OUR VISION & VALUES

“efficient”

“clean”

“affordable”

Your electric bill - May 2019

for the period **April 9, 2019 to May 8, 2019**

ARIK LEVINSON

Account number: 5501 8279 335

pepco®

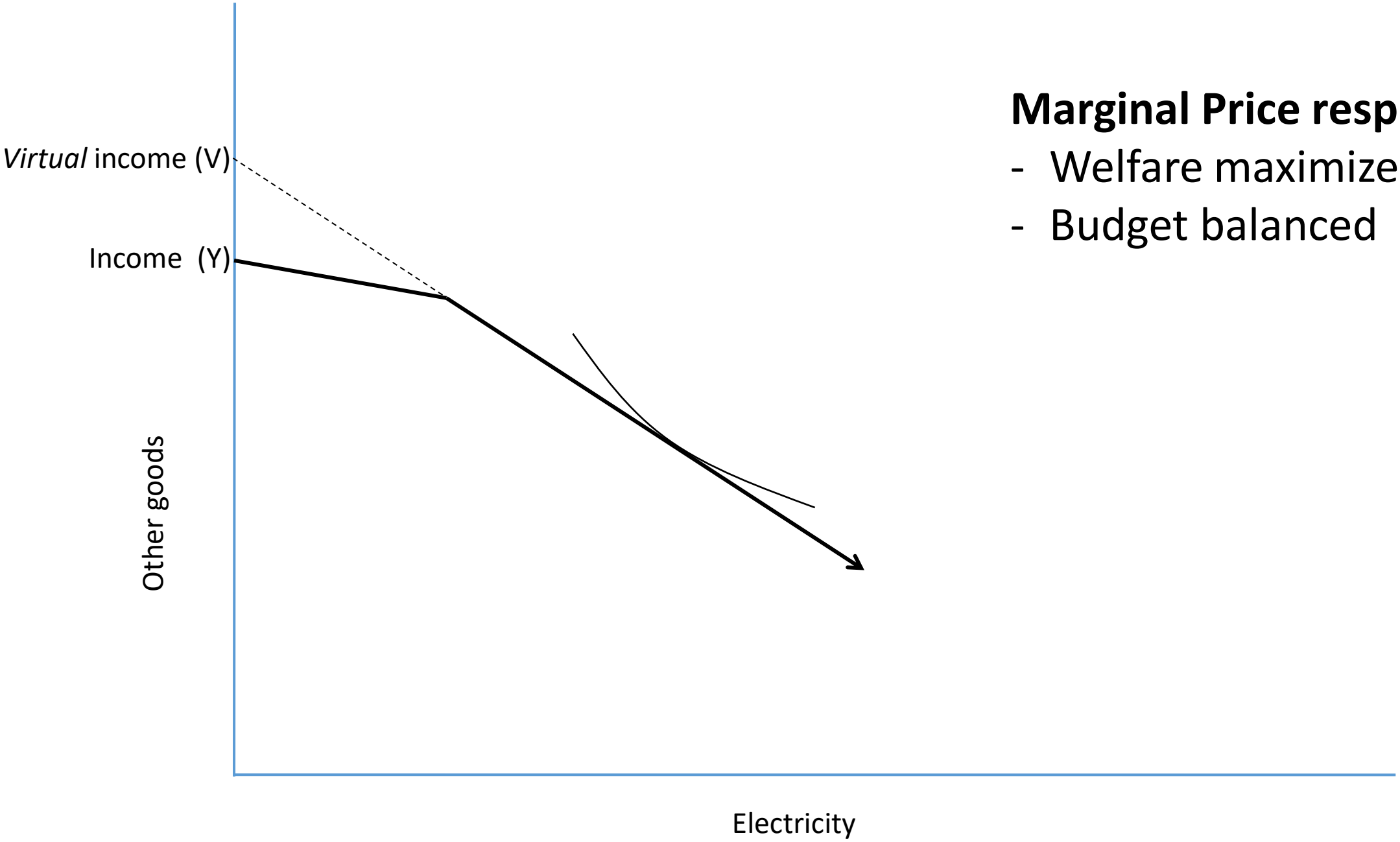
An Exelon Company

Delivery Charges: These charges reflect the cost of bringing electricity to you.
Current charges for 30 days, **winter rates in effect.**

Type of charge	How we calculate this charge	Amount($)
Distribution Services:		
Customer Charge		15.09
Exelon Base Rate Credit		1.37–
Energy Charge	First 400 kWh X $0.0084250 per kWh	3.37
Energy Charge	Last 102 kWh X $0.0162745 per kWh	1.66
Residential Aid Discount Surcharge	502 kWh X $0.0007650 per kWh	0.38
Administrative Credit	502 kWh X $0.0007163- per kWh	0.36–
Underground Project Charge	502 kWh X $0.0000200 per kWh	0.01
Subtotal (Set by DC PSC)		**18.78**
EDIT Credit 5 Year - KWH	First 400 kWh X $0.0001400- per kWh	0.06–
EDIT Credit 5 Year - KWH	Last 102 kWh X $0.0002700- per kWh	0.03–
EDIT Credit 10 Year - KWH	First 400 kWh X $0.0004700- per kWh	0.19–
EDIT Credit 10 Year - KWH	Last 102 kWh X $0.0009300- per kWh	0.09–
Energy Assistance Trust Fund	502 kWh X $0.0002322 per kWh	0.12
Sustain Energy Trust Fund	502 kWh X $0.0016120 per kWh	0.81
Public Space Occupancy Surcharge	502 kWh X $0.0021100 per kWh	1.06
Delivery Tax	502 kWh X $0.0070000 per kWh	3.51
Subtotal (Not set by DC PSC)		**5.13**
Total Electric Delivery Charges		**23.91**

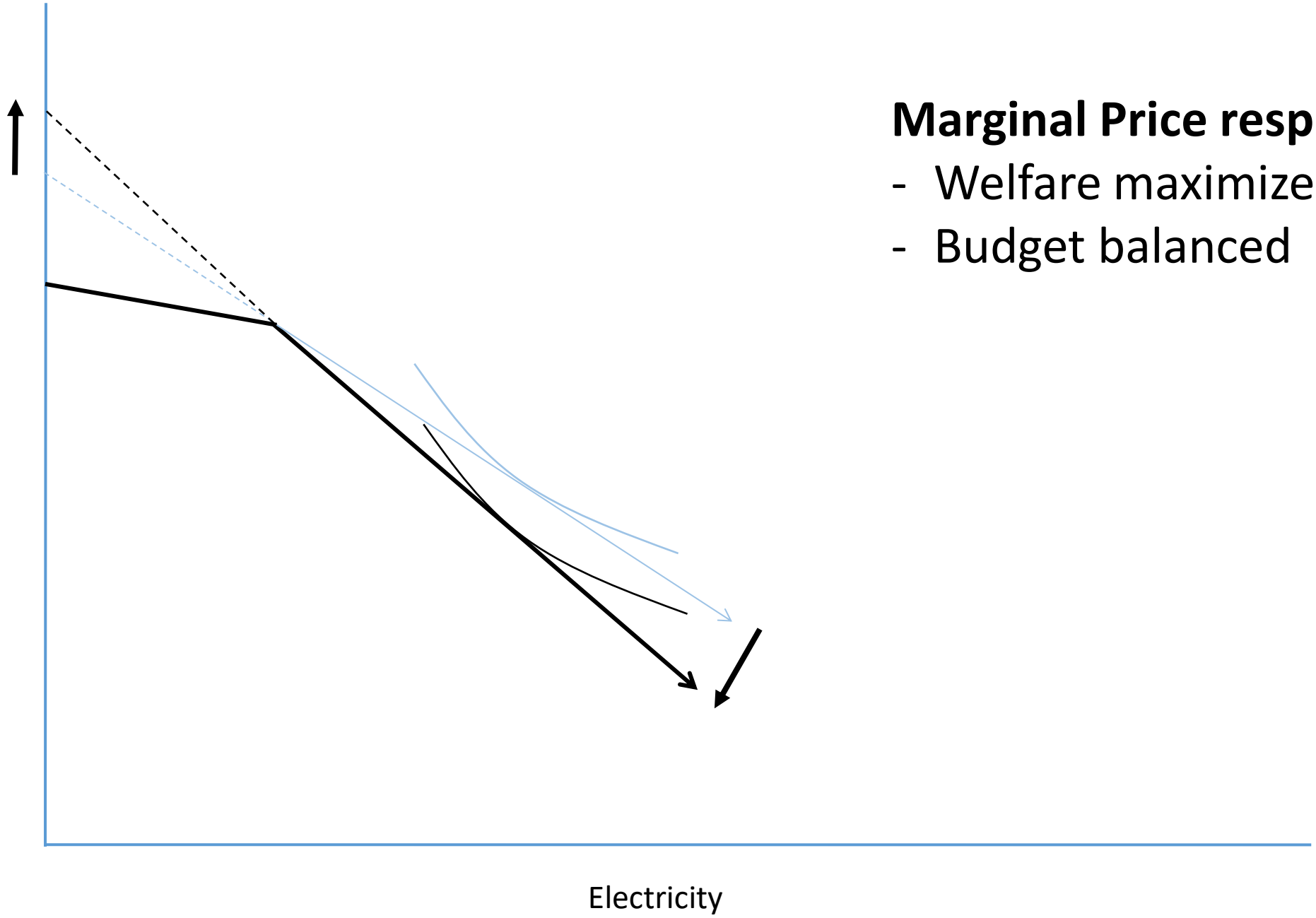
Supply Charges: These charges reflect the cost of producing electricity for you.
You can compare this part of your bill to offers from competitive suppliers.
Your electricity is supplied by the standard offer service (SOS) administered by Pepco - call 202-833-7500 or visit pepco.com.
Based on billed use, your average annual price to compare is 7.58 cents per kwh.

