Q1.a

(1) is a linear probability model regression

$\Rightarrow \beta_1$ = average increase in probability of subscribing to the solar microgrid for a \$1 increase in price (or whatever the price unit is)

→ Note this captures the average demand response to experimental price variation. Although, in this context, seems reasonable to think consumers perceive experimental + non-exp. price variation similarly.

Note this captures the average demand response to experimental price variation. Although, in this context, seems reasonable to think consumers perceive experimental and non-experimental price variation similarly.

Stage 1: estimate the δ's — estimate the mean utility of each choice, normalizing δ_0 (outside option) to 0.

In the simple Conditional Logit framework, this tow would be

$$\delta_{jtv} = \beta_{price} \, Price_{jtv} + \beta_{avail} \, Avail_{jtv} + \xi_{jtv}$$

estimated using $\hat{\delta}_{jtv} = \ln S_{jtv} - \ln S_{otv}$ (but would be fitting s_{itv} to S_{jtv} using δ^i's in mixed logit)

S_{jtv} = share of market choosing j S_{otv} = share of market choosing outside option

Stage 2: Use δ's to estimate linear equation: $\delta_{jtv} = \beta_{price} \, Price_{jtv} + \beta_{avail} \, Avail_{jtv} + \xi_{jtv}$

Here, experimental price variation of the treatment helps identify β_{price} when

j = solar microgrid. But other prices are still endogenous. Moreover,

we may have a simultaneity issue between prices because in a small

village, il imagine that other electricity vendors would react to the

lower microgrid price by lowering their prices.

? **But they use only exp variation as an instrument for price ?!**

− 5

But they use only experimental variation as an instrument for price

Q1.c

With microgrid access:
$$\mathbb{P}\left(i \text{ in } v,t \text{ chooses } j \mid \vec{\text{Price}}, \vec{\text{Avail}}\right) = \frac{\exp\left([\text{Price, Avail}]_{jtv}'\,\hat{\beta} + \hat{\xi}_{jtv}\right)}{1 + \sum_{k \in J} \exp\left([\text{Price Avail}]_{ktv}'\,\hat{\beta} + \hat{\xi}_{ktv}\right)}$$

Without microgrid access:
$$\mathbb{P}\left(i \text{ in } v,t \text{ chooses } j \mid \vec{\text{Price}}, \vec{\text{Avail}}\right) = \frac{\exp\left([\text{Price Avail}]_{jvt}'\,\hat{\beta} + \hat{\xi}_{jtv}\right)}{1 + \sum_{k \in J'} \exp\left([\text{Price Avail}]_{ktv}'\,\hat{\beta} + \hat{\xi}_{ktv}\right)}$$

?

How do the authors estimate ΔCS?

Pls see notes: welfare effects of discrete Δ

$$\Delta E[CS] = \frac{1}{\beta_{\text{price}}} \ln\left(\sum_j \exp(u^0)\right) - \ln\left(\sum_j \exp(u')\right)$$
$$-10$$

How do the authors estimate Delta CS?
Please see ____, welfare effects of discrete Delta