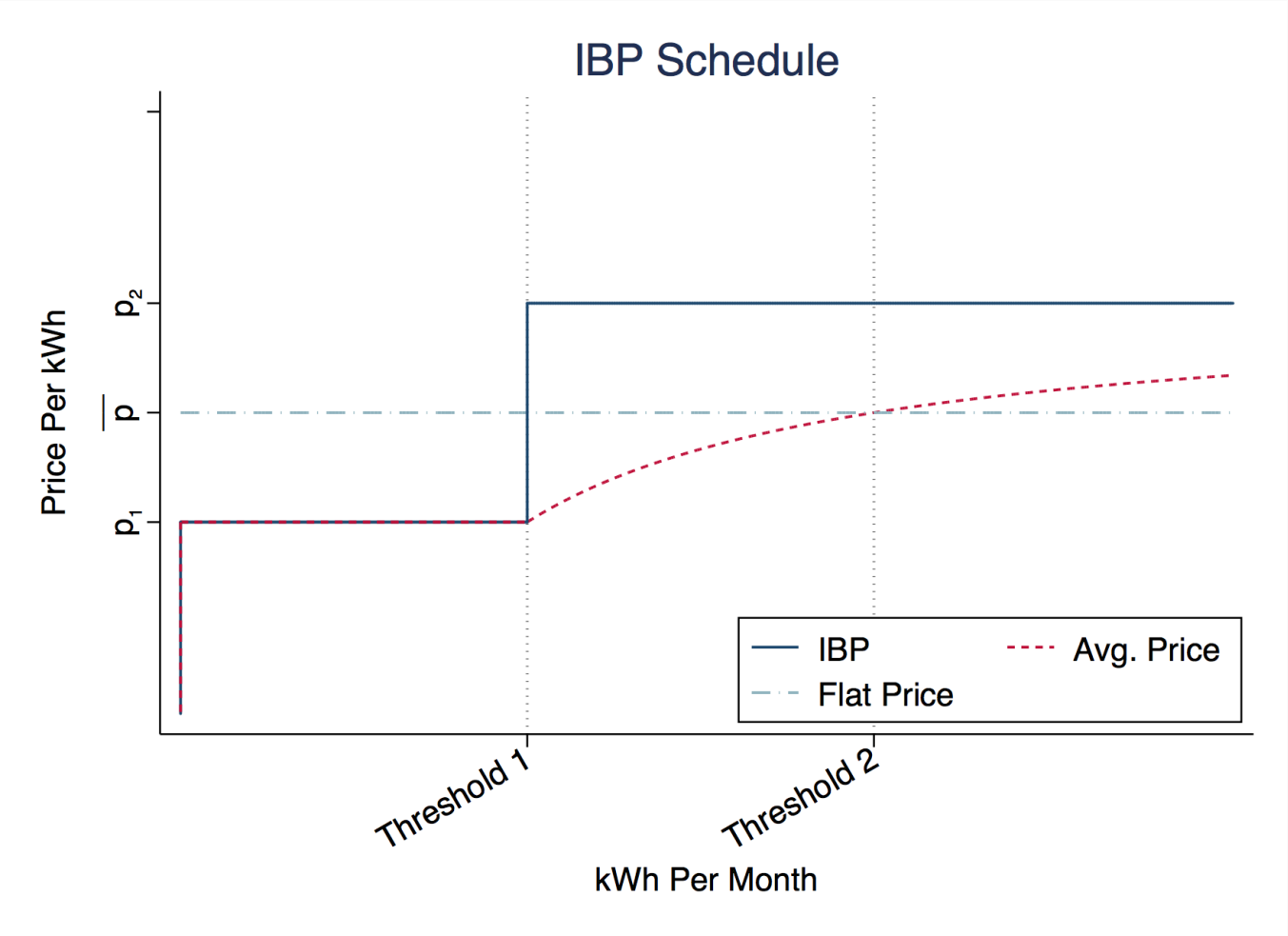
Does Increasing Block Pricing Reduce Electricity Demand?

Becka Brolinson
Georgetown University

August 13, 2018

Introduction



RQ: Does increasing block pricing decrease aggregate electricity consumption relative to a flat price?

In This Paper

1. Monthly energy use data combined with pricing data to estimate price elasticities of demand
2. Calculate a flat price that would raise the same revenue as the current IBP
3. Compare aggregate energy use under the flat schedule and the IBP schedule.