Type of charge	How we calculate this charge	Amount($)
Transmission Services:		
Transmission Minimum Charge	Includes First 30 kWh	0.12
Energy Charge	472 kWh X $0.0079000 per kWh	3.73
Generation Services:		
Generation Minimum Charge	Includes First 30 kWh	2.15
Energy Charge	472 kWh X $0.0716300 per kWh	33.81
Procurement Cost Adjustment	502 kWh X $0.0024402 per kWh	1.22
Total Electric Supply Charges		**41.03**
Total Electric Charges - Residential-R		**64.94**



Marginal Price response

- Welfare maximized
- Budget balanced



Marginal Price response

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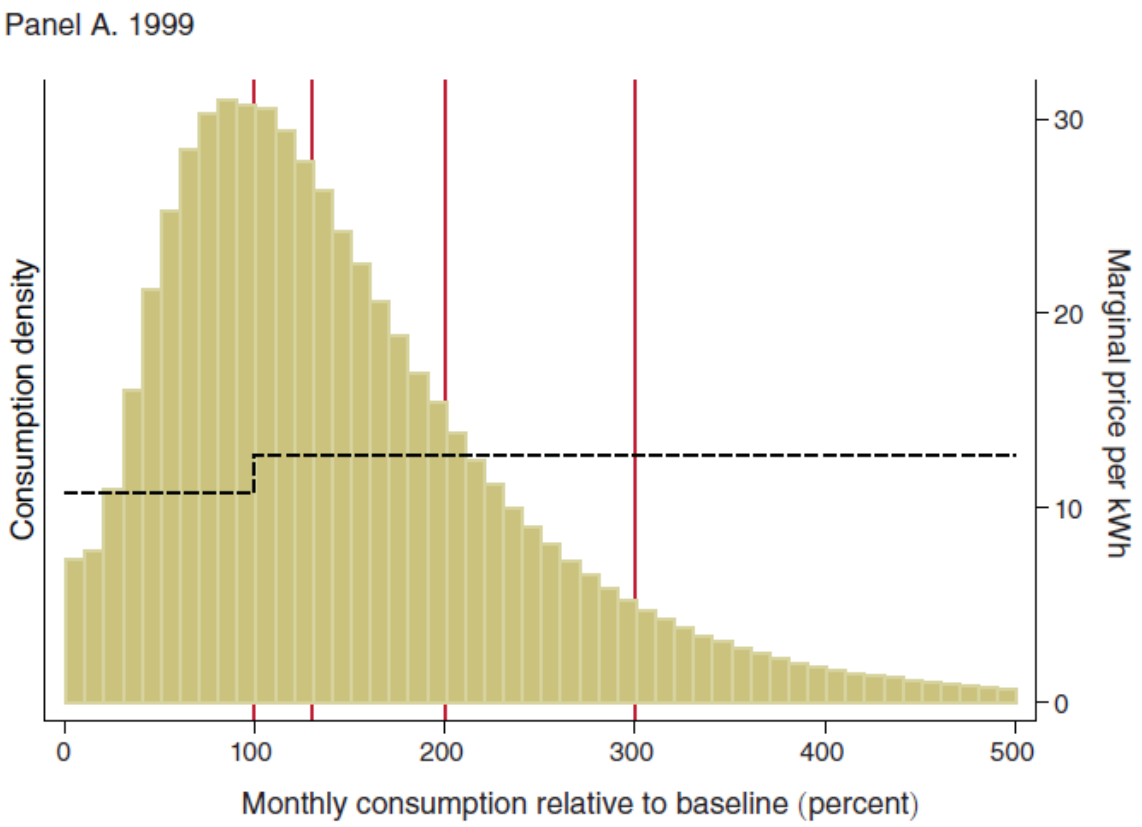
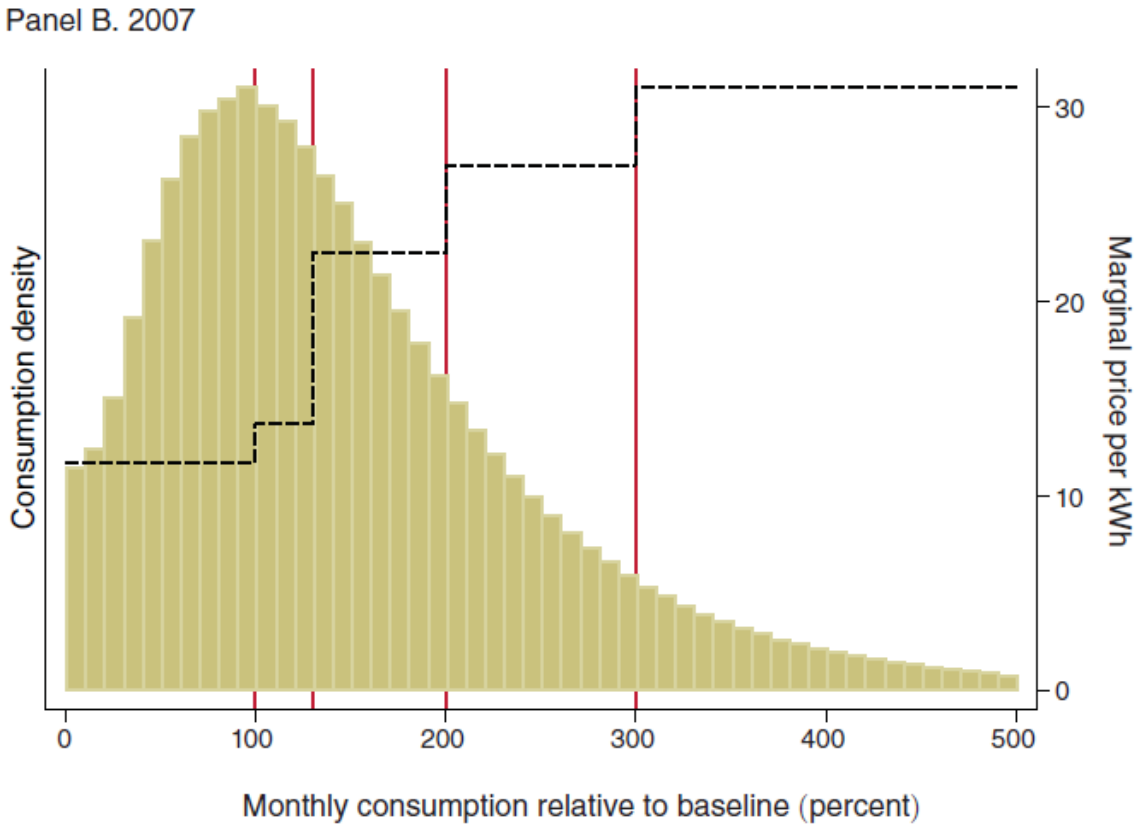
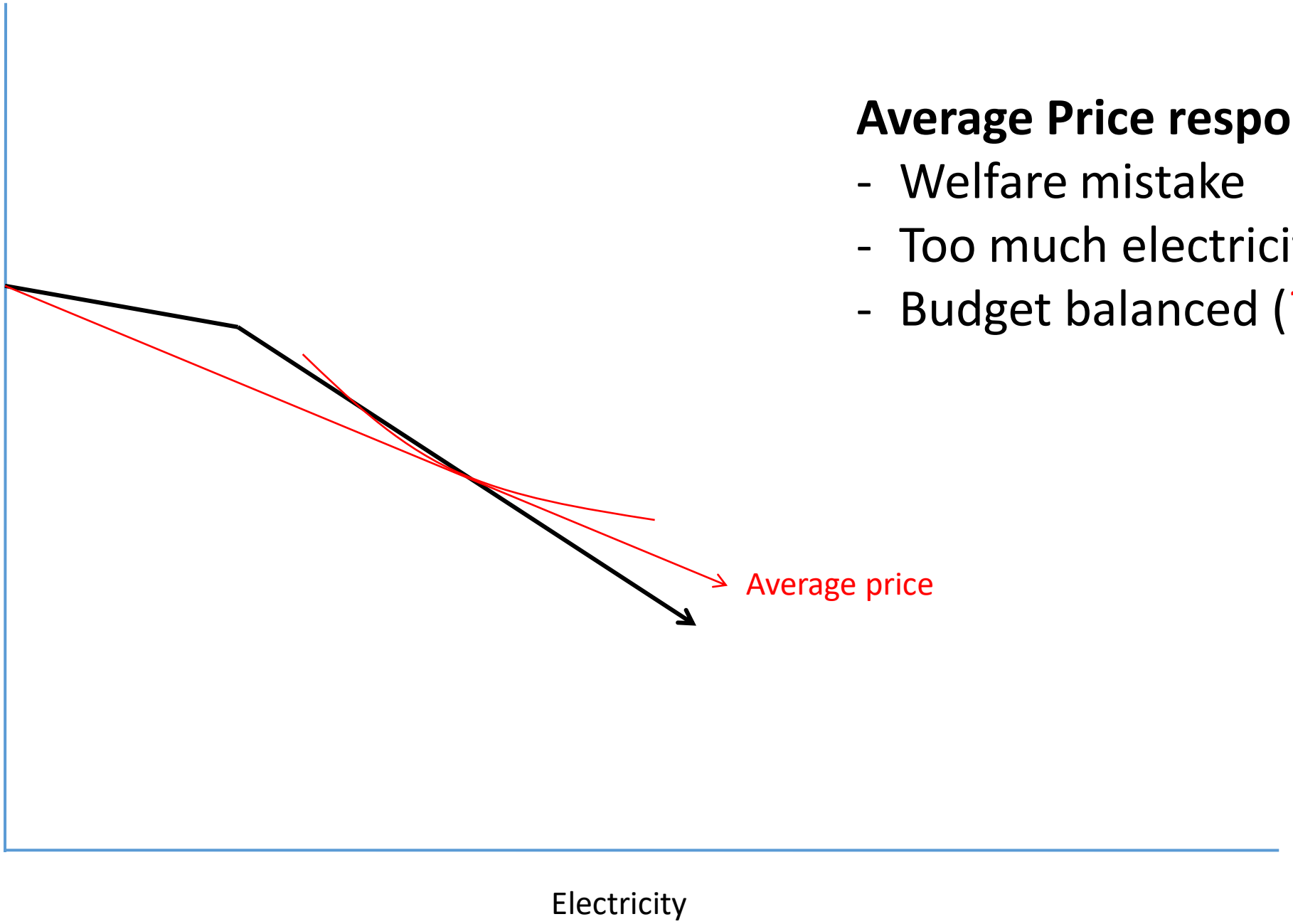
- Budget balanced


