Fuel subsidy reform and the social contract in Nigeria: a micro-economic analysis

Supporting Information

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### A1 Actual questions asked for each of the variables used in the analysis

| Variable Name | Question | Response | Specification of variable |
|---------------|----------|----------|---------------------------|
| Opinion | How confident are you that the money saved by the government from the reduction of fuel subsidy will be used appropriately for the good of public interest? | Yes (1), No (2), Don’t know / Refused (98/99) | Coded for Yes and 0 otherwise (omitting “don’t know/refused”) |
| Fuel more than the fixed price | Did you or others in your household encounter any of the following difficulties when buying PMS/Petrol/Petrol in the past month? | Yes (1), No (2), Don’t know / Refused (98/99) | Coded for Yes and 0 otherwise (omitting “don’t know/refused”) |
| No availability | Did you or others in your household encounter any of the following difficulties when buying PMS/Petrol/Petrol in the past month? | Yes (1), No (2), Don’t know / Refused (98/99) | Coded for Yes and 0 otherwise (omitting “don’t know/refused”) |
| General trust in federal government | In your opinion, do you think the Federal Government acts more for the good of the Nigerian people or more for its own interests? | Acts more for the good of the Nigerian people (1), Acts more for its own interests? (2), Don’t know / Refused (98/99) | Coded for the good of the Nigerian people and 0 otherwise (omitting “don’t know/refused”) |
| General trust in state government | Do you think the state Government in this area acts more for the good of the local people or more for its own interests? | Acts more for the good of the local people in this State (1), Acts more for its own interests? (2), Don’t know / Refused (98/99) | Coded for the good of the local people and 0 otherwise (omitting “don’t know/refused”) |
| Tax for development | I am now going to read you two statements about taxation. After I have read both statements please tell me how much you agree or disagree with each statement. a) Citizens must pay their taxes to the Government in order for the country to develop. | Agree (3), Neither Agree nor Disagree (2), Disagree (1), Don’t know / Refused (98/99) | Coded as an ordinal variable (from 1 to 5 where the higher value denotes the higher level of trust, omitting “don’t know/refused”) |
| Size of impact of 2016 fuel price increase | How big was the impact of the 2016 fuel price increase on you and your household? | No impact at all (1), Little impact (2), Medium impact (3), Big impact (4), Very big impact (5) | Coded as an ordinal variable (from 1 to 5 where the higher value denotes the larger impact) |

| Question | Response | Specification of variable |
|----------|----------|---------------------------|
| Did you or others in your household encounter any of the following difficulties when buying PMS/Petrol/Petrol in the past month? | Having to pay more than the official price | | |
| | Having to queue for a long time | | |
| | PM-S/Petrol/Fuel not available at all | | |
| | Acts more for the good of the Nigerian people (1), Acts more for its own interests? (2), Don’t know / Refused (98/99) | Coded for the good of the Nigerian people and 0 otherwise (omitting “don’t know/refused”) |
| Did you or others in your household encounter any of the following difficulties when buying PMS/Petrol/Petrol in the past month? | PM-S/Petrol/Fuel not available at all | | |
| | Acts more for the good of the Nigerian people (1), Acts more for its own interests? (2), Don’t know / Refused (98/99) | Coded for the good of the Nigerian people and 0 otherwise (omitting “don’t know/refused”) |