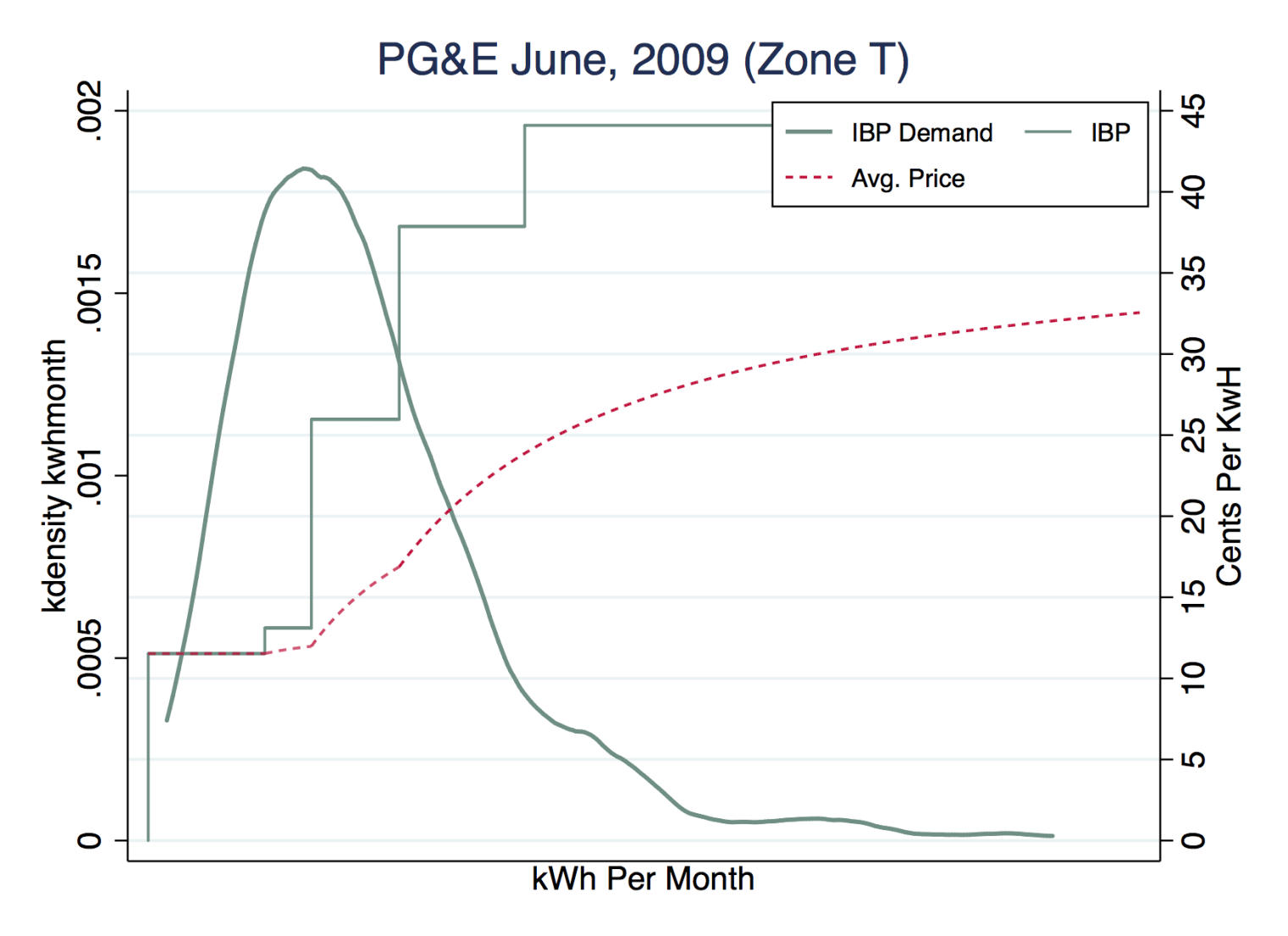
In This Paper

1. Monthly energy use data combined with pricing data to estimate price elasticities of demand
2. Calculate a flat price that would raise the same revenue as the current IBP
3. Compare aggregate energy use under the flat schedule and the IBP schedule.