Panel A. 1999
Consumption density
Marginal price per kWh
0
10
20
30
0
100
200
300
400
500
Monthly consumption relative to baseline (percent)

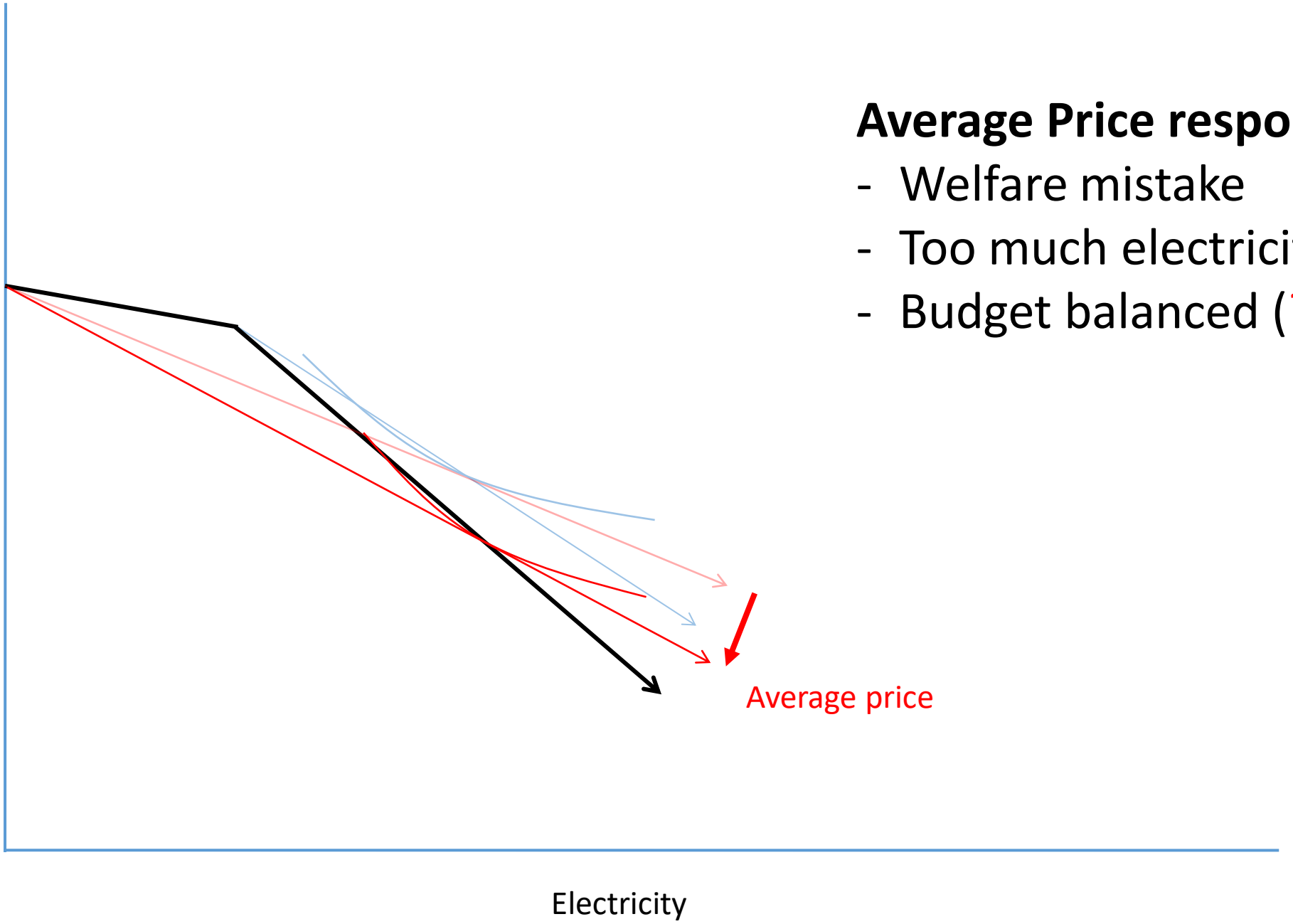

Panel B. 2007
Consumption density
Marginal price per kWh
0
10
20
30
0
100
200
300
400
500
Monthly consumption relative to baseline (percent)

Ito (2014)



Average Price response (Ito)

- Welfare mistake
- Too much electricity
- Budget balanced (?)



