to moderate consumption in the national interest. “Some people have said that since electricity is provided to citizens at an artificially low price some people waste it. This consumes oil and gas that could be exported.” Responses on higher prices ranged from “strongly support” to “strongly oppose.”

• To test H3 and measure the third dependent variable (Dep 3), I sought comment on what might be termed the “Iran model,” asking whether the public would support a price increase if citizens were compensated with an alternate benefit of equal value. Responses ranged from “strongly support” to “strongly oppose.”

• The main independent variable in my model is that which measures citizen entitlement to subsidized energy. To measure this variable, labeled “share” below, I used responses which agreed with the statement that government electricity subsidies were a manifestation of “my share of the country’s energy wealth.” I classified those who selected this response option as the “entitlement-minded” group, and used their aggregated responses to discern the effect of the main independent variable.

• Remaining independent variables are taken from demographic data from the YouGov survey panel. These predictors include respondents’ reported gender (“female”), income (“income”), educational level (“edu”) and age group (“age”).

Each of the three dependent variables measures a component of my theory. Dep 1 measures the impact of entitlement on willingness to pay, when prices are raised without an explanation. Dep 2 measures the impact of entitlement on willingness to support increased prices, when invoking the national interest in conserving natural resources for export. Dep 3 measures impact of entitlement on willingness to consider a benefit swap. I also sought to determine whether, as the rentier literature implies, a majority of citizens believe they are entitled to subsidized electricity as their “share” of the national resource patrimony. As depicted in the frequency tables below (Table 10.1), and discussed in subsequent sections, this assumption was not accurate.

<table>
<thead>
<tr>
<th></th>
<th>Dep 1</th>
<th></th>
<th>Dep 2</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1 (v. willing)</td>
<td>49</td>
<td>9.06</td>
<td>10.54</td>
<td>10.54</td>
</tr>
<tr>
<td>2</td>
<td>90</td>
<td>16.64</td>
<td>19.35</td>
<td>29.89</td>
</tr>
</tbody>
</table>

Table 10.1: Frequency tables for three dependent and five independent variables
3.3 Model Specification

The three dependent variables for this study contain five ordered categories measured on a scale from 1 to 5. Therefore I use ordinal logit as my main analytical technique.\(^\text{43}\)

\(^{43}\) Robustness tests were also conducted for multicollinearity and parallel regression. Tests upon each of the three models revealed no multicollinearity and no violation of the parallel regression assumption.
The basic regression model is as follows:

$$\text{Support for Higher Electricity Prices} = \alpha + \beta_1 (\text{Entitlement}) + \beta_2 (\text{age}) + \beta_3 (\text{education}) + \beta_4 (\text{income}) + \beta_5 (\text{Female}) + \varepsilon$$

Where $\beta_1$ through $\beta_5$ are the parameters of interest in the study.

The results are shown in Table 10.2, columns 1, 2 and 3. Each column presents results for the dependent variables aggregated for the six countries surveyed in the study. The tables present the coefficients from the multivariate model and the p-values to indicate the significance level of each variable. Standard errors are also given.

4. Results

What can the survey responses tell us about citizen attitudes toward subsidy reform in the rentier Gulf? I tested hypotheses 1, 2 and 3 using regression, with “share” as the main independent variable signifying a citizen’s entitlement to subsidies, and the three “support for price increase” responses as dependent variables. I also inserted respondent demographics as predictor variables.

The regression results for the first two dependent variables displayed the expected signs and marshalled strong support for H1 and H2, finding that citizens who express entitlement to national resources are indeed more opposed to higher tariffs under the conditions described, as shown by the positive coefficients in Table 10.2, at the top of columns 1 and 2. These findings bolster long-held rentier assumptions that portray reforms of energy subsidies as violations of citizen rights. As shown in the table, citizen “entitlement” to energy as a personal share of a national resource is strongly associated with higher levels of opposition to higher prices, when compared with the overall population, in models 1 and 2.

MODEL 1: Results confirm that entitlement-minded citizens are less willing to pay the full cost for electricity in their homes when informed only that the government is paying for a portion of their consumption. This result provides strong support for H1. Also significant (at the 0.05 level) was level of education. However, contrary to what was surmised above, more educated respondents are actually less likely to support higher prices. Based on the other results of this model, there was no corroboration for assumptions that women or younger or wealthier people were also more likely to support higher prices.

