Data Generating Mechanism Testing

We create a single instantiation of the simulation in this block:

```
df <- make_regions(global_params)
head(df, 2)
```

```
##   region_id S     b W X1 X2     U delta A Yb.pre Yb.post Yb.post0 Yb.post1
## 1         1 1 0.252 3  1  0 1.135 0.305 0  126.8   126.8    126.8    127.1
## 2         1 1 0.272 1  0  0 0.979 0.195 1   48.9    49.1     48.9     49.1
```

```
dim(df)
```

```
## [1] 50000    13
```

```
df <- tibble::as_tibble(df)
```

Here, I test our ability to estimate the PATT (using 3 estimators) and also calculate the true PATT:

```
estimate_patt(df)
```

```
## [1] 0.275 0.275 0.275
```

```
true_patt(df)
```

```
## [1] 0.0354
```

Below, I print out simulated results of probabilities we have from the literature that we can use to help calibrate our parameters.

Table 1: B, SSP, System, and A by CPC+ or non-CPC+ region

S	P(B=1 | S)	P(SSP | S)	P(system | S)	P(A | S)
0	0.301	0.382	0.378	0.201
1	0.276	0.419	0.421	0.200

Table 2: Race by CPC+ Participation

A	P(B=1 | S=1,A)
0	0.276
1	0.276

Table 3: Proportion of CPC+ Participation (in SSP, System, and Overall)

P(A=1 | SSP=1, S=1)	P(A=1 | sys=1, S=1)	P(A=1)
0.2	0.198	0.201

Diff-in-diff code

```r
lm.1 <- lm.did(df,plot=T)

# Effect of CPC+ participation on expenditures
lm.1$coefficients["A"]
```

```
##     A
## 0.155
```

```r
plot.did(df)
```

```
## `summarise()` has grouped output by 'A'. You can override using the `.groups`
## argument.
```