Average Price response (Ito)

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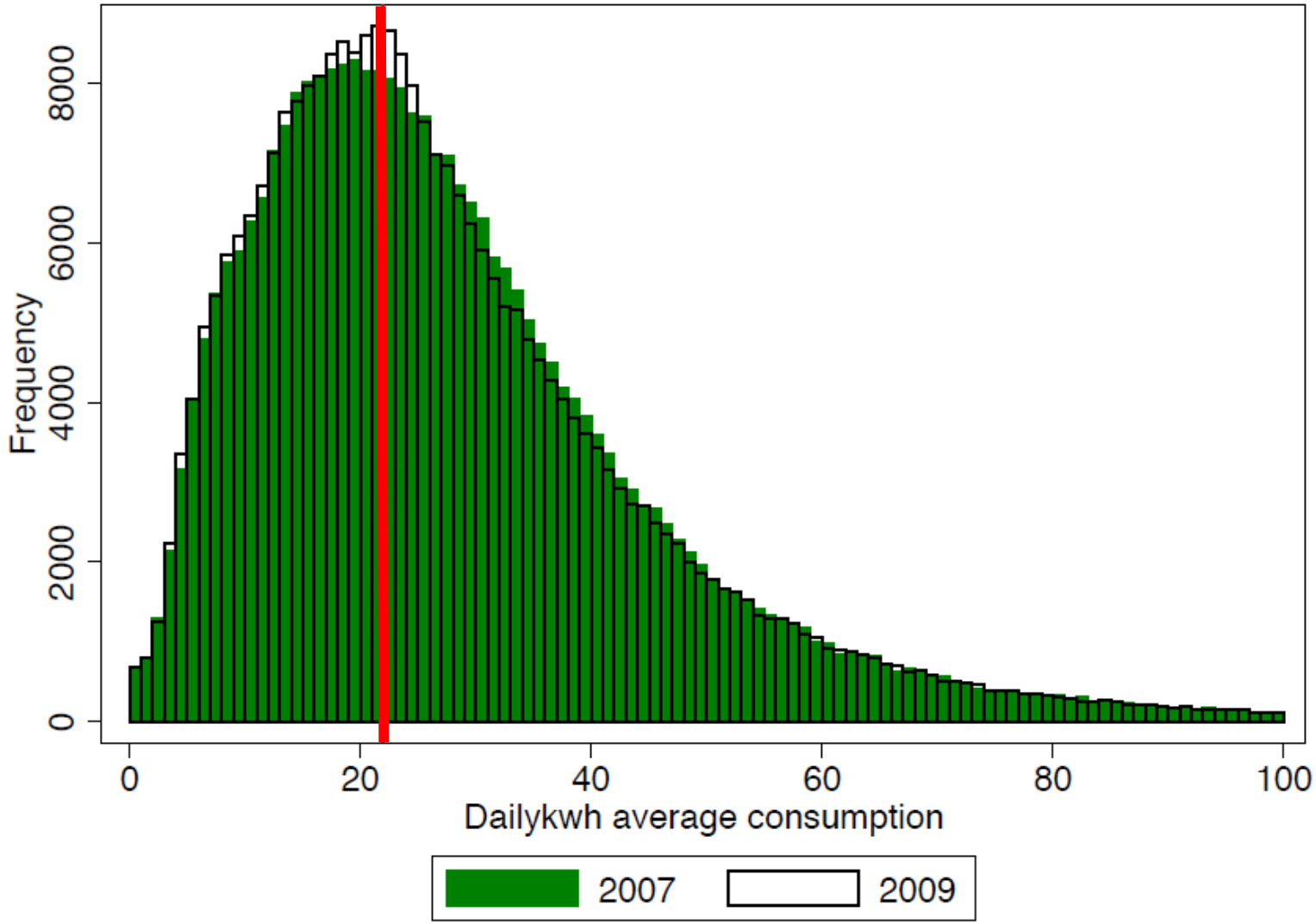
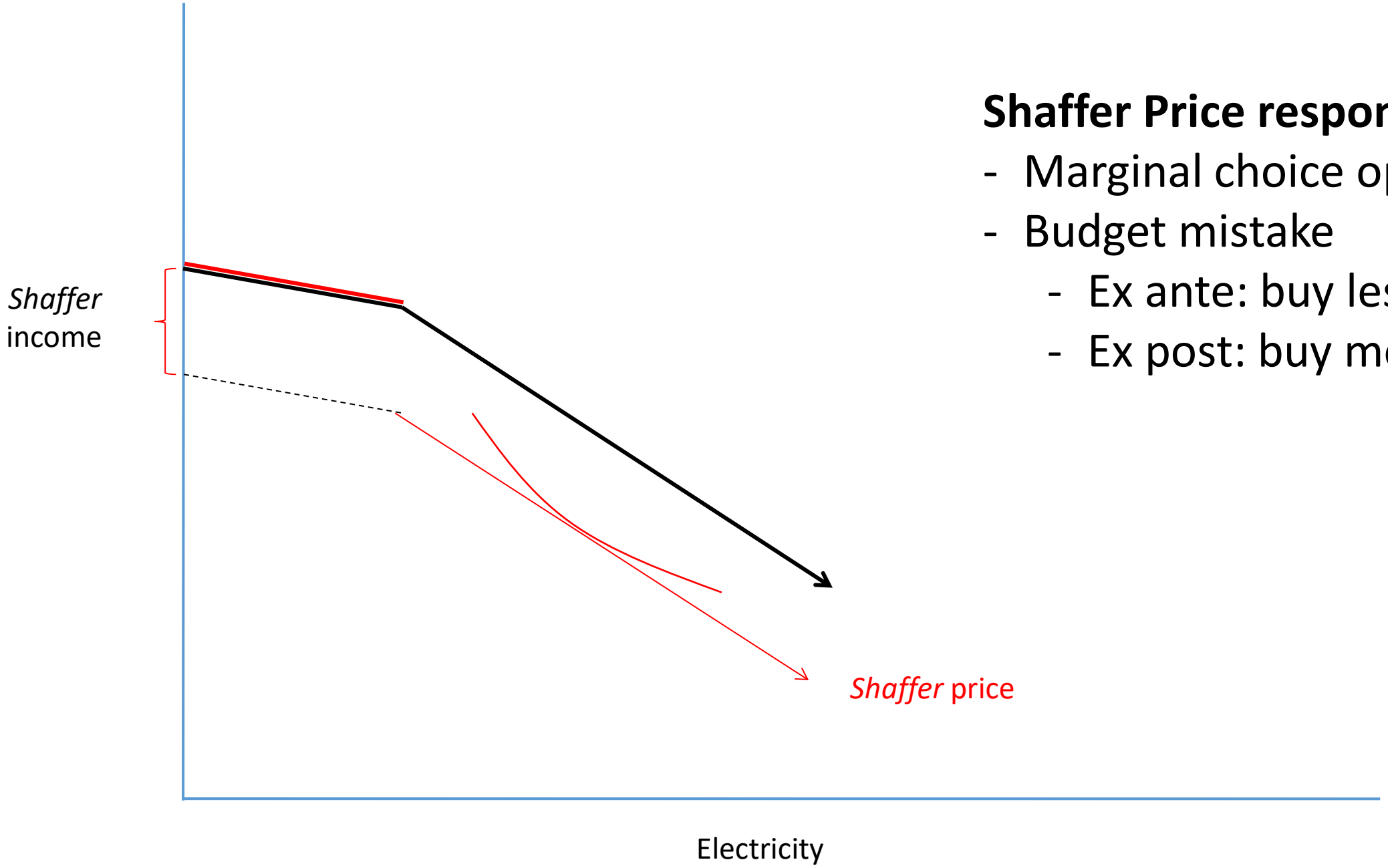


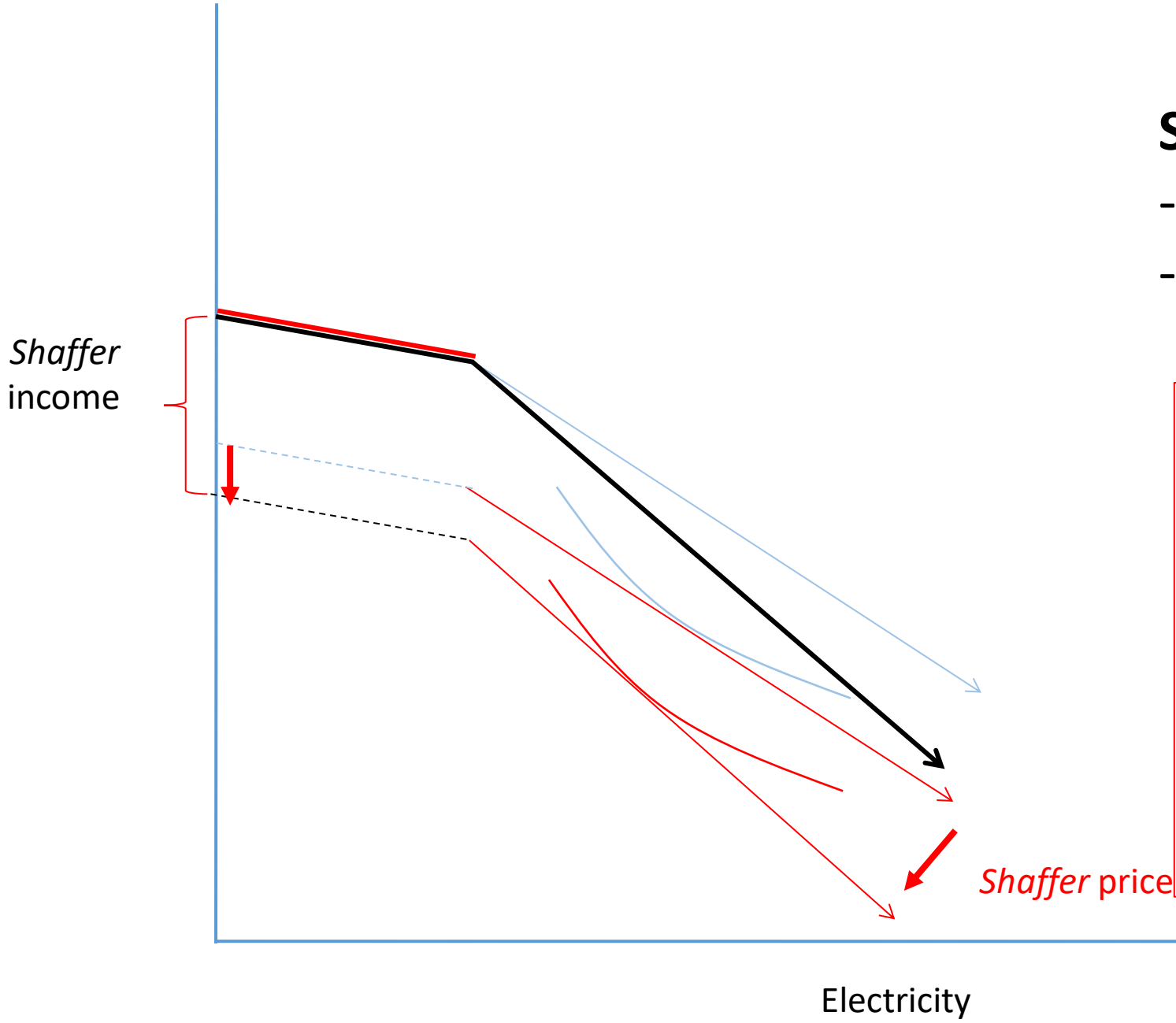
Figure 6. : Distribution of BC Hydro consumption by household