Since the results of ordinal logit regression provide only log odds ratios, I also calculated the percentage change in odds for the statistically significant variables, to allow more intuitive interpretation of the
results. In the case of Model 1, the odds of being more opposed to higher prices are 105% higher for the “entitled” group, and 19% higher for each increase in a respondent’s level of education.

<table>
<thead>
<tr>
<th>Model</th>
<th>1</th>
<th>2</th>
<th>3</th>
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</thead>
<tbody>
<tr>
<td>Share (entitlement)</td>
<td>.719***</td>
<td>.663***</td>
<td>.207</td>
</tr>
<tr>
<td>(std err)</td>
<td>(.1711)</td>
<td>(.1718)</td>
<td>(.1681)</td>
</tr>
<tr>
<td>Age</td>
<td>.046</td>
<td>-.018</td>
<td>.008</td>
</tr>
<tr>
<td>(std err)</td>
<td>(.0668)</td>
<td>(.0666)</td>
<td>(.0669)</td>
</tr>
<tr>
<td>Income</td>
<td>-.021</td>
<td>-.040</td>
<td>-.029</td>
</tr>
<tr>
<td>(std err)</td>
<td>(.0625)</td>
<td>(.0621)</td>
<td>(.0619)</td>
</tr>
<tr>
<td>Education</td>
<td>.172*</td>
<td>.056</td>
<td>-.149</td>
</tr>
<tr>
<td>(std err)</td>
<td>(.0821)</td>
<td>(.0812)</td>
<td>(.0811)</td>
</tr>
<tr>
<td>Female</td>
<td>.239</td>
<td>.521**</td>
<td>.217</td>
</tr>
<tr>
<td>(std err)</td>
<td>(.1823)</td>
<td>(.1825)</td>
<td>(.1782)</td>
</tr>
</tbody>
</table>

* significant at the 0.05 level; ** significant at the 0.01 level; *** significant at the 0.001 level; Standard errors are in parentheses below coefficients.

MODEL 2: The results of the second model are given in Table 10.2, column 2. Here again, citizens who expressed entitlement to natural resources were less supportive of higher electricity prices, in this case, when invoking the national interest. Again, this result is highly statistically significant and offers strong support for H2. Also significant (at the 0.01 level) was gender, but, again, contrary to what was surmised above, women were less likely than men to support higher prices, despite being informed it was in the national interest. Based on the results of this model, there was no support for assumptions that more educated, younger or wealthier people were more likely to support higher prices. The odds of being more opposed to higher prices are 94% higher for the entitled group and 68% higher for women.

MODEL 3: The results of the third model are given in Table 10.2, column 3. Entitlement has no statistically significant effect on whether a respondent would accept an alternate benefit in lieu of higher prices. Further, none of the demographic variables were statistically significant at or above the .05 level. There is thus insufficient evidence to support H3, which declares that entitlement-minded citizens will demonstrate more support for higher prices if offered an alternate benefit.
5. Discussion

Analysis of the full range of citizen survey responses reveals a more nuanced view of the social contract than that implied in the literature. Citizens who express feelings of entitlement to subsidized energy accept the notion that they are entitled to that energy at a special price. Significant results from ordinal logit regressions were consistent with the subsidies-as-rights narrative in rentier theory. However, only a minority of respondents selected the entitlement option. That leaves a clear majority of citizens, nearly six in 10 respondents (312 of 541 total), who did not express entitlement to subsidized electricity.

How does citizen understanding of subsidy and potential reform contrast with that of experts? Broadly speaking, expert opinions reflect the portrayal of subsidies in the literature: Citizens are entitled to subsidized energy and should be expected to oppose increased prices.

When asked a question related to that which informed H1, experts overestimated citizen opposition to proposals that would erode public “rights” to cheap domestic energy. Among the entire pool of citizen respondents (including the “entitled” and those who did not choose this option), 41% were either very or quite opposed and 41% were unopposed to higher prices. By contrast, when experts were asked how citizens would respond, 92% of the expert respondents portrayed citizens as opposed, with just 5% portraying them as not opposed.

