In states where retail electricity market is open for competition, regulators often rely on consumer participation rates to assess the retail choice program, including: (1) Number (%) of consumers switching to competitive Suppliers; or (2) MWh (%) purchased from competitive Suppliers (Figure 1).* However these traditional consumer migration statistics could not provide the full picture of the market structure.

Two Herfindahl-Hirschman Indices (HHI) summarize the competition (Figure 2).
- Consumers are gradually switching back to standard service (Total HHI).
- However, competition remains intense among Suppliers (Supplier HHI).

**Implication to retail competition when there is a dominating default service?**

* The plot of MWh (%) purchased from competitive Suppliers is almost identical to Figure 1.
Both Price and Count Matter

- Connecticut Public Utilities Regulatory Authority began to make Suppliers’ monthly billed price data publicly available since January 2015*, including: (1) all billed prices; and (2) the number of consumers under each billed price.

- **Distribution of billed price ≠ Distribution of consumer payment** (Figure 3)
  - For instance, only 6% of the billed prices were above 0.15$/KWh but 12% of the customers paid more than 0.15$/KWh.
  - Higher frequency of low billed prices ≠ More consumers are paying lower electricity bills

- **Average consumer payment could be higher than average billed price** (Figure 4)
  - Emphasizing “lowest offers available in the market” could be misleading

* To our knowledge, Connecticut is the only state to date that have made data of Suppliers’ billed prices and corresponding consumer counts publicly available.
Quantify Consumers’ Welfare

- Using **both the billed prices and the corresponding consumer counts**, we can quantify the consumer welfare:
  - Consumer spending on electricity
    - The lower the consumer payment, the higher the welfare
    - Higher welfare in the first half of 2016 than the first half of 2015 (Figure 5)
- Mixed message to state regulators:
  - Consumers are able to find cheaper offers when they shop Suppliers
  - More consumers are returning to standard service.

**Key Takeaway**

- Knowing billed price and consumer count under each billed price provides a more complete picture of competitive retail electricity market.
- Utilizing both billed price and consumer count under each billed price enables us to quantify consumer welfare, which is useful for policy evaluation.