

# 1 Breakdown of ATEs as a Function of Rate Changes, Using Rate Changes in Peak Hours

## 1.1 Case 1: Knot = 10

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.016*** (0.004)	0.042*** (0.006)	0.047*** (0.004)	0.029*** (0.005)	0.045*** (0.005)	0.035*** (0.004)
(HDDs - Knot) $\times$ $\mathbb{1}[\text{HDDs} > \text{Knot}]$	0.010 (0.007)	0.001 (0.010)	-0.018*** (0.007)	0.005 (0.008)	-0.008 (0.008)	-0.002 (0.007)
$\mathbb{1}[\text{Treatment}]$	-0.020 (0.059)	-0.018 (0.073)	0.064 (0.065)	-0.019 (0.062)	0.023 (0.065)	0.009 (0.060)
$\mathbb{1}[\text{Treatment}] \times \Delta\text{Price}$	0.004 (0.003)	0.005 (0.004)	-0.0003 (0.003)	0.005 (0.003)	0.003 (0.003)	0.003 (0.003)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs}$	0.001 (0.004)	0.013** (0.005)	0.009 (0.005)	0.007* (0.004)	0.011** (0.005)	0.008** (0.004)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	-0.003 (0.005)	-0.011* (0.006)	-0.014*** (0.005)	-0.007* (0.004)	-0.013*** (0.004)	-0.010*** (0.003)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs} \times \Delta\text{Price}$	-0.00001 (0.0002)	-0.0004 (0.0003)	0.00003 (0.0003)	-0.0002 (0.0002)	-0.0002 (0.0003)	-0.0001 (0.0002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	0.0001 (0.0003)	0.0003 (0.0003)	0.0001 (0.0003)	0.0002 (0.0002)	0.0002 (0.0002)	0.0002 (0.0001)
$\mathbb{1}[\text{Post}]$	0.013 (0.022)	0.045 (0.036)	0.047 (0.040)	0.029 (0.026)	0.046 (0.035)	0.035 (0.029)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
1[Post] × HDDs	−0.007 (0.005)	−0.015* (0.008)	−0.015** (0.006)	−0.011* (0.006)	−0.015** (0.006)	−0.012** (0.006)
1[Post] × (HDDs - Knot) × 1[HDDs > Knot]	0.002 (0.008)	0.007 (0.013)	0.006 (0.009)	0.004 (0.010)	0.007 (0.010)	0.005 (0.009)
1[Treatment & Post]	−0.045 (0.029)	−0.028 (0.035)	−0.053 (0.035)	−0.037 (0.026)	−0.040 (0.030)	−0.042* (0.025)
1[Treatment & Post] × ΔPrice	0.002 (0.002)	−0.005** (0.002)	0.002 (0.002)	−0.001 (0.001)	−0.001 (0.001)	−0.0001 (0.001)
1[Treatment & Post] × HDDs	−0.0001 (0.004)	−0.010** (0.004)	−0.001 (0.004)	−0.005 (0.003)	−0.005 (0.003)	−0.003 (0.003)
1[Treatment & Post] × (HDDs - Knot) × 1[HDDs > Knot]	0.001 (0.005)	0.012** (0.006)	0.005 (0.005)	0.007** (0.003)	0.009** (0.003)	0.006*** (0.002)
1[Treatment & Post] × HDDs × ΔPrice	0.00001 (0.0002)	0.0002 (0.0002)	−0.0001 (0.0003)	0.0001 (0.0002)	0.0001 (0.0002)	0.00004 (0.0002)
1[Treatment & Post] × (HDDs - Knot) × 1[HDDs > Knot] × ΔPrice	−0.0002 (0.0003)	−0.0003 (0.0003)	0.00004 (0.0003)	−0.0002 (0.0002)	−0.0001 (0.0002)	−0.0001 (0.0001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	10	10	10	10	10	10
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.059	0.043	0.056