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**Table A1:** Actual questions asked for each of the variables used in the analysis and coding schemes that we applied to create the variables.
### Table A2: Descriptive Statistics

| Variable | Mean | Std. Dev. | Min. | Max. | N  |
|----------|------|-----------|------|------|----|
| Good to reduce fuel subsidy | 0.314 | 0.464 | 0 | 1 | 16228 |
| Narrative group (Control group) | 0.2 | 0.4 | 0 | 1 | 16228 |
| Narrative group (Income distribution) | 0.2 | 0.4 | 0 | 1 | 16228 |
| Narrative group (Alternative expenditure) | 0.2 | 0.4 | 0 | 1 | 16228 |
| Narrative group (Link subsidy and availability) | 0.2 | 0.4 | 0 | 1 | 16228 |
| Narrative group (Subsidy and oil nationalism) | 0.2 | 0.4 | 0 | 1 | 16228 |
| Queue | 0.088 | 0.283 | 0 | 1 | 16228 |
| Paid more than the fixed price | 0.109 | 0.312 | 0 | 1 | 16228 |
| No availability | 0.077 | 0.266 | 0 | 1 | 16228 |
| General trust in federal government | 0.306 | 0.461 | 0 | 1 | 16228 |
| Approval of performance by President Buhari | 1.437 | 1.494 | 0 | 4 | 16156 |
| Opinion about services in the area: Electricity supply | 2.308 | 1.55 | 0 | 5 | 16170 |
| Opinion about services in the area: Bus services | 1.937 | 1.623 | 0 | 5 | 16046 |
| Quality of government services provided by State Govtmt compared to 3 yrs ago | 1.73 | 0.779 | 1 | 3 | 14899 |
| Tax for development | 2.408 | 0.830 | 1 | 3 | 15947 |
| Taxation of fuel subsidy | 0.414 | 0.493 | 0 | 1 | 16228 |
| Understanding of subsidy granted | 0.322 | 0.467 | 0 | 1 | 16228 |
| Urbanization | 0.700 | 0.458 | 0 | 1 | 16228 |
| Female | 0.5 | 0.5 | 0 | 1 | 16228 |
| Employed | 1.494 | 0.5 | 1 | 2 | 16096 |
| Age (18-24) | 0.233 | 0.416 | 0 | 1 | 16228 |
| Age (25-31) | 0.347 | 0.476 | 0 | 1 | 16228 |
| Age (32-38) | 0.207 | 0.405 | 0 | 1 | 16228 |
| Age (39-44) | 0.101 | 0.301 | 0 | 1 | 16228 |
| Age (45-51) | 0.067 | 0.251 | 0 | 1 | 16228 |
| Age (52 above) | 0.055 | 0.227 | 0 | 1 | 16228 |
| Language group (English) | 0.241 | 0.428 | 0 | 1 | 16228 |
| Language group (Yoruba) | 0.152 | 0.359 | 0 | 1 | 16228 |
| Language group (Igbo) | 0.117 | 0.322 | 0 | 1 | 16228 |
| Language group (Hausa) | 0.349 | 0.477 | 0 | 1 | 16228 |
| Language group (Other) | 0.14 | 0.348 | 0 | 1 | 16228 |
| Education (No schooling) | 0.08 | 0.271 | 0 | 1 | 16189 |
| Education (Primary school) | 0.1 | 0.301 | 0 | 1 | 16189 |
| Education (Secondary school) | 0.451 | 0.498 | 0 | 1 | 16189 |
| Education (OND) | 0.184 | 0.388 | 0 | 1 | 16189 |
| Education (HND) | 0.184 | 0.388 | 0 | 1 | 16189 |
| Income (None) | 0.22 | 0.414 | 0 | 1 | 13597 |
| Income (Less than 20,000 NGN) | 0.361 | 0.48 | 0 | 1 | 13597 |
| Income (20,001-40,000NGN) | 0.247 | 0.431 | 0 | 1 | 13597 |
| Income (Over 40,000NGN) | 0.172 | 0.377 | 0 | 1 | 13597 |
| No religion | 0.002 | 0.045 | 0 | 1 | 16228 |
| Christian | 0.576 | 0.494 | 0 | 1 | 16228 |
| Muslim | 0.417 | 0.493 | 0 | 1 | 16228 |
| Traditional | 0.003 | 0.055 | 0 | 1 | 16228 |
| South east | 0.136 | 0.343 | 0 | 1 | 16228 |
| North east | 0.147 | 0.354 | 0 | 1 | 16228 |
| South south | 0.157 | 0.363 | 0 | 1 | 16228 |
| North central | 0.153 | 0.36 | 0 | 1 | 16228 |
| South west | 0.186 | 0.389 | 0 | 1 | 16228 |
| North west | 0.221 | 0.415 | 0 | 1 | 16228 |
| Resident in oil producing state | 0.251 | 0.434 | 0 | 1 | 16228 |
| Variable                                                | Mean | Std. Dev. | Min | Max | N  |
|---------------------------------------------------------|------|-----------|-----|-----|----|
| Good to reduce fuel subsidy                             | 0.314| 0.464     | 0   | 1   | 16228 |
| Narrative group (Control group)                         | 0.2  | 0.4       | 0   | 1   | 16228 |
| Narrative group (Income distribution)                   | 0.2  | 0.4       | 0   | 1   | 16228 |
| Narrative group (Alternative expenditure)               | 0.2  | 0.4       | 0   | 1   | 16228 |
| Narrative group (Link subsidy and availability)         | 0.2  | 0.4       | 0   | 1   | 16228 |
| Narrative group (Subsidy and oil nationalism)          | 0.2  | 0.4       | 0   | 1   | 16228 |
| Queue                                                   | 0.088| 0.283     | 0   | 1   | 16228 |
| Paid more than the fixed price                          | 0.109| 0.312     | 0   | 1   | 16228 |