In the second survey question that informed H2, the percentage of total respondents “strongly opposed” to higher prices dropped from 26% to just 10%. Therefore a substantial portion of the public was actually willing to make a personal sacrifice to promote the national interest in a more optimal allocation of exportable resources. (As shown above, those expressing entitlement happened to be much less likely to make this sacrifice.) The expert elicitation questionnaire did not contain this question, thus there is no comparison between cohorts.

What if citizens were offered an alternate benefit to replace subsidized prices for electricity, as occurred in Iran? Alaskans, who pay some of the highest electricity rates in the United States, also receive a yearly cash dividend as their portion of the state’s oil revenues. Might a substitute benefit plan be accepted in lieu of higher prices in the Gulf monarchies? Responses to the survey question that informed H3 found that opposition was also assuaged by an alternate benefit. Opponents comprised 32% of respondents, with just 9% of those remaining in the “strongly oppose” category. Conversely, 51% of respondents did not

44 The unopposed camp includes the 24% who were either “very” or “quite willing” and the 17% who were “neither willing nor opposed.” I excluded the “don’t know” responses.
45 All of the GCC countries have introduced campaigns asking the public to conserve energy
oppose this hypothetical exchange of benefits. (As described above, there was no statistically significant
difference in response between those who expressed entitlement to subsidies and those who did not.)

As Table 10.3 shows, once again the expert respondents in the EE survey assumed a greater level of
public opposition to a tariff increase, even when replaced by a *quid pro quo* benefit.

<table>
<thead>
<tr>
<th>Table 10.3: Experts versus the Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable/Model</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dep 1: No explanation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dep 2: Nat’l interest explanation</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Dep 3: Alternate benefit</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>IV: Entitlement</td>
</tr>
<tr>
<td>subsidies = “my share” of energy wealth</td>
</tr>
</tbody>
</table>

Note: Figures do not add to 100% because “don’t know” responses and missing values were deleted

Citizens were also less likely to claim entitlement to energy than elites anticipated. Whereas 75% of
experts thought that a large majority of the public would have understood subsidies as an entitlement, in
fact only 42% of public survey respondents made such a response.

The comparison of the two sets of results, one from the public survey, another from an expert elicitation,
should be treated as broadly illustrative rather than statistically robust. The methodologies and questions
used to gather opinions from both groups differed. While the public was asked for personal opinion,
experts were asked to estimate how the public, in aggregate, would respond. Therefore the right-hand
column in Table 10.3 represents expectations of experts regarding results in the left-hand column. The
differences between the two methods also extend to techniques of data gathering and selection of
respondents. It was thus not feasible to use statistical methods to examine differences among the two
groups, or to test hypotheses based on such a comparison. However the varying percentages in Table 10.3
provide a useful illustration that citizen perceptions of social contract benefits differ markedly from the
assumptions of experts and portrayals within the literature.
5.1 Other Reasons to Support Higher Prices
The aggregate public survey results in Figure 10.2 beg a further question: Why would anyone want to pay more for electricity? Overall, a surprisingly large fraction of the public did not oppose increased prices. This finding suggests that, while the subsidies-as-rights construct within the rentier literature holds among a subset of the public, alternate explanations for citizen perspectives toward energy may also be valid. One such explanation could be a citizen desire for more prudent stewardship of national resource patrimonies. Since the largest share of the rentier social benefit system rests on export revenues, citizens’ best interests, at least in the long run, might be served more effectively by reducing domestic waste and the associated opportunity cost of foregone revenues, while ensuring long-term sales at the highest possible prices, both inside and outside the country. Rentierist constructs of subsidy “entitlements” appeal to some members of the public, but these constructs probably more closely represent regime needs for purchasing domestic loyalty.

Another explanation might also offer insight into this willingness to pay more. In the question informing Dependent Variable 1, where respondents are given no rationale for higher prices, a surprising 24% of the public is nevertheless willing to pay more. This choice appears to run contrary to the public’s immediate financial interest. One possible explanation flows from the implied terms of the authoritarian social contract. If a respondent disputed his or her role in exchanging political support for government subsidies and instead preferred more political participation, he or she might reject government subsidies.\footnote{I am indebted to Bill Nuttall at Cambridge for pointing this out. This hypothesis is undermined by the experience of Kuwait and Bahrain, however, where democratic openings have only intensified rent-seeking. Also, if survey respondents support higher prices because they seek a corresponding increase in political participation, one would expect to see correlations between the “entitlement” explanation for subsidies and support for higher electricity prices. However, as shown in the retention of H1 and H2, this was not the case.}