## 1.2 Case 2: Knot = 12

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.018*** (0.004)	0.046*** (0.005)	0.045*** (0.004)	0.032*** (0.004)	0.045*** (0.004)	0.036*** (0.004)
(HDDs - Knot) $\times$ $\mathbb{1}[\text{HDDs} > \text{Knot}]$	0.007 (0.007)	-0.007 (0.010)	-0.017*** (0.006)	-0.0003 (0.008)	-0.012* (0.007)	-0.006 (0.007)
$\mathbb{1}[\text{Treatment}]$	-0.018 (0.059)	-0.018 (0.073)	0.068 (0.065)	-0.018 (0.062)	0.025 (0.065)	0.011 (0.059)
$\mathbb{1}[\text{Treatment}] \times \Delta\text{Price}$	0.004 (0.003)	0.005 (0.004)	-0.0002 (0.003)	0.005 (0.003)	0.003 (0.003)	0.003 (0.003)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs}$	0.001 (0.004)	0.013** (0.005)	0.007 (0.005)	0.007* (0.004)	0.010** (0.004)	0.007* (0.004)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	-0.002 (0.005)	-0.013** (0.006)	-0.014*** (0.005)	-0.008* (0.004)	-0.013*** (0.004)	-0.010*** (0.003)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs} \times \Delta\text{Price}$	-0.00000 (0.0002)	-0.0004 (0.0003)	0.00003 (0.0003)	-0.0002 (0.0002)	-0.0002 (0.0003)	-0.0001 (0.0002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	0.0001 (0.0003)	0.0004 (0.0003)	0.0002 (0.0003)	0.0003 (0.0002)	0.0003 (0.0002)	0.0002* (0.0001)
$\mathbb{1}[\text{Post}]$	0.018 (0.022)	0.054 (0.035)	0.044 (0.040)	0.036 (0.026)	0.049 (0.034)	0.039 (0.028)
$\mathbb{1}[\text{Post}] \times \text{HDDs}$	-0.008** (0.004)	-0.017** (0.007)	-0.013*** (0.005)	-0.012** (0.005)	-0.015*** (0.005)	-0.013*** (0.005)
$\mathbb{1}[\text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.004 (0.008)	0.012 (0.013)	0.005 (0.009)	0.008 (0.010)	0.009 (0.010)	0.007 (0.009)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}[\text{Treatment \& Post}]$	-0.045 (0.029)	-0.025 (0.034)	-0.052 (0.034)	-0.035 (0.026)	-0.039 (0.030)	-0.041 (0.025)
$\mathbb{1}[\text{Treatment \& Post}] \times \Delta\text{Price}$	0.002 (0.002)	-0.005*** (0.002)	0.002 (0.002)	-0.001 (0.001)	-0.002 (0.001)	-0.0003 (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs}$	-0.0003 (0.003)	-0.010** (0.004)	-0.0003 (0.004)	-0.005* (0.003)	-0.005 (0.003)	-0.003 (0.002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.002 (0.005)	0.015*** (0.005)	0.006 (0.004)	0.009*** (0.003)	0.011*** (0.003)	0.008*** (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs} \times \Delta\text{Price}$	0.00001 (0.0002)	0.0003 (0.0002)	-0.0001 (0.0002)	0.0001 (0.0002)	0.0001 (0.0002)	0.0001 (0.0002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	-0.0003 (0.0003)	-0.0004* (0.0003)	-0.0001 (0.0003)	-0.0004** (0.0001)	-0.0003 (0.0002)	-0.0003*** (0.0001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	12	12	12	12	12	12
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.059	0.043	0.056