| No availability                                         | 0.077| 0.266     | 0   | 1   | 16228 |
| General trust in federal government                     | 0.306| 0.461     | 0   | 1   | 15738 |
| Approval of performance by President Buhari             | 1.437| 1.494     | 0   | 4   | 16156 |
| Opinion about services in the area: Electricity supply  | 2.308| 1.55      | 0   | 5   | 16170 |
| Opinion about services in the area: Bus services        | 1.937| 1.623     | 0   | 5   | 16046 |
| Quality of government services provided by State Govmt compared to 3 yrs ago | 1.73  | 0.779   | 1   | 3   | 14899 |
| Tax for development                                     | 2.408| 0.830     | 1   | 3   | 15947 |
| Membership of religious group                           | 0.414| 0.493     | 0   | 1   | 16228 |
| Understanding of subsidy granted                        | 0.322| 0.467     | 0   | 1   | 16228 |
| Urbanization                                            | 0.700| 0.458     | 0   | 1   | 16228 |
| Female                                                  | 0.5  | 0.5       | 0   | 1   | 16228 |
| Employed                                                | 1.494| 0.5       | 1   | 2   | 16096 |
| Age (18-24)                                             | 0.223| 0.416     | 0   | 1   | 16228 |
| Age (25-31)                                             | 0.347| 0.476     | 0   | 1   | 16228 |
| Age (32-38)                                             | 0.207| 0.405     | 0   | 1   | 16228 |
| Age (39-44)                                             | 0.101| 0.301     | 0   | 1   | 16228 |
| Age (45-51)                                             | 0.067| 0.251     | 0   | 1   | 16228 |
| Age (52 above)                                          | 0.055| 0.227     | 0   | 1   | 16228 |
| Language group (English)                                | 0.241| 0.428     | 0   | 1   | 16221 |
| Language group (Yoruba)                                 | 0.152| 0.359     | 0   | 1   | 16221 |
| Language group (Igbo)                                   | 0.117| 0.322     | 0   | 1   | 16221 |
| Language group (Hausa)                                  | 0.349| 0.477     | 0   | 1   | 16221 |
| Language group (Other)                                  | 0.14 | 0.348     | 0   | 1   | 16221 |
| Education (No schooling)                                | 0.08 | 0.271     | 0   | 1   | 16189 |
| Education (Primary school)                              | 0.1  | 0.301     | 0   | 1   | 16189 |
| Education (Secondary school)                            | 0.451| 0.498     | 0   | 1   | 16189 |
| Education (OND)                                         | 0.184| 0.388     | 0   | 1   | 16189 |
| Education (HND)                                         | 0.184| 0.388     | 0   | 1   | 16189 |
| Income (None)                                           | 0.22 | 0.414     | 0   | 1   | 13597 |
| Income (Less than 20,000 NGN)                           | 0.361| 0.48      | 0   | 1   | 13597 |
| Income (20,001-40,000NGN)                               | 0.247| 0.431     | 0   | 1   | 13597 |
| Income (Over 40,000NGN)                                 | 0.172| 0.377     | 0   | 1   | 13597 |
| No religion                                             | 0.002| 0.045     | 0   | 1   | 16228 |
| Christian                                               | 0.576| 0.494     | 0   | 1   | 16228 |
| Muslim                                                  | 0.417| 0.493     | 0   | 1   | 16228 |
| Traditional                                             | 0.003| 0.055     | 0   | 1   | 16228 |
| South east                                              | 0.136| 0.343     | 0   | 1   | 16228 |
| North east                                              | 0.147| 0.354     | 0   | 1   | 16228 |
| South south                                             | 0.157| 0.363     | 0   | 1   | 16228 |
| North central                                           | 0.153| 0.36      | 0   | 1   | 16228 |
| South west                                              | 0.186| 0.389     | 0   | 1   | 16228 |
| North west                                              | 0.221| 0.415     | 0   | 1   | 16228 |
| Resident in oil producing state                         | 0.251| 0.434     | 0   | 1   | 16228 |

