



university of
 groningen

faculty of economics
 and business

marketing

The impact of information policies and loyalty programs on consumer switching choices in retail energy markets

Hester Huisman, Evert de Haan, Machiel Mulder, Jaap Wieringa

IAEE conference Milan 25-07-2023



Consumer switch behaviour

- › Precondition for other forms of participation.
 - Dynamic tariffs, smart EV charging, prosumers, ...
- › Leads to increase of green energy products (Bird et al., 2002; MacDonald & Eyre, 2018).
- › Main barrier: **search- and switching costs** (He & Reiner, 2017; Klemperer, 1987; Wilson, 2012).



Main actors



Regulator



Energy retailers



Residential
 consumers

Contract
 decisions





Prior study:

Results indicate that retailers partly hinder the regulator's efforts through retailers' retention actions.



Regulator
 Policies



Energy retailers
 Acquisition and Retention



Residential
 consumers
 Contract
 decisions





This study:



Regulator
 Policies



Residential
 consumers
 Contract
 decisions



Energy retailers
 Loyalty program





This study:

How do information transparency policies and loyalty programs jointly influence consumers' contract preferences?



Regulator
Policies



Energy retailers
Loyalty program



Residential
consumers
Contract
decisions



Relevant literature



Regulator Policies

- Policies affect information complexity (Hortaçsu et al., 2017; Gärling et al., 2008).
- Correlational evidence on switching costs (Harold et al., 2020; He & Reiner, 2017).



Residential consumers Contractual decisions

- Preferences based on **price, source and brand** (Deller et al., 2021; Ndebele et al., 2019).
- **Heterogeneous** among segments (Tabi et al., 2014; Yang et al., 2016).



Energy retailers Loyalty program

- Loyalty programs increase switching costs (Hellier et al., 2003, Ibáñez et al., 2006).
- Self selection effect



Relevant literature



Regulator Policies

- Policies affect **information complexity** (Hortaçsu et al., 2017; Gärling et al., 2008).
- Correlational evidence on **switching costs** (Harold et al., 2020; He & Reiner, 2017).



Residential consumers Contractual decisions

- Preferences based on price, source and brand (Deller et al., 2021; Ndebele et al., 2019).
- Heterogeneous among segments (Tabi et al., 2014; Yang et al., 2016).



Energy retailers Loyalty program

- Loyalty programs increase switching costs (Hellier et al., 2003, Ibáñez et al., 2006).
- Self selection effect



Relevant literature



Regulator Policies

- Policies affect information complexity (Hortaçsu et al., 2017; Gärling et al., 2008).
- Correlational evidence on switching costs (Harold et al., 2020; He & Reiner, 2017).



Residential consumers Contractual decisions

- Preferences based on price, source and brand (Deller et al., 2021; Ndebele et al., 2019).
- Heterogeneous among segments (Tabi et al., 2014; Yang et al., 2016).



Energy retailers Loyalty program

- **Loyalty programs** increase switching costs (Hellier et al., 2003, Ibáñez et al., 2006).
- Self selection effect



Methods and experimental design

- > Online choice experiment among 400 EU respondents through Prolific
- > Three parts: Explanation, **Discrete choice experiment**, Survey questions.
- > Experimental between subject design:
 - **Standardization** of energy bill
 - Enrollment in **loyalty program**

	No Standardization	Standardization
No loyalty program	Control group	Treatment 1
Loyalty program	Treatment 2	Treatment 3



Methods and experimental design

- > Online choice experiment among 400 EU respondents through Prolific
 - > Three parts: Explanation, **Discrete choice experiment**, Survey questions.
 - > Experimental between subject design:
 - **Standardization** of energy bill
 - Enrollment in **loyalty program**
- } **Changes in lay-out, not content!**

	No Standardization	Standardization
No loyalty program	Control group	Treatment 1
Loyalty program	Treatment 2	Treatment 3



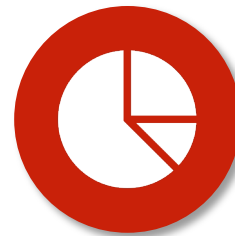
Attributes discrete choice experiment



Tariff



Source



Brand



Duration



Example

Imagine your energy contract expires. Your current provider is Provider 1. Which contract would you choose?