### 1.3 Case 3: Knot = 14

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.019*** (0.003)	0.046*** (0.004)	0.043*** (0.003)	0.033*** (0.003)	0.044*** (0.004)	0.036*** (0.003)
(HDDs - Knot) $\times$ $\mathbb{1}$ [HDDs > Knot]	0.005 (0.007)	-0.011 (0.009)	-0.015** (0.006)	-0.003 (0.008)	-0.013* (0.007)	-0.007 (0.007)
$\mathbb{1}$ [Treatment]	-0.015 (0.059)	-0.017 (0.072)	0.071 (0.065)	-0.016 (0.061)	0.027 (0.065)	0.013 (0.059)
$\mathbb{1}$ [Treatment] $\times$ $\Delta$ Price	0.004 (0.003)	0.006 (0.004)	-0.0002 (0.003)	0.005 (0.003)	0.003 (0.003)	0.003 (0.003)
$\mathbb{1}$ [Treatment] $\times$ HDDs	0.0003 (0.003)	0.012** (0.005)	0.006 (0.004)	0.006* (0.003)	0.009** (0.004)	0.006* (0.003)
$\mathbb{1}$ [Treatment] $\times$ (HDDs - Knot) $\times$ $\mathbb{1}$ [HDDs > Knot]	-0.002 (0.004)	-0.014** (0.005)	-0.015*** (0.004)	-0.008** (0.004)	-0.015*** (0.004)	-0.010*** (0.003)
$\mathbb{1}$ [Treatment] $\times$ HDDs $\times$ $\Delta$ Price	0.00003 (0.0002)	-0.0004 (0.0003)	0.00002 (0.0003)	-0.0002 (0.0002)	-0.0002 (0.0003)	-0.0001 (0.0002)
$\mathbb{1}$ [Treatment] $\times$ (HDDs - Knot) $\times$ $\mathbb{1}$ [HDDs > Knot] $\times$ $\Delta$ Price	0.0001 (0.0002)	0.0005* (0.0003)	0.0002 (0.0003)	0.0003* (0.0002)	0.0004** (0.0002)	0.0003** (0.0001)
$\mathbb{1}$ [Post]	0.021 (0.022)	0.054 (0.035)	0.036 (0.039)	0.037 (0.025)	0.045 (0.034)	0.037 (0.028)
$\mathbb{1}$ [Post] $\times$ HDDs	-0.008** (0.003)	-0.016*** (0.006)	-0.011*** (0.004)	-0.012*** (0.004)	-0.014*** (0.005)	-0.012*** (0.004)
$\mathbb{1}$ [Post] $\times$ (HDDs - Knot) $\times$ $\mathbb{1}$ [HDDs > Knot]	0.006 (0.008)	0.014 (0.013)	0.002 (0.009)	0.010 (0.010)	0.008 (0.010)	0.007 (0.009)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}[\text{Treatment \& Post}]$	-0.046 (0.028)	-0.025 (0.034)	-0.054 (0.034)	-0.035 (0.026)	-0.039 (0.029)	-0.042* (0.025)
$\mathbb{1}[\text{Treatment \& Post}] \times \Delta\text{Price}$	0.002 (0.002)	-0.005*** (0.002)	0.002 (0.002)	-0.002 (0.001)	-0.002 (0.001)	-0.0004 (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs}$	0.0001 (0.003)	-0.009*** (0.003)	0.0003 (0.003)	-0.005* (0.002)	-0.005 (0.003)	-0.003 (0.002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.002 (0.005)	0.018*** (0.004)	0.006 (0.004)	0.010*** (0.002)	0.012*** (0.002)	0.009*** (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs} \times \Delta\text{Price}$	-0.00001 (0.0002)	0.0003 (0.0002)	-0.00003 (0.0002)	0.0001 (0.0002)	0.0001 (0.0002)	0.0001 (0.0002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	-0.0003 (0.0002)	-0.001** (0.0003)	-0.0002 (0.0003)	-0.0005*** (0.0001)	-0.0004** (0.0002)	-0.0004*** (0.0001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	14	14	14	14	14	14
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.059	0.043	0.056