Table A3: Descriptive Statistics
### A3  Main estimation results by explanatory category

|                        | (1)     | (2)     | (3)     | (4)     |
|------------------------|---------|---------|---------|---------|
| Good to reduce fuel subsidy | est1    | est2    | est3    | est4    |
| Queue                  | 1.581*** (0.205) | 1.049 (0.150) |         |         |
| Paid more than the fixed price | 2.001*** (0.223) | 1.666*** (0.202) |         |         |
| No availability        | 2.160*** (0.271) | 1.734*** (0.257) |         |         |
| Observations           | 13532   | 13532   | 13532   | 13532   |

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A4: Main estimation results by explanatory category - ‘Economic factors’

|                        | (1)     | (2)     | (3)     |
|------------------------|---------|---------|---------|
| Good to reduce fuel subsidy | est1    | est2    | est3    |
| General trust in federal government | 1.084 (0.113) | 1.191 (0.127) |         |
| Approval of performance by President Buhari | 0.947* (0.031) | 0.927** (0.031) |         |
| Observations           | 13209   | 13485   | 13178   |

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A5: Main estimation results by explanatory category - ‘Trust in government’

|                        | (1)     | (2)     | (3)     |
|------------------------|---------|---------|---------|
| Good to reduce fuel subsidy | est1    | est2    | est3    |
| Corruption             | 0.643*** (0.055) | 0.586*** (0.060) |         |
| Lack of capacity       | 1.054 (0.106) | 0.801* (0.093) |         |
| Observations           | 13532   | 13532   | 13532   |

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A6: Main estimation results by explanatory category - ‘Corruption and incapacity’
Table A7: Main estimation results by explanatory category - ‘Reciprocity and fiscal exchange’

|                               | (1) est1 | (2) est2 | (3) est3 | (4) est4 |
|-------------------------------|----------|----------|----------|----------|
| Good to reduce fuel subsidy   | 1.124*** | 1.087*** |          |          |
| Opinion about services in the area: Electricity supply |          |          | 1.104*** | 1.084*** |
| Quality of government services provided by State Govtmt compared to 3 yrs ago | 1.022    | 1.021    |          |          |
| Observations                  | 13494    | 13392    | 12509    | 12886    |

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.
*p < 0.10, ** p < 0.05, *** p < 0.01