The survey did not ask respondents outright whether they would trade subsidies for a larger role in governance. However, if this rationale was driving some support for higher prices, it would provide an opposing message to governments considering subsidy reform. Whereas the “economic rationality” explanation by which citizens oppose waste in the name of long-term state distribution appears to encourage increased prices, the explanation of demands for increasing political participation does not. In fact, this explanation would validate regimes’ cautious approaches to tinkering with subsidies, assuming ruling families do not wish to encourage participatory demands. In the past, regimes have demonstrated this stance by drip-feeding any political openings into their societies, ensuring that they pose no challenge
to ruling family control. Recent repression of pro-democracy forces, including violent responses in Oman, Kuwait and in Bahrain – where Saudi and Emirati forces joined in – provides another demonstration that regimes remain staunchly opposed to broader liberalization.

5.2 Policymaking and the Information Deficit

The gap in perceptions of the social contract – with citizen understandings diverging from those of experts and the literature – is consistent with the information deficit that is said to impair policymaking in autocracies. Scholarship examining the institutional environment of authoritarian states has long argued that policymakers in autocracies suffer from much weaker awareness of public preferences than do their counterparts in democracies.47 The democrat’s advantage stems from institutions that offer avenues for criticism and amendment of unpopular measures. These range from freedoms of speech and press, independent judiciaries, and opportunity to vote for an organized political opposition. Since these constraining institutions are less common in autocracies, Wintrobe argues (in similar fashion to rentier scholars) that autocracies thus enjoy enhanced freedom of policy action. However, citizens in autocracies also tend to be reluctant to signal their displeasure with policy. Rulers are apt to fear the public since they lack information on public opinion. The phenomenon is known as the dictator’s dilemma. Regime understanding of public preferences is thus negatively correlated with repression.48

The autocratic governance that typifies Gulf monarchies is consistent with the dictator’s dilemma, but the information deficit stems not only from deficient institutions and signaling, but also an absence of common consultative practices, such as use of survey and focus groups, that can illuminate public preferences. Social policy is fragmented, and regimes wield rent streams, business licensing and import restrictions to co-opt rivals with economic privileges that increase costs of defection.49 Policy proposals are typically debated in traditional family-tribal networks and then launched.

A UAE government official’s description of policymaking reveals a process which pays little heed to public preferences:

“Policymaking isn’t very mature in the government. People will just brainstorm around an idea, take it to the legal department and draft a law. From legal it goes to the diwan [ruler’s court] and

47 Bueno de Mesquita et al. 2002; Tullock 1987, 122–3; Kuran 1989; Wintrobe 2001
48 Wintrobe 2001; Bueno de Mesquita et al. 2002; Bueno De Mesquita et al. 2003, 73–4; Kinne 2005
49 Mares and Carnes 2009; Haber, Maurer, and Razo 2003
then to the sheikh. He will discuss whatever proposal they bring him. Most (policymakers) don’t see the value in consultation.”

But while avenues of citizen protest are not institutionalized in the Gulf, they still exist. The freedom of policy action that the literature describes often disintegrates when a public backlash ensues. Complaints filter into the media and social networks. Prominent citizens go directly to the ruler or his agents. When the outcry is sharp enough, politics trumps economic expediency and the law is adjusted.

“This is what happens when you announce the policy with no proper analysis or consultation. We don’t have a mechanism for public complaints. We hear about it through the newspapers and our own social connections. We need channels of communication.”

Sensitivity to public opinion has inculcated in rentier governments a reflexive resistance to “extractive” proposals such as the subsidy reforms discussed here. Gray and other rentier scholars suggest that regimes grow increasingly responsive to society over time, while displaying little appetite for testing the boundaries of social contracts or encouraging vocal opposition to policy. Recent pan-Arab uprisings have only redoubled these sensibilities.

Anonymous surveys offer the possibility of sidestepping the signaling problems and information deficits that obscure policymaking. Gathering survey responses allowed me to assess citizen responses to subsidies often described as a key component of the autocratic social contract. While the social contract is well understood as the mechanism governing the exchange of government benefits for public support, this research shows that citizen concepts of the terms of that bargain are not uniform or clear, nor are the boundaries for policymaking.