## 2 Breakdown of ATEs as a Function of Rate Changes, Using Different Rate Changes

### 2.1 Case 1: Knot = 10

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.016*** (0.004)	0.042*** (0.006)	0.047*** (0.004)	0.029*** (0.005)	0.045*** (0.005)	0.035*** (0.004)
$(\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.010 (0.007)	0.001 (0.010)	-0.018*** (0.007)	0.005 (0.008)	-0.008 (0.008)	-0.002 (0.007)
$\mathbb{1}[\text{Treatment}]$	-0.0005 (0.051)	-0.018 (0.073)	0.063 (0.056)	0.088* (0.048)	0.039 (0.050)	0.061 (0.044)
$\mathbb{1}[\text{Treatment}] \times \Delta\text{Price}$	-0.049 (0.037)	0.005 (0.004)	0.003 (0.040)	-0.007** (0.003)	0.003 (0.003)	-0.003 (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs}$	0.001 (0.003)	0.013** (0.005)	0.009** (0.004)	-0.005* (0.003)	0.011*** (0.003)	0.004 (0.002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	-0.002 (0.004)	-0.011* (0.006)	-0.014*** (0.004)	-0.00005 (0.003)	-0.018*** (0.003)	-0.008*** (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs} \times \Delta\text{Price}$	0.0001 (0.003)	-0.0004 (0.0003)	-0.0004 (0.004)	0.001*** (0.0002)	-0.0004* (0.0002)	0.001*** (0.0002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	-0.002 (0.003)	0.0003 (0.0003)	-0.001 (0.003)	-0.001** (0.0003)	0.001*** (0.0004)	0.0003 (0.0003)
$\mathbb{1}[\text{Post}]$	0.013 (0.022)	0.045 (0.036)	0.047 (0.040)	0.029 (0.026)	0.046 (0.035)	0.035 (0.029)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}[\text{Post}] \times \text{HDDs}$	-0.007 (0.005)	-0.015* (0.008)	-0.015** (0.006)	-0.011* (0.006)	-0.015** (0.006)	-0.012** (0.006)
$\mathbb{1}[\text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.002 (0.008)	0.007 (0.013)	0.006 (0.009)	0.004 (0.010)	0.007 (0.010)	0.005 (0.009)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}]$	-0.036 (0.024)	-0.028 (0.035)	-0.042 (0.029)	-0.031 (0.019)	-0.025 (0.025)	-0.026 (0.018)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}] \times \Delta \text{Price}$	-0.025 (0.021)	-0.005** (0.002)	-0.027 (0.022)	-0.004*** (0.001)	-0.005*** (0.002)	-0.004*** (0.001)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}] \times \text{HDDs}$	-0.00004 (0.003)	-0.010** (0.004)	-0.001 (0.003)	0.001 (0.002)	-0.003 (0.003)	-0.001 (0.002)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.0003 (0.004)	0.012** (0.006)	0.005 (0.004)	-0.001 (0.002)	0.006* (0.003)	0.002* (0.001)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}] \times \text{HDDs} \times \Delta \text{Price}$	-0.0001 (0.002)	0.0002 (0.0002)	0.001 (0.003)	-0.001** (0.0003)	-0.0002 (0.0003)	-0.0005 (0.0003)
$\mathbb{1}[\text{Treatment} \ \& \ \text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta \text{Price}$	0.003 (0.003)	-0.0003 (0.0003)	-0.0005 (0.003)	0.001* (0.0004)	0.0001 (0.001)	0.0005 (0.001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	10	10	10	10	10	10
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.061	0.043	0.057