Table A8: Main estimation results by explanatory category - ‘Personal norms’

|                               | (1) est1 |
|-------------------------------|----------|
| Good to reduce fuel subsidy   |          |
| Membership of religious group | 1.233**  |
| Observations                  | 13532    |

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.
*p < 0.10, ** p < 0.05, *** p < 0.01

Table A9: Main estimation results by explanatory category - ‘Knowledge and complexity’

|                               | (1) est1 |
|-------------------------------|----------|
| Good to reduce fuel subsidy   |          |
| Understanding of subsidy granted | 0.950 |
| Observations                  | 13532    |

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.
*p < 0.10, ** p < 0.05, *** p < 0.01
A4 Robustness checks: Impact of partial price variation on support for reform

| Good to reduce fuel subsidy | Queue | Deviation from N145 | Deviation from N145 (squared) | Deviation from N145 (logged) | No availability | General trust in federal government | Approval of performance by President Buhari | Corruption | Lack of capacity | Opinion about services in the area: Electricity supply | Opinion about services in the area: Bus services | Quality of government services provided by State Govtmt compared to 3 yrs ago | Tax for development | Membership of religious group | Understanding of subsidy granted |
|----------------------------|-------|---------------------|------------------------------|-------------------------------|----------------|-----------------------------------|-----------------------------------------------|-----------|----------------|-----------------------------------------------|-----------------------------------------------|------------------------------------------------|---------------------------------|-----------------------------------------------|-----------------------------------|
|                            | est1  | est2                | est3                         | est4                          | est5           | est6                             |                                |           |                |                                |                                |                                |                                |                                |                                |
|                            | 0.839 | 0.842               | 0.857                        | 0.847                         | 0.850          | 0.864                            |                                |           |                |                                |                                |                                |                                |                                |                                |
|                            | (0.145) | (0.142)            | (0.142)                      | (0.146)                       | (0.142)        | (0.142)                          |                                |           |                |                                |                                |                                |                                |                                |                                |
| Deviation from N145 (squared) | 1.005 | 1.005               | 1.005                        | 1.005                         | 1.000          | 1.000                            |                                |           |                |                                |                                |                                |                                |                                |                                |
| Deviation from N145 (logged) | 1.000 | 1.000               | 1.000                        | 1.000                         | 1.000          | 1.000                            |                                |           |                |                                |                                |                                |                                |                                |                                |
| No availability            | 2.179*** | 2.207***           | 2.194***                     | 2.171***                      | 2.201***       | 2.189***                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| General trust in federal government | 0.959 | 0.971               | 0.979                        | 0.957                         | 1.070          | 0.969                            |                                |           |                |                                |                                |                                |                                |                                |                                |
| Approval of performance by President Buhari | 0.885*** | 0.877***           | 0.884***                     | 0.876***                      | 0.897***       | 0.897***                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Corruption                 | 0.534*** | 0.534***           | 0.536***                     | 0.536***                      | 0.536***       | 0.536***                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Lack of capacity           | 0.756** | 0.756**            | 0.756**                      | 0.756**                      | 0.756**        | 0.756**                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Opinion about services in the area: Electricity supply | 1.097*** | 1.100***           | 1.091***                     | 1.094***                     | 1.097***       | 1.088**                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Opinion about services in the area: Bus services | 1.069* | 1.068*             | 1.052                        | 1.070*                       | 1.069*         | 1.052                           |                                |           |                |                                |                                |                                |                                |                                |                                |
| Quality of government services provided by State Govtmt compared to 3 yrs ago | 1.134* | 1.158**           | 1.119                        | 1.135*                       | 1.159**        | 1.119*                           |                                |           |                |                                |                                |                                |                                |                                |                                |
| Tax for development        | 1.185*** | 1.191***           | 1.173**                     | 1.176**                      | 1.183**        | 1.164**                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Membership of religious group | 1.295** | 1.270***           | 1.257**                     | 1.301**                      | 1.275**        | 1.259**                         |                                |           |                |                                |                                |                                |                                |                                |                                |
| Understanding of subsidy granted | 1.042 | 1.067               | 1.074                        | 1.040                         | 1.065          | 1.072                           |                                |           |                |                                |                                |                                |                                |                                |                                |
| Observations               | 6278  | 6270                | 6270                         | 6278                         | 6270           | 6270                            |                                |           |                |                                |                                |                                |                                |                                |                                |