Shaffer (2019)



Shaffer Price response

- Marginal choice optimal
- Budget mistake
  - Ex ante: buy less
  - Ex post: buy more



Shaffer Price response

- Marginal choice optimal
- Budget mistake

A pure income effect.

- *Ex ante*:
  - Underestimate budget
  - Buy less electricity
- *Ex post*:
  - Positive income surprise
  - Buy more electricity.

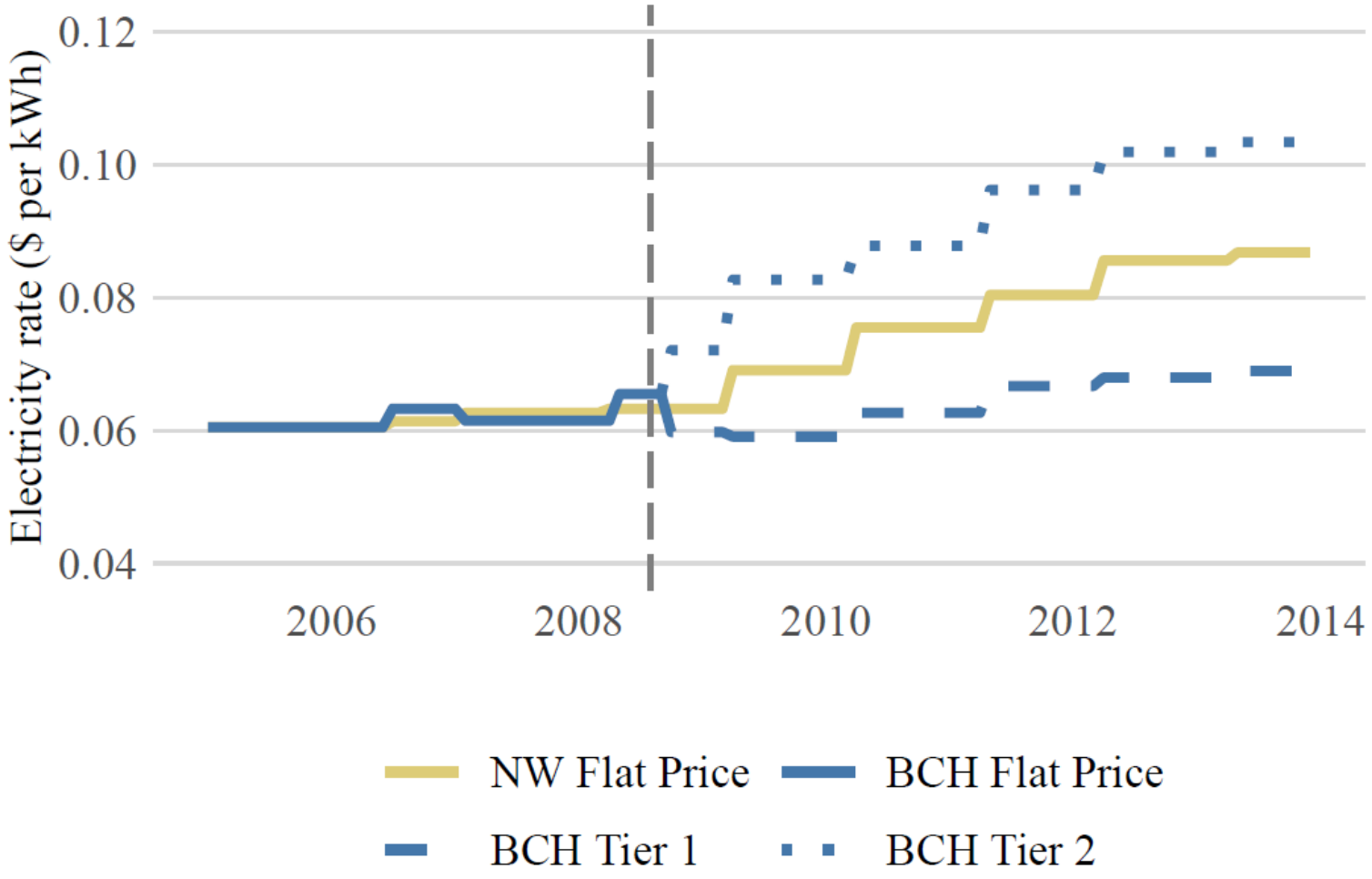
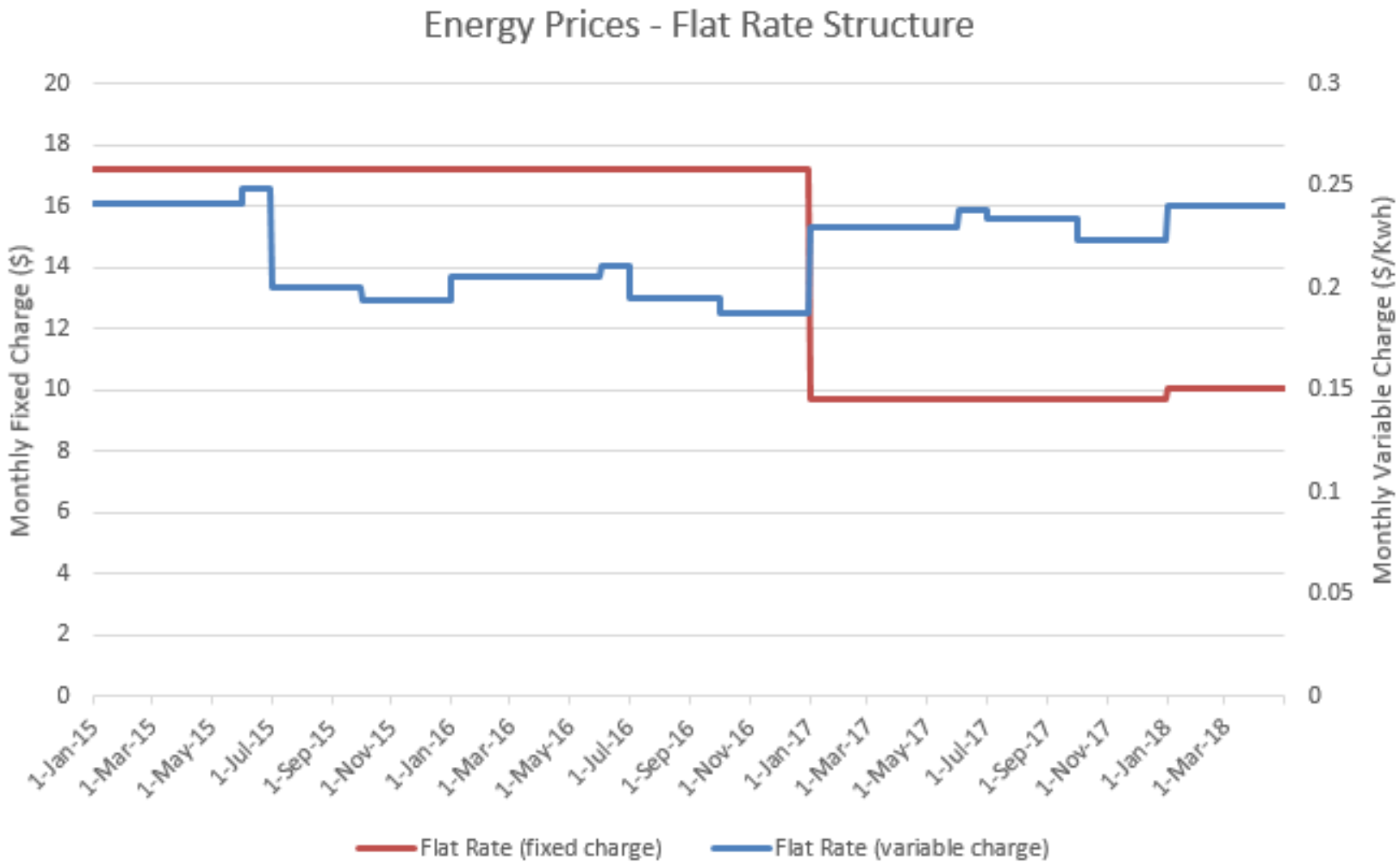