PROVIDER 1

We are your current Provider 1. An overview of our retention offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs	€ 0.2716 per kWh
Fixed payment	€ 0.3420 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 0.9578 per m ³
Fixed payment	€ 0.3420 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³

PROVIDER 2

We are large well-known Provider 2. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 6 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs	€ 0.2988 per kWh
Fixed payment	€ 0.3762 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0536 per m ³
Fixed payment	€ 0.3762 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³

PROVIDER 3

We are a small new Provider 3. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- Green national wind electricity
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green wind)	
Usage costs	€ 0.2852 per kWh
Fixed payment	€ 0.3591 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0057 per m ³
Fixed payment	€ 0.3591 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³





Experimental design

- > **Standardization:** layout of tariff construction is in annual costs and easy to compare across offers
- > **Loyalty program:** consumers are enrolled in loyalty program. Layout of tariff of current retailer includes “including loyalty discount”

	No Standardization	Standardization
No loyalty program	Control group	Treatment 1
Loyalty program	Treatment 2	Treatment 3



Control group

Imagine your energy contract expires. Your current provider is Provider 1. Which contract would you choose?

PROVIDER 1

We are your current Provider 1. An overview of our retention offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs	€ 0.2716 per kWh
Fixed payment	€ 0.3420 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 0.9578 per m ³
Fixed payment	€ 0.3420 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³

PROVIDER 2

We are large well-known Provider 2. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 6 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs	€ 0.2988 per kWh
Fixed payment	€ 0.3762 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0536 per m ³
Fixed payment	€ 0.3762 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³

PROVIDER 3

We are a small new Provider 3. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- Green national wind electricity
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green wind)	
Usage costs	€ 0.2852 per kWh
Fixed payment	€ 0.3591 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0057 per m ³
Fixed payment	€ 0.3591 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³





T1: Standardization

Imagine your energy contract expires. Your current provider is Provider 1. Which contract would you choose?

PROVIDER 1

We are your current Provider 1. An overview of our retention offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 0 months fixed energy tariffs

Item	Annual costs
Electricity (Green mix)	
Usage costs	€ 1,030.54
Fixed payment	€ 62.41
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,639.51
Gas (Green)	
Usage costs	€ 482.69
Fixed payment	€ 62.41
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,106.00
Total annual costs	€ 3,745.51

PROVIDER 2

We are large well-known Provider 2. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 6 months fixed energy tariffs

Item	Annual costs
Electricity (Green mix)	
Usage costs	€ 1,133.59
Fixed payment	€ 68.65
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,748.80
Gas (Green)	
Usage costs	€ 530.96
Fixed payment	€ 68.65
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,160.51
Total annual costs	€ 3,909.32

PROVIDER 3

We are a small new Provider 3. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- Green national wind electricity
- Green gas
- 0 months fixed energy tariffs

Item	Annual costs
Electricity (Green wind)	
Usage costs	€ 1,082.06
Fixed payment	€ 65.53
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,694.16
Gas (Green)	
Usage costs	€ 506.83
Fixed payment	€ 65.53
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,133.26
Total annual costs	€ 3,827.24





T2: Loyalty program

PROVIDER 1

We are your current Provider 1. An overview of our retention offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs (incl. 6% loyalty discount)	€ 0.2716 per kWh
Fixed payment	€ 0.3420 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs (incl. 6% loyalty discount)	€ 0.9578 per m ³
Fixed payment	€ 0.3420 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³



PROVIDER 2

We are large well-known Provider 2. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 6 months fixed energy tariffs

Item	Costs
Electricity (Green mix)	
Usage costs	€ 0.2988 per kWh
Fixed payment	€ 0.3762 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0536 per m ³
Fixed payment	€ 0.3762 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³



PROVIDER 3

We are a small new Provider 3. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- Green national wind electricity
- Green gas
- 0 months fixed energy tariffs

Item	Costs
Electricity (Green wind)	
Usage costs	€ 0.2852 per kWh
Fixed payment	€ 0.3591 per day
Network costs	€ 0.8929 per day
Taxes	€ 0.3217 per kWh
Gas (Green)	
Usage costs	€ 1.0057 per m ³
Fixed payment	€ 0.3591 per day
Network costs	€ 0.5577 per day
Taxes	€ 0.7091 per m ³





T3: Standardization & Loyalty Program

Imagine your energy contract expires. Your current provider is Provider 1. Which contract would you choose?