## 2.2 Case 2: Knot = 12

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.018*** (0.004)	0.046*** (0.005)	0.045*** (0.004)	0.032*** (0.004)	0.045*** (0.004)	0.036*** (0.004)
(HDDs - Knot) $\times$ $\mathbb{1}[\text{HDDs} > \text{Knot}]$	0.007 (0.007)	-0.007 (0.010)	-0.017*** (0.006)	-0.0003 (0.008)	-0.012* (0.007)	-0.006 (0.007)
$\mathbb{1}[\text{Treatment}]$	0.002 (0.050)	-0.018 (0.073)	0.067 (0.056)	0.092* (0.048)	0.049 (0.050)	0.067 (0.044)
$\mathbb{1}[\text{Treatment}] \times \Delta\text{Price}$	-0.049 (0.036)	0.005 (0.004)	0.003 (0.040)	-0.007*** (0.003)	0.002 (0.003)	-0.003 (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs}$	0.001 (0.003)	0.013** (0.005)	0.007* (0.004)	-0.006** (0.003)	0.008*** (0.003)	0.002 (0.002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	-0.002 (0.004)	-0.013** (0.006)	-0.014*** (0.004)	0.002 (0.003)	-0.015*** (0.003)	-0.006*** (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs} \times \Delta\text{Price}$	0.00000 (0.002)	-0.0004 (0.0003)	-0.0003 (0.004)	0.002*** (0.0002)	-0.0001 (0.0002)	0.001*** (0.0002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	-0.002 (0.003)	0.0004 (0.0003)	-0.002 (0.003)	-0.001*** (0.0003)	0.001** (0.0004)	-0.0001 (0.0003)
$\mathbb{1}[\text{Post}]$	0.018 (0.022)	0.054 (0.035)	0.044 (0.040)	0.036 (0.026)	0.049 (0.034)	0.039 (0.028)
$\mathbb{1}[\text{Post}] \times \text{HDDs}$	-0.008** (0.004)	-0.017** (0.007)	-0.013*** (0.005)	-0.012** (0.005)	-0.015*** (0.005)	-0.013*** (0.005)
$\mathbb{1}[\text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.004 (0.008)	0.012 (0.013)	0.005 (0.009)	0.008 (0.010)	0.009 (0.010)	0.007 (0.009)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}[\text{Treatment \& Post}]$	-0.035 (0.024)	-0.025 (0.034)	-0.043 (0.029)	-0.032* (0.019)	-0.032 (0.024)	-0.030 (0.018)
$\mathbb{1}[\text{Treatment \& Post}] \times \Delta\text{Price}$	-0.025 (0.020)	-0.005*** (0.002)	-0.024 (0.021)	-0.004*** (0.001)	-0.004** (0.002)	-0.004*** (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs}$	-0.0002 (0.003)	-0.010** (0.004)	-0.001 (0.003)	0.001 (0.002)	-0.002 (0.003)	-0.0002 (0.002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.001 (0.004)	0.015*** (0.005)	0.006* (0.003)	-0.001 (0.002)	0.004 (0.003)	0.001 (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs} \times \Delta\text{Price}$	-0.0002 (0.002)	0.0003 (0.0002)	0.001 (0.003)	-0.001*** (0.0002)	-0.0003 (0.0003)	-0.001* (0.0003)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	0.003 (0.003)	-0.0004* (0.0003)	0.001 (0.003)	0.001* (0.0005)	0.0004 (0.001)	0.001 (0.001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	12	12	12	12	12	12
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.061	0.043	0.057