Figure 3. : BC Hydro and New Westminster electricity rates; 2005–2013

Shaffer (2019)


Energy Prices - Flat Rate Structure
Monthly Fixed Charge ($)
Monthly Variable Charge ($/Kwh)
20
18
16
14
12
10
8
6
4
2
0
0.3
0.25
0.2
0.15
0.1
0.05
0
1-Jan-15
1-Mar-15
1-May-15
1-Jul-15
1-Sep-15
1-Nov-15
1-Jan-16
1-Mar-16
1-May-16
1-Jul-16
1-Sep-16
1-Nov-16
1-Jan-17
1-Mar-17
1-May-17
1-Jul-17
1-Sep-17
1-Nov-17
1-Jan-18
1-Mar-18
Flat Rate (fixed charge)
Flat Rate (variable charge)

Rapson (2019)

Tariffs shift more costs to high users when …

1. More local income inequality.

2. Higher average price.

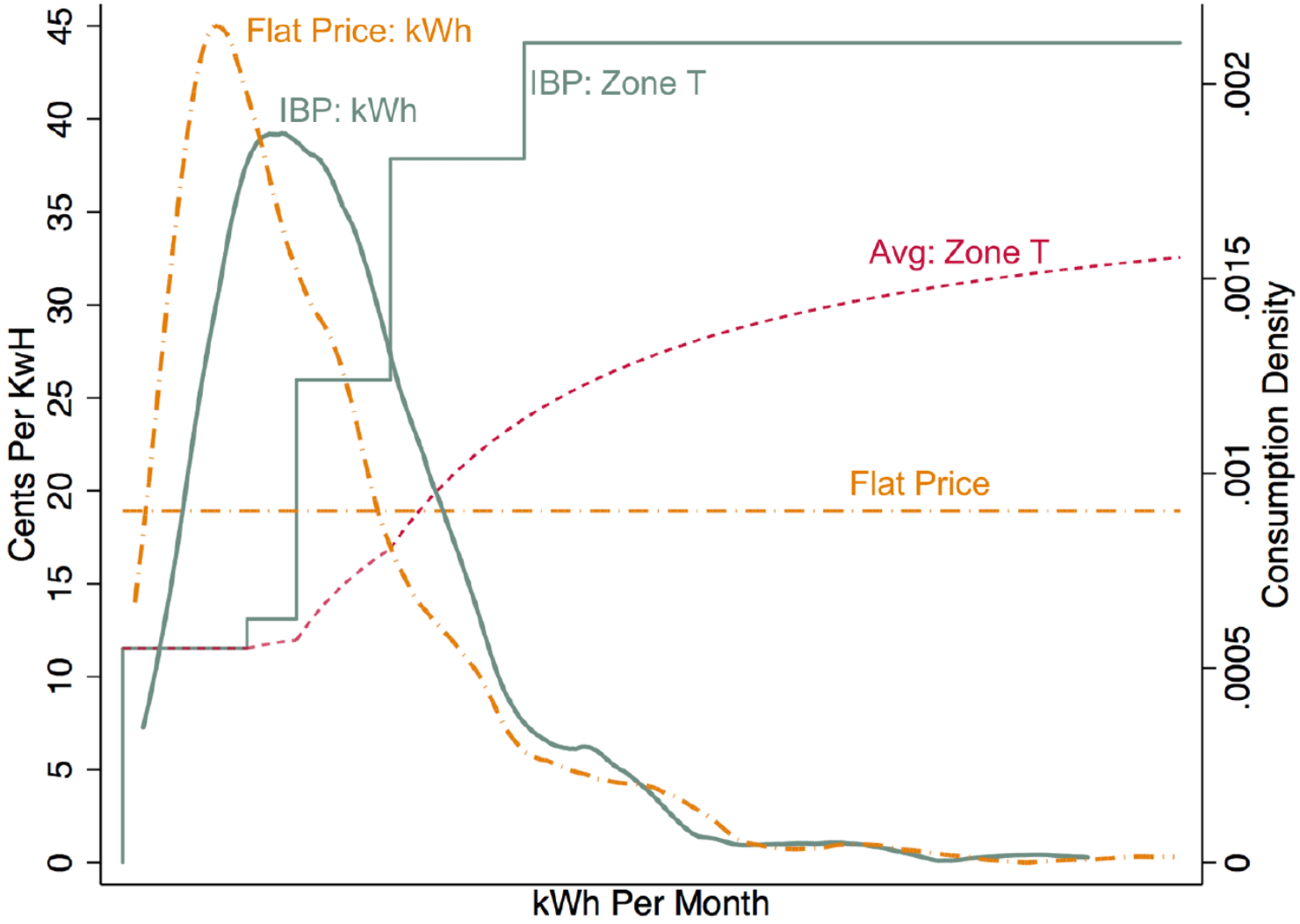
3. More local air pollution.

Levinson and Silva, “The Electric Gini” (2019)

Ito (2014) and Shaffer (2019)

Increasing block pricing *increases* electricity demand.