Elites, perhaps because of their lack of information on public opinion, believe that the public is overwhelmingly opposed to subsidy reform unless it receives an alternate benefit to compensate for those revoked. Public survey results challenge that perception. In Model 1, where no replacement benefit was offered, the public was as supportive or indifferent to higher prices as it was opposed. The expert understanding was one of overwhelming public opposition. Public willingness increased substantially

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50 UAE government official, interviewed by the author on condition of anonymity, Apr. 8, 2012.
51 UAE government official, interviewed by the author on condition of anonymity, Apr. 8, 2012.
52 Results from a separate expert elicitation the author conducted with UAE policymakers in March 2012 found that 15 of 25 respondents said the Arab Spring events made the government “less willing” to raise utility rates (one of three choices); while 21 of 26 respondents said the government was either “very sensitive” or “extremely sensitive” to citizen opinion on subsidies (of five choices). One respondent commented that the uprising had made the government “much, much, more sensitive and less willing to raise prices or antagonize anybody, anywhere, at any time.”
under Model 2, when the national interest was invoked, and remained nearly identical to that in Model 3, when a replacement benefit was offered. Given the urgency of reducing energy demand in these countries, the overestimation of public opposition to reform would seem a costly misperception.

### 6. Conclusion

The relationship between state and society in the rentier monarchies of the Gulf is more nuanced and complex than depicted in the rentier literature. A significant portion of the citizen public is indeed willing, under some circumstances, to relinquish a benefit portrayed as a “right.” Those most willing are found among the large contingent of citizens who do not claim to feel “entitled” to cheap electricity. Willingness to pay is also pronounced among citizens who accept the notion that energy price reforms are a national economic priority. Further, many citizens appear prepared to trade one benefit for another, including many who consider themselves entitled to subsidized electricity.

These results lead to three subsidiary findings. First, citizens and elites in the Persian Gulf monarchies exhibit divergent views of the social contract’s terms of exchange. Rigid theoretical understandings find more support among experts – elite policymakers, economists, and industry participants – and less acceptance among average citizens. This finding suggests a deficit in elite understanding of public preferences, which is consistent with the signaling problems described by Wintrobe.

Second, elites exhibit a conservative bias. The experts surveyed – whether in government or industry, expatriate or national – assume high levels of citizen entitlement and deep opposition to increased prices. Experts’ views on subsidy rationale and reform reflect the inflexible tenets of the rentier literature. Individual citizen views often diverge.

Third, this disconnect between theory and public opinion points to a problem with the core assumptions of the literature. Those assumptions imply that autocracies govern with a fixed set of inputs and outputs: if there is a reduction in patronage, there must be a corresponding increase in repression or in political participation. 53 Public responses to my survey – and the public responses to tariff increases in Dubai54 – show that these assumptions are off-base.

What do these findings mean for policymaking? The survey results suggest that a segment of the populace would consent to price reforms. Such reforms might extend the economic models of these states without compromising public support for regimes. Opposition would be concentrated among members of the

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53 Desai, Olofsgard, and Yousef 2009. I am indebted to Sean Foley for suggesting this input-output construct in his comments on an early draft of this paper.
54 See Krane 2015b for a discussion of Dubai’s electricity price reforms
public with a strong sense of entitlement to subsidies, based upon feelings of personal ownership of natural resources. Significantly, a third of the survey population remains opposed to higher energy prices, even when invoking the national interest or offering a substitute benefit. Even among those who claim to be willing to accept higher prices, one should keep in mind that a hypothetical survey is different from reality. Those who are indifferent or mildly supportive may be swayed by opponents once policies are proposed. And the presence of an anti-reform cohort appears to validate regime fears of antagonizing citizens in ways that could provide a conduit for protest and Arab Spring-style mobilization.

Even acknowledging the necessary caveats, these findings imply that governments in need of reducing energy consumption may have more scope for reform than they or regional elites believe. Although more work must be done to investigate public opinion in the Gulf, particularly at the country level, survey results suggest that reforms could be made more palatable via provision of alternate benefits, and via a public campaign that highlights resource waste and intergenerational equity. Both of these efforts preceded Iran’s subsidy reforms of 2010.  