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A10: The impact of spatial price variation on support for reform: Logistic regression estimations results adding deviations from the official price instead of ‘overpay’ variable
### Robustness checks: Estimations using a variable about trust in local / state governments instead of federal government

|                        | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  |
|------------------------|------|------|------|------|------|------|
| Good to reduce fuel subsidy | 1.042 | 1.037 | 1.052 | 1.032 | 1.023 | 1.047 |
|                        | (0.152) | (0.149) | (0.150) | (0.153) | (0.150) | (0.152) |
| Paid more than the fixed price | 1.673*** | 1.695*** | 1.653*** | 1.696*** | 1.720*** | 1.678*** |
|                        | (0.209) | (0.217) | (0.214) | (0.212) | (0.220) | (0.217) |
| No availability        | 1.639*** | 1.631*** | 1.643*** | 1.643*** | 1.657*** | 1.666*** |
|                        | (0.246) | (0.249) | (0.247) | (0.250) | (0.253) | (0.251) |
| General trust in state government | 1.064 | 1.109 | 1.016 |      |      |      |
|                        | (0.111) | (0.117) | (0.106) |      |      |      |
| General trust in local government | 0.955 | 0.985 | 0.899 |      |      |      |
|                        | (0.096) | (0.098) | (0.088) |      |      |      |
| Approval of performance by President Buhari | 0.925** | 0.912*** | 0.926** | 0.912*** |      |      |
|                        | (0.031) | (0.030) | (0.031) | (0.030) |      |      |
| Corruption             | 0.568*** | 0.560*** |      |      |      |      |
|                        | (0.057) | (0.057) |      |      |      |      |
| Lack of capacity       | 0.733*** | 0.736*** |      |      |      |      |
|                        | (0.085) | (0.086) |      |      |      |      |
| Opinion about services in the area: Electricity supply | 1.080** | 1.081* | 1.080* | 1.088*** | 1.091*** | 1.089*** |
|                        | (0.034) | (0.034) | (0.034) | (0.034) | (0.034) | (0.034) |
| Opinion about services in the area: Bus services | 1.084*** | 1.080*** | 1.070*** | 1.090*** | 1.092*** | 1.076*** |
|                        | (0.031) | (0.031) | (0.031) | (0.031) | (0.031) | (0.031) |
| Quality of government services provided by State Govanmt compared to 3 yrs ago | 1.034 | 1.053 | 1.031 | 1.054 | 1.076 | 1.050 |
|                        | (0.058) | (0.060) | (0.059) | (0.059) | (0.061) | (0.060) |
| Membership of religious group | 1.189*** | 1.182** | 1.174* | 1.189*** | 1.182* | 1.176* |
|                        | (0.102) | (0.101) | (0.101) | (0.103) | (0.102) | (0.102) |
| Understanding of subsidy granted | 0.944 | 0.960 | 0.954 | 0.933 | 0.949 | 0.944 |
|                        | (0.085) | (0.087) | (0.084) | (0.086) | (0.086) | (0.086) |
| Observations           | 12193 | 12164 | 12164 | 11987 | 11958 | 11958 |