PROVIDER 1

We are your current Provider 1. An overview of our retention offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 0 months fixed energy tariffs

Item	Annual costs
Electricity (Green mix)	
Usage costs (incl. 6% loyalty discount)	€ 1,030.54
Fixed payment	€ 62.41
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,639.51
Gas (Green)	
Usage costs (incl. 6% loyalty discount)	€ 482.69
Fixed payment	€ 62.41
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,106.00
Total annual costs	€ 3,745.51



PROVIDER 2

We are large well-known Provider 2. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- European green electricity from mixed sources
- Green gas
- 6 months fixed energy tariffs

Item	Annual costs
Electricity (Green mix)	
Usage costs	€ 1,133.59
Fixed payment	€ 68.65
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,748.80
Gas (Green)	
Usage costs	€ 530.96
Fixed payment	€ 68.65
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,160.51
Total annual costs	€ 3,909.32



PROVIDER 3

We are a small new Provider 3. An overview of our offer based on your expected consumption of 3794 kWh electricity and 504 m³ gas:

- Green national wind electricity
- Green gas
- 0 months fixed energy tariffs

Item	Annual costs
Electricity (Green wind)	
Usage costs	€ 1,082.06
Fixed payment	€ 65.53
Network costs	€ 325.89
Taxes	€ 1,220.67
Total annual electricity	€ 2,694.16
Gas (Green)	
Usage costs	€ 506.83
Fixed payment	€ 65.53
Network costs	€ 203.56
Taxes	€ 357.53
Total annual gas	€ 1,133.26
Total annual costs	€ 3,827.24

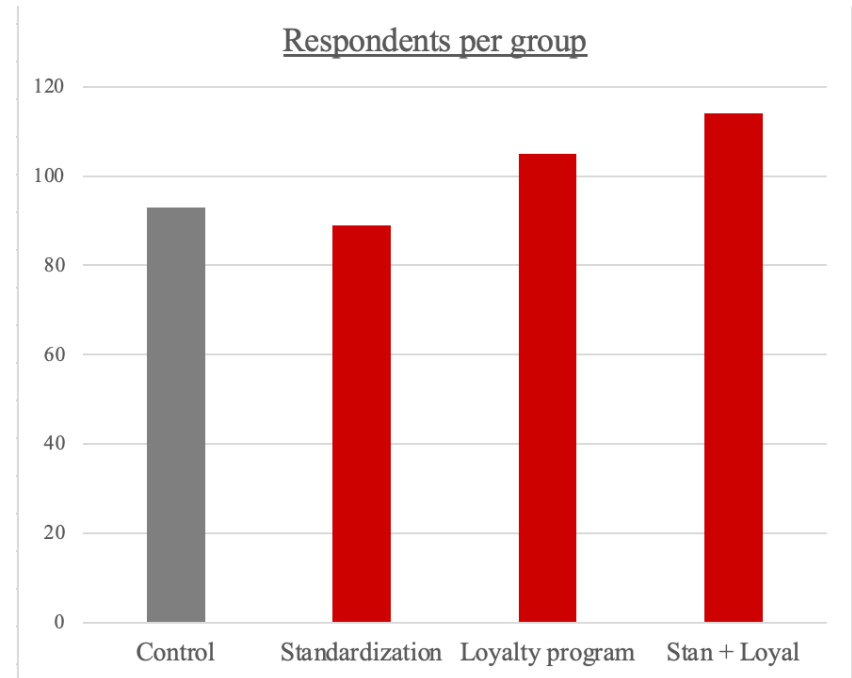




Methods

> Design:

- 10 sets of 3 options.
- Sets created with Bayesian D-efficient design using *idefix* package in R
- Survey created in Qualtrics, distributed on Prolific.
 - Sample of 400 EU citizens, fluent English proficiency, 2 attention checks correct
 - Random assignment to treatment groups in qualtrics.



Estimation

- > Multinomial logit model
 - Interaction with individual specific treatment group



Tariff



Source



Brand



Duration

$$\Pr(\text{Choice} = i \mid J) = \frac{\exp(\beta_1 \text{Familiar brand}_i + \dots + \beta_{28} \text{Treatment}_n \times \text{Duration 12 months}_i)}{\sum_{j=1}^m \exp(\beta_1 \text{Familiar brand}_j + \dots + \beta_{28} \text{Treatment}_m \times \text{Duration 12 months}_j)}$$



	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)
Observations	4000			
Log Likelihood (df = 28)	- 3127.829			

Note:

*p<0.1; **p<0.05; ***p<0.01



	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)
Observations	4000			
Log Likelihood (df = 28)	- 3127.829			

Interaction effects



Note:

*p<0.1; **p<0.05; ***p<0.01



	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)
Observations	4000			
Log Likelihood (df = 28)	- 3127.829			

Note:

*p<0.1; **p<0.05; ***p<0.01



	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)

Observations 4000
Log Likelihood (df = 28) - 3127.829

Note:

*p<0.1; **p<0.05; ***p<0.01



	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)
Observations	4000			
Log Likelihood (df = 28)	- 3127.829			