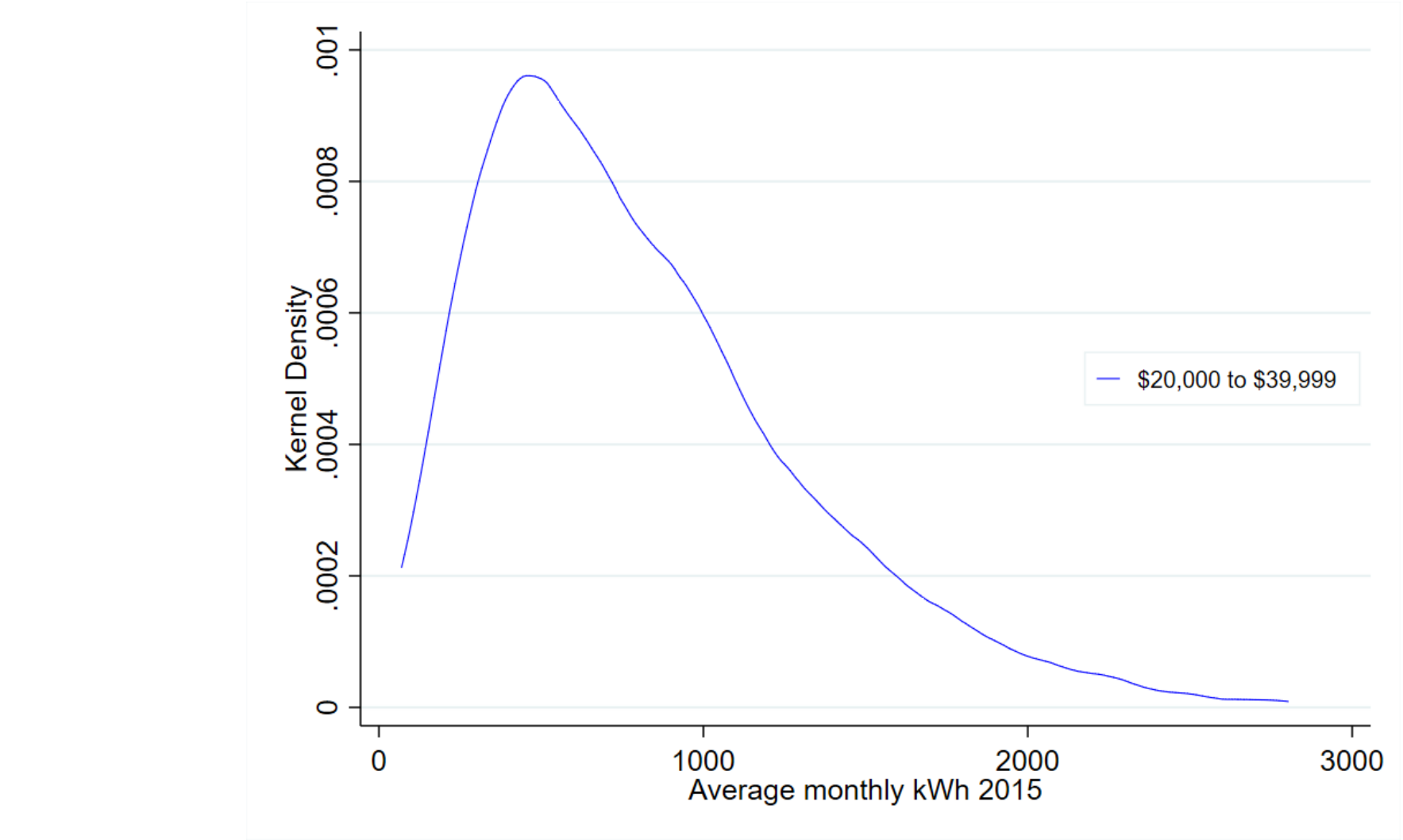
Figure 10: PG&E Zone T: June 2009



Brolinson (2019)