### 2.3 Case 3: Knot = 14

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
HDDs	0.019*** (0.003)	0.046*** (0.004)	0.043*** (0.003)	0.033*** (0.003)	0.044*** (0.004)	0.036*** (0.003)
(HDDs - Knot) $\times$ $\mathbb{1}[\text{HDDs} > \text{Knot}]$	0.005 (0.007)	-0.011 (0.009)	-0.015** (0.006)	-0.003 (0.008)	-0.013* (0.007)	-0.007 (0.007)
$\mathbb{1}[\text{Treatment}]$	0.003 (0.050)	-0.017 (0.072)	0.070 (0.056)	0.092* (0.048)	0.057 (0.050)	0.071 (0.044)
$\mathbb{1}[\text{Treatment}] \times \Delta\text{Price}$	-0.048 (0.036)	0.006 (0.004)	0.002 (0.040)	-0.007*** (0.003)	0.001 (0.003)	-0.004* (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs}$	0.0005 (0.003)	0.012** (0.005)	0.006* (0.004)	-0.006** (0.002)	0.006** (0.003)	0.001 (0.002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	-0.001 (0.004)	-0.014** (0.005)	-0.014*** (0.004)	0.003 (0.003)	-0.013*** (0.003)	-0.005*** (0.002)
$\mathbb{1}[\text{Treatment}] \times \text{HDDs} \times \Delta\text{Price}$	-0.0004 (0.002)	-0.0004 (0.0003)	-0.0002 (0.003)	0.001*** (0.0002)	0.0001 (0.0002)	0.001*** (0.0002)
$\mathbb{1}[\text{Treatment}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	-0.001 (0.003)	0.0005* (0.0003)	-0.003 (0.003)	-0.001*** (0.0003)	0.001 (0.0003)	-0.0003 (0.0003)
$\mathbb{1}[\text{Post}]$	0.021 (0.022)	0.054 (0.035)	0.036 (0.039)	0.037 (0.025)	0.045 (0.034)	0.037 (0.028)
$\mathbb{1}[\text{Post}] \times \text{HDDs}$	-0.008** (0.003)	-0.016*** (0.006)	-0.011*** (0.004)	-0.012*** (0.004)	-0.014*** (0.005)	-0.012*** (0.004)
$\mathbb{1}[\text{Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.006 (0.008)	0.014 (0.013)	0.002 (0.009)	0.010 (0.010)	0.008 (0.010)	0.007 (0.009)

	Dependent Variable					
	Hourly Electricity Consumption (kWh/Hour)					
	(1)	(2)	(3)	(4)	(5)	(6)
$\mathbb{1}[\text{Treatment \& Post}]$	-0.036 (0.023)	-0.025 (0.034)	-0.045 (0.029)	-0.032* (0.019)	-0.036 (0.024)	-0.032* (0.018)
$\mathbb{1}[\text{Treatment \& Post}] \times \Delta\text{Price}$	-0.025 (0.020)	-0.005*** (0.002)	-0.022 (0.021)	-0.004*** (0.001)	-0.004** (0.002)	-0.004*** (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs}$	0.0001 (0.003)	-0.009*** (0.003)	0.0001 (0.003)	0.001 (0.002)	-0.0003 (0.002)	0.0003 (0.002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}]$	0.0002 (0.004)	0.018*** (0.004)	0.006* (0.003)	-0.001 (0.002)	0.002 (0.003)	0.0004 (0.001)
$\mathbb{1}[\text{Treatment \& Post}] \times \text{HDDs} \times \Delta\text{Price}$	0.0001 (0.002)	0.0003 (0.0002)	0.0004 (0.003)	-0.001** (0.0002)	-0.0004 (0.0003)	-0.001** (0.0002)
$\mathbb{1}[\text{Treatment \& Post}] \times (\text{HDDs} - \text{Knot}) \times \mathbb{1}[\text{HDDs} > \text{Knot}] \times \Delta\text{Price}$	0.004 (0.003)	-0.001** (0.0003)	0.002 (0.003)	0.001 (0.0005)	0.001 (0.001)	0.001 (0.001)
Interval of Hours	15 to 16	17 to 18	19 to 20	15 to 18	17 to 20	15 to 20
Knot	14	14	14	14	14	14
FEs: Household by Half-Hourly Time Window	No	No	No	No	No	No
FEs: Day of Week by Half-Hourly Time Window	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,006,200	1,006,200	1,006,200	2,012,400	2,012,400	3,018,600
Adjusted R <sup>2</sup>	0.024	0.047	0.040	0.061	0.043	0.057