Note:

*p<0.1; **p<0.05; ***p<0.01

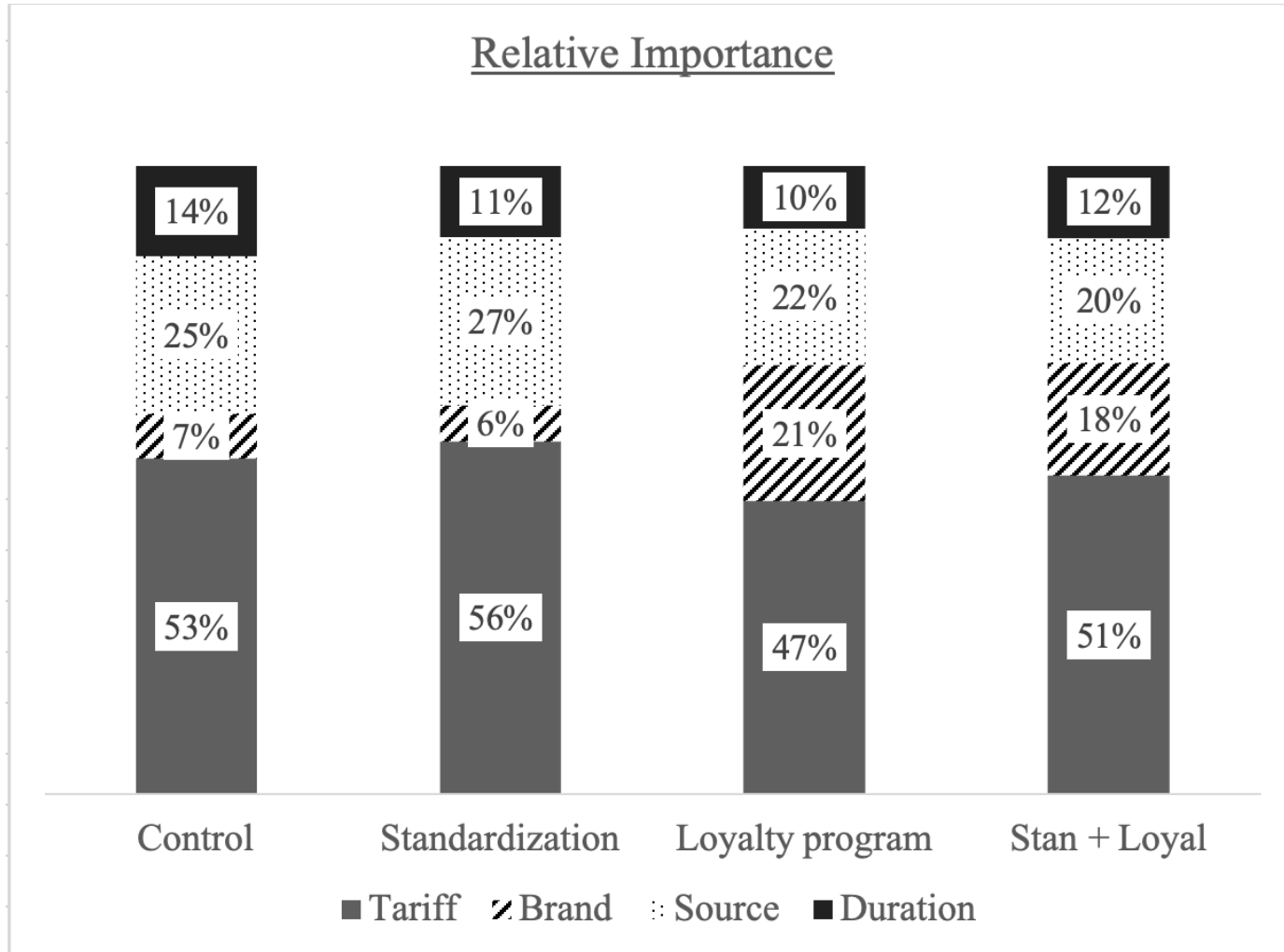


	Control (1)	Standardized (2)	Loyalty (3)	Stan/Loyal (4)
Current brand	0.035 (0.162)	0.458 (0.235)	1.035*** (0.218)	0.935*** (0.217)
Familiar large brand	0.234* (0.092)	-0.212 (0.136)	-0.619*** (0.127)	-0.534*** (0.126)
Unfamiliar small brand	-0.268* (0.107)	-0.246 (0.158)	-0.416** (0.146)	-0.390** (0.146)
Price	-0.011*** (0.001)	-0.004** (0.001)	-0.001 (0.001)	-0.002* (0.001)
Source green wind	0.595*** (0.069)	0.220* (0.103)	0.041 (0.072)	0.182 (0.094)
Source mixed renew	0.563*** (0.062)	0.187* (0.093)	-0.135 (0.085)	0.013 (0.085)
Source grey	-1.158*** (0.105)	-0.407** (0.131)	0.094 (0.112)	-0.195 (0.116)
Duration 0 months	0.635*** (0.070)	0.183 (0.104)	0.216* (0.094)	0.100 (0.096)
Duration 6 months	0.338*** (0.056)	-0.071 (0.083)	-0.110 (0.077)	-0.108 (0.077)
Duration 12 months	0.337*** (0.070)	-0.112 (0.104)	-0.105 (0.096)	0.008 (0.096)

Observations 4000
Log Likelihood (df = 28) - 3127.829

Note:

*p<0.1; **p<0.05; ***p<0.01





Conclusions

- > How do information transparency policies and loyalty programs affect consumers' contract preferences?
 - Higher price elasticity and preferences for renewable sources with standardization treatment.
 - Higher preferences for current brand with loyalty treatment.
 - Effects of standardization treatment diminish when combined with loyalty treatment.

- > Possible explanations:
 - Higher switch costs through loyalty programs.
 - Limited attention: bounded rationality (Simon, 1959) and rational inattention (Sallee, 2014)



References

- > Bird, L., Wüstenhagen, R., & Aabakken, J. (2002). A review of international green power markets: Recent experience, trends, and market drivers. *Renewable and Sustainable Energy Reviews*, 6(6), 513–536.
- > Defeuilley, C. (2009). Retail competition in electricity markets. *Energy Policy*, 37(2), 377–386.
- > Deller, D., Giulietti, M., Loomes, G., Waddams Price, C., Moniche, A., & Young Jeon, J. (2021). Switching Energy Suppliers: It's Not All About the Money. *The Energy Journal*, 42(3), 95–120.
- > Gärling, T., Gamble, A., & Juliusson, E. A. (2008). Consumers' switching inertia in a fictitious electricity market. *International Journal of Consumer Studies*, 32(6), 613–618.