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A11: Logistic regression estimations results using indicators of trust in local / state governments
### A6 Robustness checks: Estimations using a variable about opinion toward ‘tax for development’

|                       | (1)  | (2)  | (3)  |
|-----------------------|------|------|------|
|                       | est1 | est2 | est3 |
| Good to reduce fuel subsidy | 1.002 | 0.995 | 1.009 |
| Queue                 | 1.007 | 1.074 | 0.966 |
| Paid more than the fixed price | 1.688*** | 1.708*** | 1.663*** |
| No availability       | 1.657*** | 1.674*** | 1.681*** |
| General trust in federal government | 1.007 | 1.074 | 0.966 |
| Approval of performance by President Buhari | 0.924** | 0.915*** |
| Corruption            | 0.562*** |
| Lack of capacity      | 0.710*** |
| Opinion about services in the area: Electricity supply | 1.083** | 1.084** | 1.083** |
| Opinion about services in the area: Bus services | 1.069** | 1.070** | 1.054* |
| Quality of government services provided by State Govmnt compared to 3 yrs ago | 1.026 | 1.043 | 1.020 |
| Tax for development   | 1.115** | 1.127** | 1.109* |
| Membership of religious group | 1.184** | 1.178* | 1.173* |
| Understanding of subsidy granted | 0.941 | 0.952 | 0.952 |

Observations: 12107 12082 12082

Robust standard errors clustered at the enumeration area in parentheses. Region dummies are included in models. We report the estimated coefficients and standard errors transformed to odds ratios. Results for control variables in models are omitted.

*p < 0.10, ** p < 0.05, *** p < 0.01

Table A12: Factors that influence support for subsidy reform: Logistic regression estimation results. We added a variable about opinion toward ‘tax for development.’ The results for control variables are omitted in the table.
### A7 Robustness checks: Probit estimation results

| Good to reduce fuel subsidy       | (1)  | (2)  | (3)  |
|-----------------------------------|------|------|------|
| Queue                            | 1.008| 1.005| 1.011|
|                                  | (0.090)| (0.089)| (0.089)|
| Paid more than the fixed price    | 1.367***| 1.377***| 1.358***|
|                                  | (0.104)| (0.107)| (0.106)|
| No availability                  | 1.356***| 1.362***| 1.362***|
|                                  | (0.125)| (0.126)| (0.125)|
| General trust in federal government | 1.015| 1.053| 0.985|
|                                  | (0.066)| (0.069)| (0.063)|
| Approval of performance by President Buhari | 0.957**| 0.952**|       |
|                                  |       |       | (0.019)|
| Corruptor                       | 0.705***|     |       |
|                                  |       |       | (0.042)|
| Lack of capacity                | 0.816***|     |       |
|                                  |       |       | (0.056)|
| Opinion about services in the area: Electricity supply | 1.049**| 1.050**| 1.049**|
|                                  | (0.020)| (0.020)| (0.020)|
| Opinion about services in the area: Bus services | 1.051***| 1.051***| 1.042**|
|                                  | (0.018)| (0.018)| (0.018)|
| Quality of government services provided by State Govnmt compared to 3 yrs ago | 1.028| 1.036| 1.021|
|                                  | (0.035)| (0.035)| (0.035)|
| Membership of religious group    | 1.110**| 1.106**| 1.101*|
|                                  | (0.057)| (0.056)| (0.056)|
| Understanding of subsidy granted | 0.970| 0.976| 0.976|
|                                  | (0.051)| (0.052)| (0.052)|

Observations 12213 12185 12185

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.
*p < 0.10, ** p < 0.05, *** p < 0.01