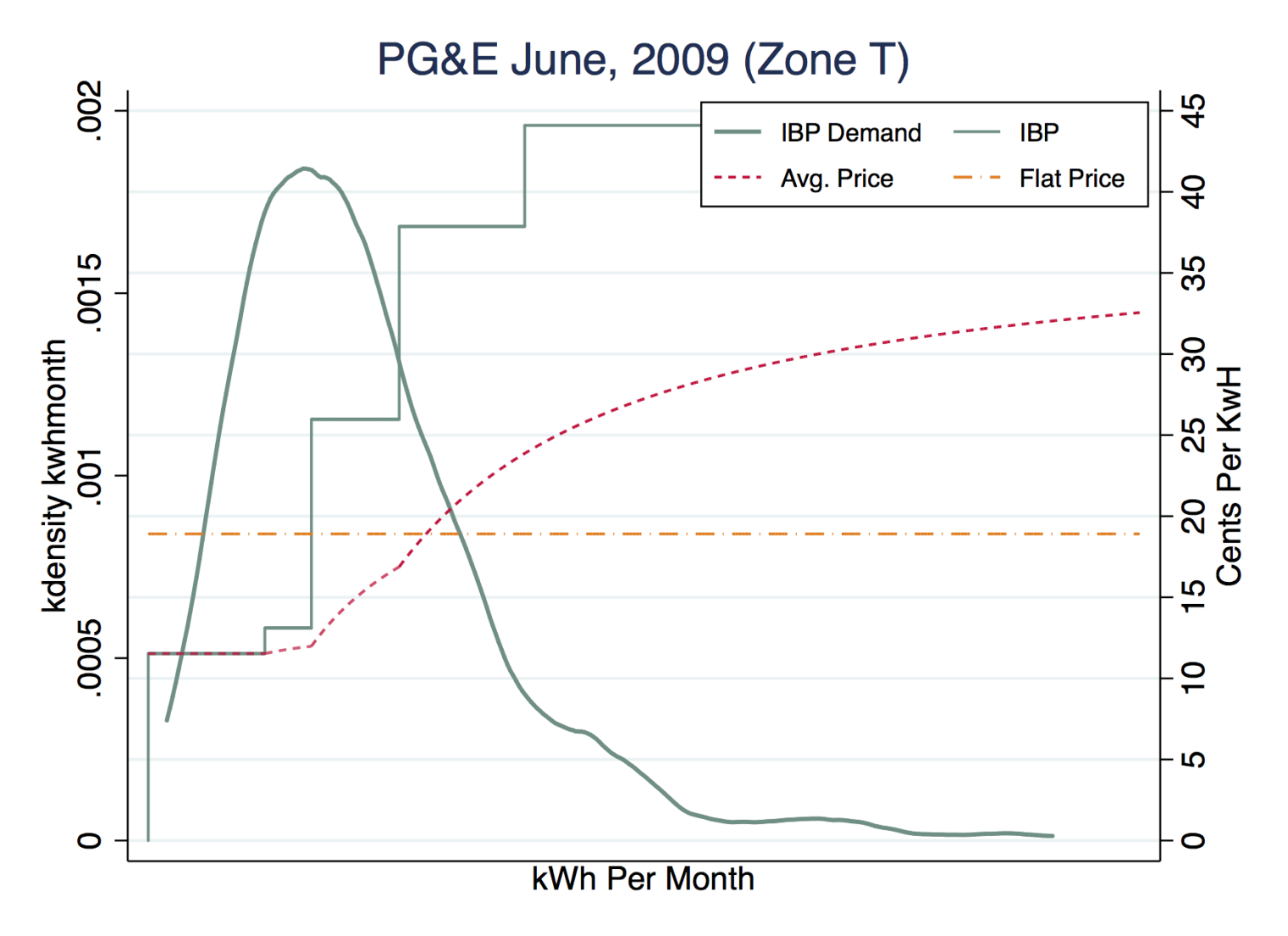
In This Paper

1. Monthly energy use data combined with pricing data to estimate price elasticities of demand
2. Calculate a flat price that would raise the same revenue as the current IBP
3. Compare aggregate energy use under the flat schedule and the IBP schedule.