- > Harold, J., Cullinan, J., & Lyons, S. (2020). Consumer switching in European retail markets. *Oxford Economic Papers*, 72(2), 453–471.
- > He, X., & Reiner, D. (2017). Why Consumers Switch Energy Suppliers. *International Association for Energy Economics*, 38(6), 25–54.
- > Hellier, P. K., Geursen, G. M., Carr, R. A., & Rickard, J. A. (2003). Customer repurchase intention: a general structural equation model. *European Journal of Marketing*, 37(11), 1762–1800.
- > Hortaçsu, A., Madanizadeh, S. A., & Puller, S. L. (2017). Power to choose? An analysis of consumer inertia in the residential electricity market. *American Economic Journal: Economic Policy*, 9(4), 192–226.



- > Ibáñez, V. A., Hartmann, P., & Calvo, P. Z. (2006). Antecedents of customer loyalty in residential energy markets: Service quality, satisfaction, trust and switching costs. *Service Industries Journal*, 26(6), 633–650.
- > Klemperer, P. (1995). Competition when consumers have switching costs: An overview with applications to industrial organization, macroeconomics, and international trade. *Review of Economic Studies*, 62(4), 515–539.
- > Lancaster, K. J. (1966). A New Approach to Consumer Theory. *Journal of Political Economy*, 74(2), 132–157.
- > MacDonald, S., & Eyre, N. (2018). An international review of markets for voluntary green electricity tariffs. *Renewable and Sustainable Energy Reviews*, 91, 180–192.
- > Mulder, M. (2023). *Regulation of Energy Markets* (2nd ed.). Springer.
- > Ndebele, T., Marsh, D., & Scarpa, R. (2019). Consumer switching in retail electricity markets: Is price all that matters? *Energy Economics*, 83, 88–103.
- > Tabi, A., Hille, S. L., & Wüstenhagen, R. (2014). What makes people seal the green power deal? - Customer segmentation based on choice experiment in Germany. *Ecological Economics*, 107, 206–215.
- > Wilson, C. M. (2012). Market frictions: A unified model of search costs and switching costs. *European Economic Review*, 56(6), 1070–1086.
- > Yang, Y., Solgaard, H. S., & Haider, W. (2016). Wind, hydro or mixed renewable energy source: Preference for electricity products when the share of renewable energy increases. *Energy Policy*, 97, 521–531.