However, Dubai’s subsidy reform of 2011 was launched without either of these inducements. Dubai raised electricity prices by 15%, including on Emirati nationals, and did so without public discussion. Citizens complained, and the new prices became a temporary newspaper and talk-radio theme, but the increases were ultimately accepted without a quid pro quo benefit, such as that provided in Iran. Most importantly, the state utility registered a corresponding drop in average household consumption. Either way, it seems that citizens may be willing to submit to higher prices.

Energy entitlement structures in the Persian Gulf monarchies appear frozen in time, with prices unchanged for decades in some cases. The gains from these welfare benefits have long since been eclipsed by the harm caused by wasted resources and the political-economic threat embodied in the state’s accumulating distributive burdens. With regional energy demand showing no sign of slowing, prospects for reforming subsidies appear more necessary, and more promising, than many would accept.

Figure Captions

55 Guillaume, Zytek, and Farzin 2011
57 Kuwait’s current electricity tariff was set in 1966. Abu Dhabi’s dates to 1989.
Acknowledgements

For their comments, the author wishes to thank the three anonymous peer reviewers, as well as Cees van Beers, Mary Ann Tétreault and Sean Foley, along with Rice University colleagues Anna Mikulska, Richard Stoll and especially Marwa Shalaby. This paper would not have been possible without the generosity of YouGov Cambridge and Joel Faulkner Rogers who provided access to the YouGov Middle Eastern survey panel. GDF Suez provided crucial financial support, while travel and fieldwork expenses
were covered by the Qatar National Research Fund, Peterhouse college Cambridge, and the King Abdullah Petroleum Studies and Research Center in Riyadh.

**Appendix**

**Details of public survey, coding of survey variables and demographics**

Conducted by: YouGov; Fieldwork period: Nov. 28-Dec. 4, 2011; Sample size: 730 respondents

Language: The survey was written in English and translated into Arabic. Display language was governed by the user’s browser settings. The English text of the survey follows.

**Table A1: Public survey text - English version**

<table>
<thead>
<tr>
<th>Question JK1</th>
<th>1=Because it is my share of the country’s energy wealth; 2=Because it is the government’s responsibility; 3=Because the ruler is generous; 4=Because energy is abundant in my country; 5=Because I cannot afford to pay the full cost; 6=Other; 7=Don’t know</th>
<th>Note: responses randomized in actual survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question JK2: How willing are you to pay the full cost of electricity consumed in your home? The true cost without government subsidies is more than the average price that nationals in your country pay now.</td>
<td>1=Very willing; 2=Quite willing; 3=Neither willing nor opposed; 4=Quite opposed; 5=Very opposed; 6=Don’t know</td>
<td></td>
</tr>
<tr>
<td>Question JK3: Some people have said that because electricity is provided to nationals at an artificially low price some people waste it. This consumes oil and gas that could be exported. If the government sought to conserve energy by asking you to pay the full cost of electricity, would you:</td>
<td>1=Strongly support; 2=Tend to support; 3=Neither support nor oppose; 4=Tend to oppose; 5=Strongly oppose; 6=Don’t know</td>
<td></td>
</tr>
<tr>
<td>Question JK4: If your government raised the prices of electricity to nationals and also compensated them with a benefit of equal value, would you:</td>
<td>1=Strongly support; 2=Tend to support; 3=Neither support nor oppose; 4=Tend to oppose; 5=Strongly oppose; 6=Don’t know</td>
<td></td>
</tr>
<tr>
<td>Question JK5: Which is the best way to distribute benefits from your country’s oil and gas resources? (please choose one answer you think is the best)</td>
<td>1=Spend it all now; 2=Spend most now, save a little for future generations; 3=Spend half, save half; 4=Spend a little now, save most for future generations; 5=Save it all for future generations; 6=Don’t know</td>
<td></td>
</tr>
</tbody>
</table>
The survey also included the following demographic question:

<table>
<thead>
<tr>
<th>Are you a national of your country of residence or an expatriate?</th>
<th>1 = National of country of residence; 2 = Expatriate</th>
</tr>
</thead>
</table>

The survey cohort supplied the following demographic information:

<table>
<thead>
<tr>
<th>Gender:</th>
<th>1 = Male, 2 = Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Groups:</td>
<td>1 = 18 to 24; 2 = 25 to 29; 3 = 30 to 34; 4 = 35 to 39; 5 = 40+</td>
</tr>
<tr>
<td>Income Groups:</td>
<td>1 = Less than $266; 2 = $266 to $532; 3 = $533 to $799; 4 = $800 to $1,065; 5 = $1,066 to $1,599; 6 = $1,600 to $2,132; 7 = $2,133 to $2,665; 8 = $2,666 to $3,999; 9 = $4,000 to $5,332; 10 = $5,333 to $6,665; 11 = $6,666 to $7,999; 12 = $8,000 to $10,665; 13 = $10,666 to $13,332; 14 = $13,333 or more; 15 = Prefer not to say; 99 = Don’t know</td>
</tr>
<tr>
<td>What is the highest level of education you have completed?</td>
<td>1 = Elementary school; 2 = Secondary school; 3 = Vocational college education; 4 = University first degree; 5 = University higher degree; 6 = Professional higher education</td>
</tr>
<tr>
<td>To which of the following religions do you consider you belong?</td>
<td>1 = None - not religious; 2 = Islam; 3 = Christianity; 4 = Hinduism; 5 = Sikhism; 6 = Judaism; 7 = Buddhism; 8 = Jainism; 9 = Zoroastrianism; 10 = Other religion; 11 = Not specified</td>
</tr>
<tr>
<td>What is your current marital status?</td>
<td>1 = Single - never married; 2 = Married with Children; 3 = Married without Children; 4 = Divorced; 5 = Widowed; 6 = Not specified</td>
</tr>
</tbody>
</table>

Table A2: Respondents by country and region

<table>
<thead>
<tr>
<th>GCC</th>
<th>Bahrain</th>
<th>Kuwait</th>
<th>Oman</th>
<th>Qatar</th>
<th>KSA</th>
<th>UAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>730</td>
<td>36</td>
<td>18</td>
<td>36</td>
<td>4</td>
<td>611</td>
<td>25</td>
</tr>
</tbody>
</table>

Table A3: Summary statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>dep1</td>
<td>465</td>
<td>3.41</td>
<td>1.37</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>dep2</td>
<td>454</td>
<td>2.93</td>
<td>1.23</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>dep3</td>
<td>468</td>
<td>3.01</td>
<td>1.17</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Share</td>
<td>541</td>
<td>0.42</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>541</td>
<td>2.44</td>
<td>1.28</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Income</td>
<td>541</td>
<td>3.13</td>
<td>1.46</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Edu</td>
<td>540</td>
<td>3.23</td>
<td>1.06</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Female</td>
<td>541</td>
<td>0.39</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>--------</td>
<td>-----</td>
<td>------</td>
<td>------</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
### Table A4: Coding of the Variables

**Dependent Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dep1</td>
<td>Support for electricity price increase, no explanation</td>
<td>H1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1=Very willing; 5=Very opposed</td>
</tr>
<tr>
<td>Dep2</td>
<td>Support for electricity price increase, national interest explanation</td>
<td>H2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1=Strongly support; 5=Strongly oppose</td>
</tr>
<tr>
<td>Dep3</td>
<td>Support for price increase, with compensation by alternate benefit</td>
<td>H3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1=Strongly support; 5=Strongly oppose</td>
</tr>
</tbody>
</table>

**Independent Variables**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share</td>
<td>Entitlement</td>
<td>1=Selected, 0=Not selected</td>
</tr>
<tr>
<td>Female</td>
<td>Predictor-gender</td>
<td>0=Male, 1=Female</td>
</tr>
<tr>
<td>Edu</td>
<td>Predictor-education level</td>
<td>1-6</td>
</tr>
<tr>
<td>Income</td>
<td>Predictor-income level</td>
<td>1-15</td>
</tr>
<tr>
<td>Age</td>
<td>Predictor-age group</td>
<td>Age18-24 1=Selected, 0=Not selected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age25-29 1=Selected, 0=Not selected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age30-34 1=Selected, 0=Not selected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age35-39 1=Selected, 0=Not selected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age40+ 1=Selected, 0=Not selected</td>
</tr>
</tbody>
</table>

*Note: Number coding of variables D1-D3 were reversed from those in the survey to aid interpretation of results. Age group results were combined to form the variable Age*
Sources


Schlumberger, Oliver. 2006. “Rents, Reform, and Authoritarianism in the Middle East.” In Michael Dauderstadt and Arne Schildberg, eds. Dead Ends of Transition Frankfurt: Campus Verlag.