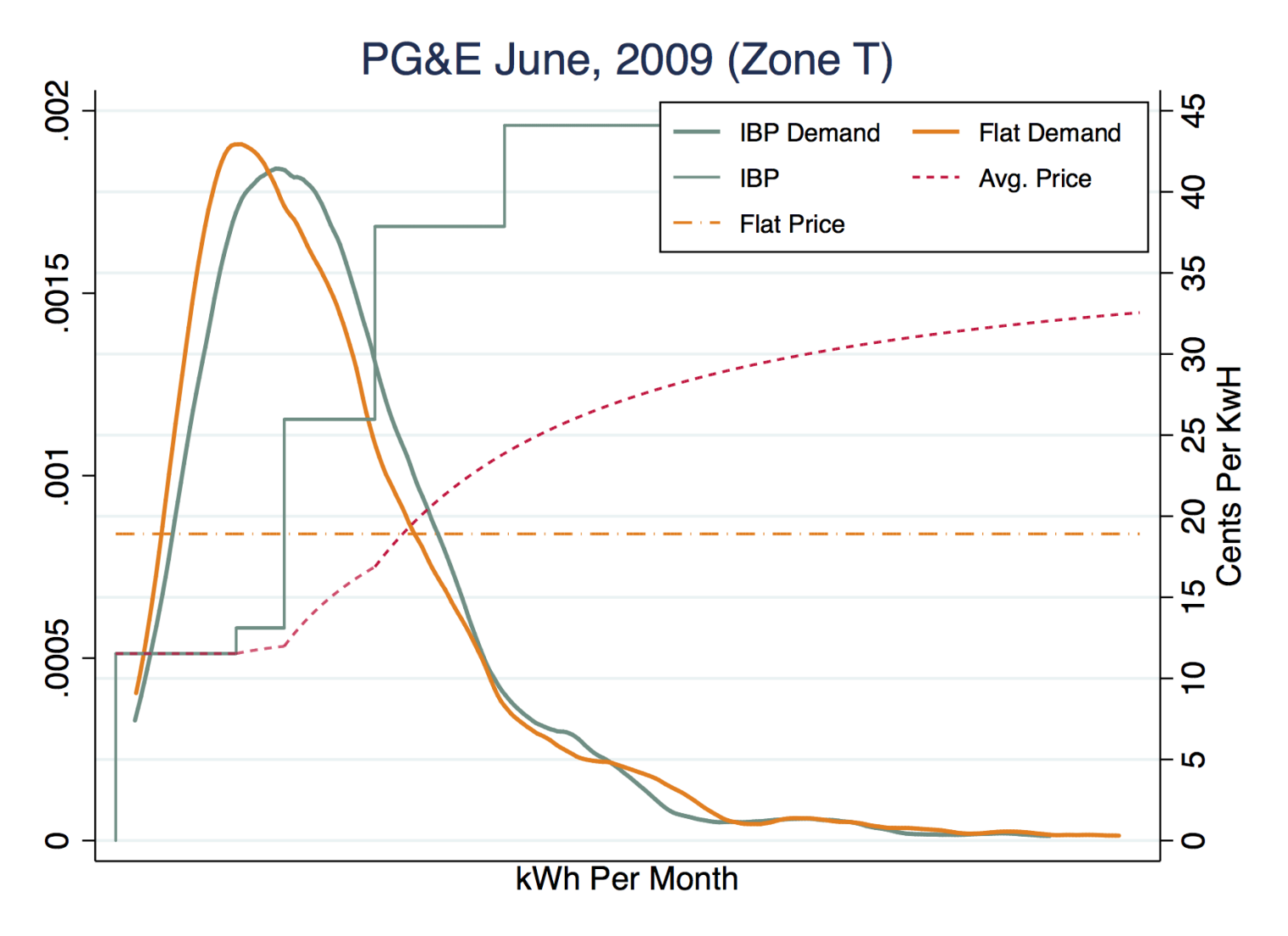
Example


PG&E June, 2009 (Zone T)
IBP Demand
IBP
Avg. Price
kdensity kwhmonth
0
.0005
.001
.0015
.002
Cents Per KwH
0
5
10
15
20
25
30
35
40
45
kWh Per Month

Example


PG&E June, 2009 (Zone T)
IBP Demand
IBP
Avg. Price
Flat Price
kdensity kwhmonth
0
.0005
.001
.0015
.002
Cents Per KwH
0
5
10
15
20
25
30
35
40
45
kWh Per Month

Example


PG&E June, 2009 (Zone T)
IBP Demand
Flat Demand
IBP
Avg. Price
Flat Price
.002
.0015
.001
.0005
0
45
40
35
30
25
20
15
10
5
0
Cents Per KwH
kWh Per Month

Findings

- Higher income households are more price elastic than lower income households
- Demand increases by 0.33% for average price response
- Evidence IBP may not be meeting goal of decreasing aggregate consumption while protecting low income households from increasing energy prices