**2.1 Description of CER Experiment**

The Commission for Energy Regulation (CER), which is the regulator for the electricity and natural gas sectors in Ireland, conducted the Smart Metering Electricity Consumer Behavior Trial (hereafter, the "trial") during July 2009 and December 2010. As part of the Smart Metering Project initiated in 2007, the trial's purpose was to assess the impact of various TOU tariff structures, along with different demand-side management stimuli, on residential electricity consumption. The CER carefully recruited households to construct a representative sample of the national population. Opt-in to the trial was voluntary. Participants received balancing credits not to incur any extra costs than if they were on the regular electric tariff (i.e., the flat rate of 14.1 cents). Also, they received a thank-you payment of 25 cents after pre- and post-trial surveys. All credits were distributed outside the treatment period to avoid unintended effects on participants' electricity consumption. {While the first balancing credit is paid at the end of the base period (i.e., in December 2009), the participants received the second one at the immediate month after the treatment period (i.e., in January 2011). And the after-survey payments were credited to their bill with the balancing credits.}

*[TODO: Description of Treatment and Control Groups]*

**2.2 Description of CER Experiment Data**

*[TODO: Description of CER Experiment Data]*

**2.3 Description of Weather Data**

I exploit hourly temperature data for the Dublin airport weather station, provided by Met Eireann, Ireland's National Meteorological Service, to compute average daily temperatures. There is no available location information in the published CER experiment data for privacy and security reasons. Therefore, it is not possible to match a participant's consumption data with weather data of the closest weather monitoring station to him. But fortunately, temperatures do not vary much in Ireland. As demonstrated in the *TABLE*, the temperature correlations between the Dublin station and stations near densely populated cities are high. Because of this reason, I use the mean daily temperatures obtained by averaging the Dublin airport station's hourly temperatures as the representative temperature data in the following analysis.

Using the average daily temperatures, I calculate daily HDDs. Instead of 65 degrees of Fahrenheit, which is a normal base temperature in the United States, 60 degrees of Fahrenheit is utilized to compute daily HDDs, according to Liu and Sweeney (2012). The *FIGURE* shows that many days in the treatment period had lower average daily temperatures than the lowest one during the baseline period. The heating-purpose demand for electricity on days with extreme--at least in Ireland--temperatures could be significantly different under distinct rate structures--flat rate and TOU rates. If this is true, the lack of counterfactual consumption will cause bias in the measured impact of introducing TOU rates on household electricity consumption. So, I drop observations for those days during the treatment period when constructing the sample to address the possibility.