Table A13: Factors that influence support for subsidy reform: Probit regression estimation results.
The results for control variables are omitted in the table.
A8 Robustness checks: OLS estimation results

|                           | (1) est1 | (2) est2 | (3) est3 |
|---------------------------|----------|----------|----------|
| Queue                     | 1.007    | 1.006    | 1.008    |
|                           | (0.032)  | (0.032)  | (0.031)  |
| Paid more than the fixed price | 1.117*** | 1.119*** | 1.113*** |
|                           | (0.031)  | (0.031)  | (0.031)  |
| No availability           | 1.117*** | 1.118*** | 1.118*** |
|                           | (0.039)  | (0.038)  | (0.038)  |
| General trust in federal government | 1.004    | 1.018    | 0.994    |
|                           | (0.022)  | (0.023)  | (0.022)  |
| Approval of performance by President Buhari | 0.985**  | 0.983**  | 0.987    |
|                           | (0.007)  | (0.007)  | (0.007)  |
| Corruption                | 0.888*** |          |          |
|                           | (0.018)  |          |          |
| Lack of capacity          | 0.929*** |          |          |
|                           | (0.022)  |          |          |
| Opinion about services in the area: Electricity supply | 1.017**  | 1.017**  | 1.017**  |
|                           | (0.007)  | (0.007)  | (0.007)  |
| Opinion about services in the area: Bus services | 1.017*** | 1.017*** | 1.014**  |
|                           | (0.006)  | (0.006)  | (0.006)  |
| Quality of government services provided by State Govnmt compared to 3 yrs ago | 1.009    | 1.012    | 1.007    |
|                           | (0.011)  | (0.011)  | (0.011)  |
| Membership of religious group | 1.034**  | 1.033*   | 1.032*   |
|                           | (0.018)  | (0.018)  | (0.017)  |
| Understanding of subsidy granted | 0.987    | 0.989    | 0.988    |
|                           | (0.018)  | (0.018)  | (0.018)  |

Observations | 12213 | 12185 | 12185 |

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.
*p < 0.10, ** p < 0.05, *** p < 0.01

Table A14: Factors that influence support for subsidy reform: OLS regression estimation results. The results for control variables are omitted in the table.
## A9 Robustness checks: Estimation results using a binary indicator for big impact of 2016 fuel price increase

| Good to reduce fuel subsidy | Queue | 1.008 (0.146) | 1.003 (0.144) | 1.017 (0.145) |
|-----------------------------|-------|---------------|---------------|---------------|
| Paid more than the fixed price | 1.679*** (0.208) | 1.697*** (0.216) | 1.658*** (0.214) |
| No availability | 1.650*** (0.250) | 1.664*** (0.253) | 1.667*** (0.250) |
| General trust in federal government | 1.009 (0.108) | 1.074 (0.118) | 0.972 (0.104) |
| Approval of performance by President Buhari | 0.927** (0.032) | 0.918** (0.031) |
| Corruption | 0.564*** (0.056) |
| Lack of capacity | 0.724*** (0.081) |
| Opinion about services in the area: Electricity supply | 1.082** (0.034) | 1.083** (0.034) | 1.082** (0.034) |
| Opinion about services in the area: Bus services | 1.086*** (0.031) | 1.088*** (0.031) | 1.071** (0.030) |
| Quality of government services provided by State Govnmt compared to 3 yrs ago | 1.038 (0.059) | 1.055 (0.061) | 1.032 (0.059) |
| Membership of religious group | 1.192** (0.102) | 1.186** (0.102) | 1.176** (0.101) |
| Understanding of subsidy granted | 0.944 (0.084) | 0.956 (0.085) | 0.951 (0.085) |
| Big impact of 2016 fuel price increase (binary) | 0.917 (0.080) | 0.913 (0.080) | 0.961 (0.082) |

| Observations | 12213 | 12185 | 12185 |

Robust standard errors clustered at the enumeration area in parentheses.
Region dummies are included in models.
We report the estimated coefficients and standard errors transformed to odds ratios.
Results for control variables in models are omitted.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A15: Factors that influence support for subsidy reform: Logistic regression estimations results using a binary indicator for big impact of 2016 fuel price increase. Big impact of 2016 fuel price increase (binary) is coded as 1 if a response is either big (4) or very big impact (5) to the question, "Size of impact of 2016 fuel price increase." The results for control variables are omitted in the table.