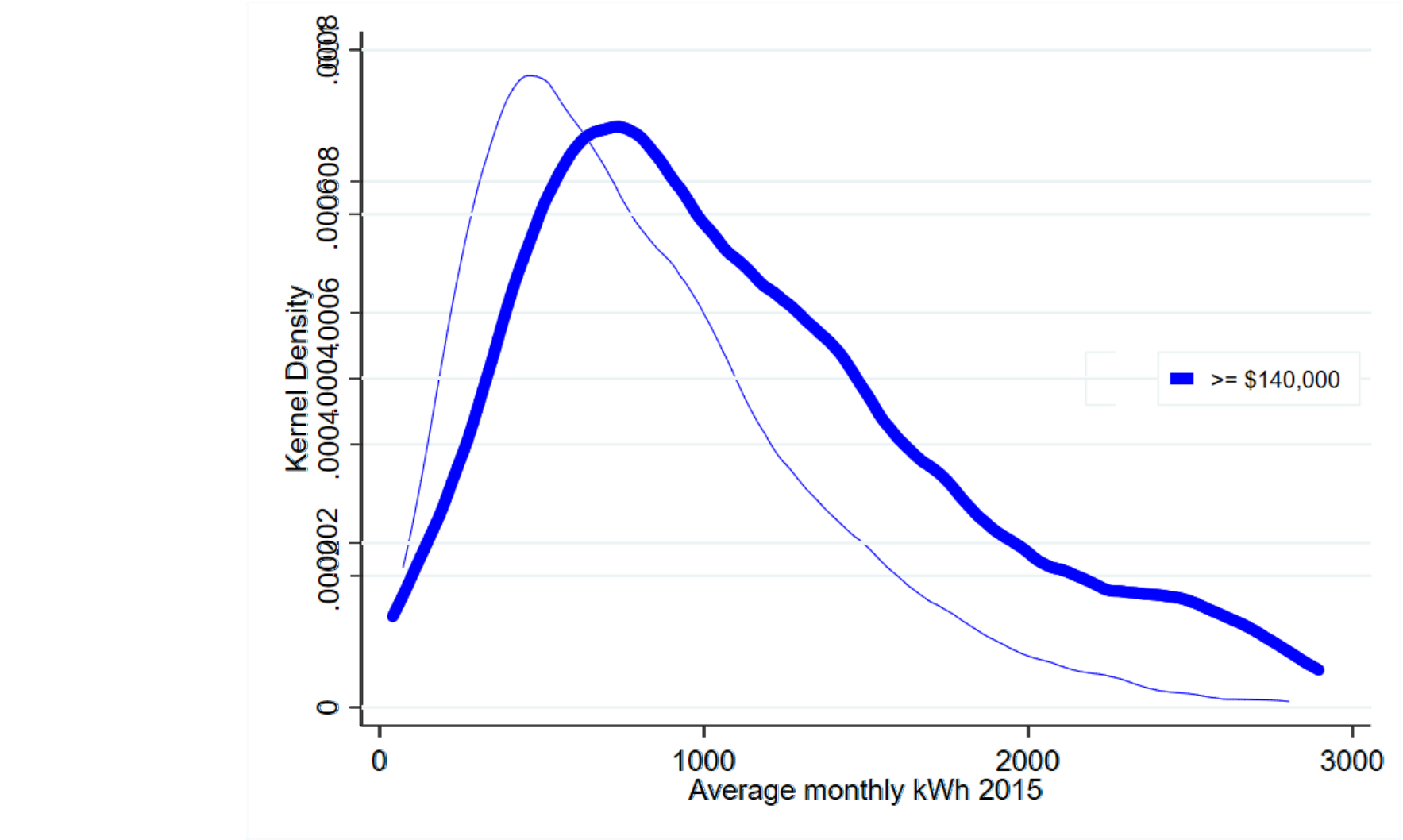
Thursday
11:00 AM
Regency F

Income and electricity use



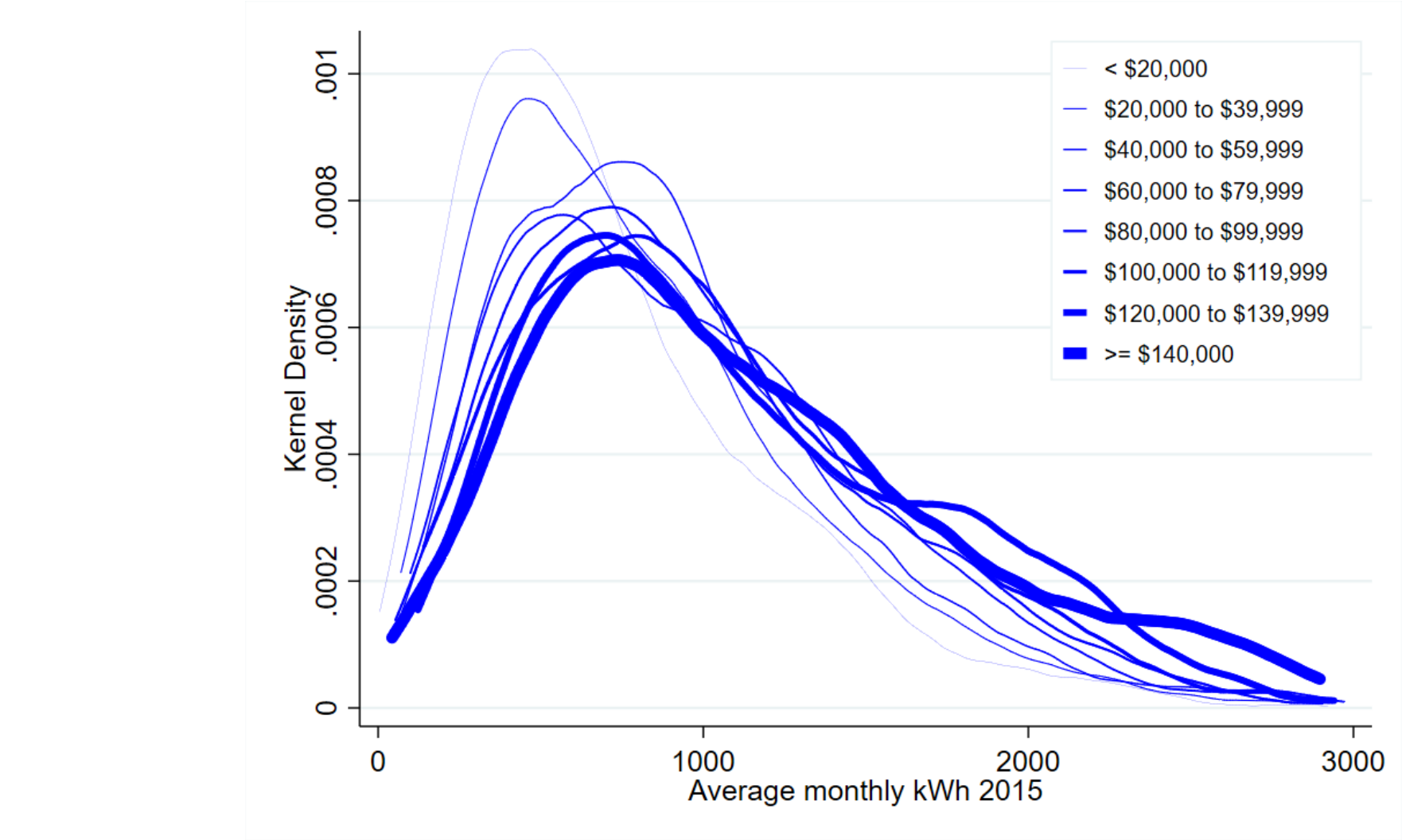
Source: 2015 RECS

Income and electricity use



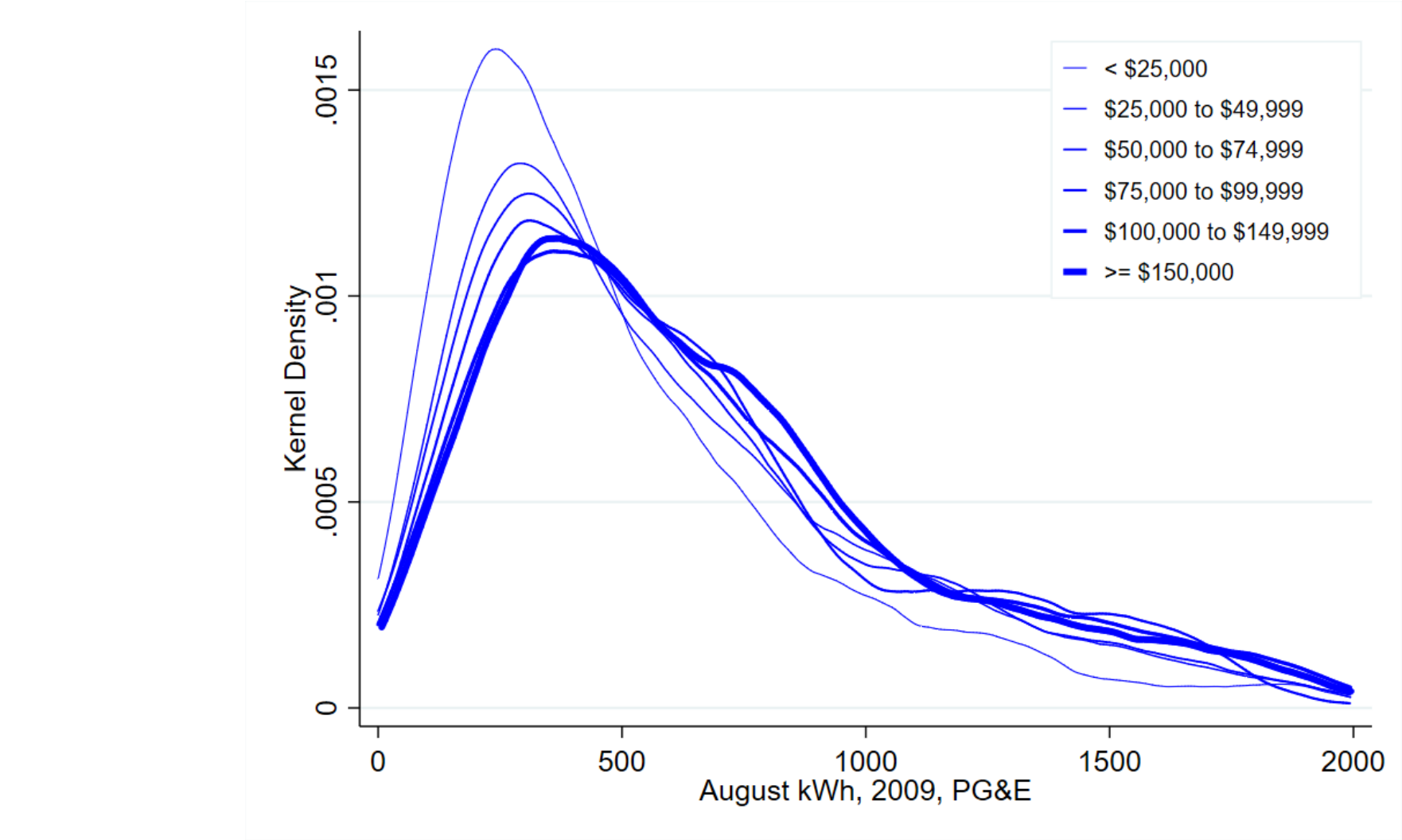
Source: 2015 RECS

Income and electricity use



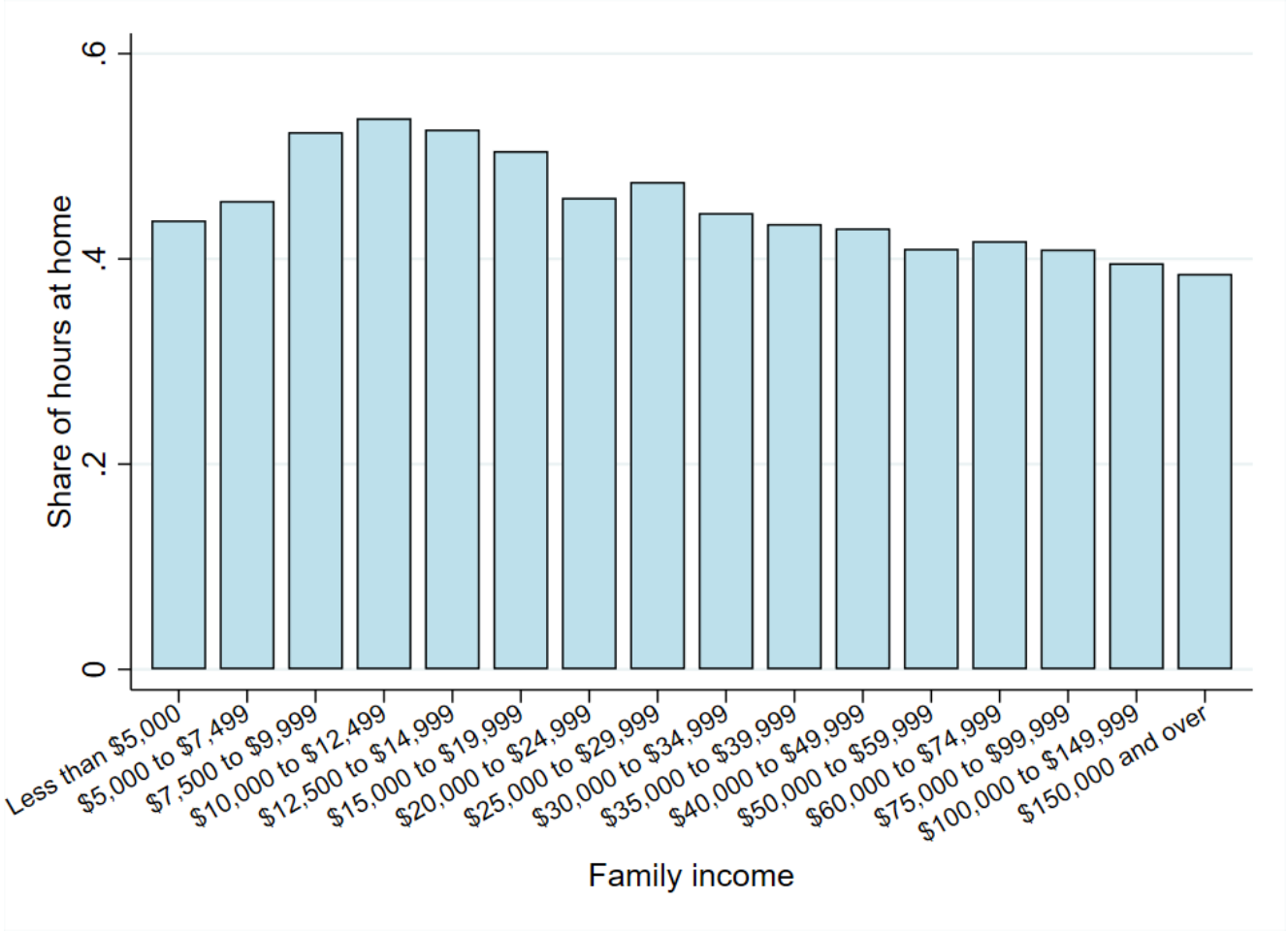
Source: 2015 RECS

Income and electricity use



Source: 2009 RASS

Why?



Source: 2017 ATUS

OUR VISION & VALUES

“efficient”

“clean”

“affordable”

Three strikes against increasing block pricing:

1) Inefficient.
    a. Most people do not pay marginal cost.
    b. Different prices for the exact same good.

2) Increase total electricity consumption.
    a. Ito (2014)
    b. Brolinson (2019)
    c. Shaffer (2019)

3) Do a bad job of redistributing costs from poor to rich ratepayers.