Updated: Full SVD Runs

Note that all ratios are original:optimal

With Party Id

KPOP (no meanfirst)

Table 1: KPOP + MF=FALSE + W PID: Comparison of Bias bound and L1 distance by choice of b

	Bias Bound Ratio	L1 Ratio	Bias Bound Orig	Bias Bound Opt	L1 Orig	L1 Opt
b=2x	2.4161	5.4181	0.0540	0.0224	0.0416	0.0077
b=1x	2.2103	4.9226	0.0531	0.0240	0.0856	0.0174
b=.5x	4.0284	17.1382	0.0418	0.0104	0.1811	0.0106
b=.25x	2.2641	5.5715	0.0279	0.0123	0.3531	0.0634
b=.125x	1.2792	1.5100	0.0210	0.0165	0.5024	0.3327

Table 2: KPOP + MF=FALSE + W PID: Choice of b and Estimated Outcome

	Bias Bound Ratio	L1 Ratio	Est Vote Margin	Diff from Target
b=2x	2.4161	5.4181	-0.0420	-0.0684
b=1x	2.2103	4.9226	-0.0130	-0.0394
b=.5x	4.0284	17.1382	0.0409	0.0145
b=.25x	2.2641	5.5715	0.0244	-0.0020
b=.125x	1.2792	1.5100	0.0564	0.0300

KPOP with meanfirst

Table 3: KPOP + MF=TRUE + W PID: Comparison of Bias bound and L1 distance by choice of b

	Bias Bound Ratio	L1 Ratio	Bias Bound Orig	Bias Bound Opt	L1 Orig	L1 Opt
b=2x	7.8998	40.9127	0.0540	0.0068	0.0416	0.0010
b=1x	5.4788	21.4005	0.0531	0.0097	0.0856	0.0040
b=.5x	3.4858	8.4553	0.0418	0.0120	0.1811	0.0214
b=.25x	2.2433	4.8617	0.0279	0.0124	0.3531	0.0726
b=.125x	1.3924	2.0274	0.0210	0.0151	0.5024	0.2478

Table 4: KPOP + MF=TRUE + W PID: Choice of b and Estimated Outcome

	Bias Bound Ratio	L1 Ratio	Est Vote Margin	Diff from Target
b=2x	7.8998	40.9127	0.0247	-0.0017
b=1x	5.4788	21.4005	0.0249	-0.0015
b=.5x	3.4858	8.4553	0.0268	0.0004
b=.25x	2.2433	4.8617	0.0263	-0.0001
b=.125x	1.3924	2.0274	0.0292	0.0028

Without Party Id

KPOP (no meanfirst)

Table 5: KPOP + MF=FALSE + NO PID: Comparison of Bias bound and L1 distance by choice of b

	Bias Bound Ratio	L1 Ratio	Bias Bound Orig	Bias Bound Opt	L1 Orig	L1 Opt
b=2x	6.0636	14.7920	0.0575	0.0095	0.0464	0.0031
b=1x	5.3590	14.7438	0.0575	0.0107	0.0960	0.0065
b=.5x	6.6915	27.7576	0.0472	0.0070	0.2027	0.0073
b=.25x	2.6331	5.9951	0.0343	0.0130	0.3783	0.0631
b=.125x	2.2572	3.7655	0.0280	0.0124	0.4964	0.1318

Table 6: KPOP + MF=FALSE + NO PID: Choice of b and Estimated Outcome

	Bias Bound Ratio	L1 Ratio	Est Vote Margin	Diff from Target
b=2x	6.0636	14.7920	-0.0205	-0.0469
b=1x	5.3590	14.7438	-0.0235	-0.0499
b=.5x	6.6915	27.7576	-0.0090	-0.0354
b=.25x	2.6331	5.9951	0.0002	-0.0262
b=.125x	2.2572	3.7655	0.0238	-0.0026

KPOP with meanfirst

Table 7: KPOP + MF=TRUE + NO PID: Comparison of Bias bound and L1 distance by choice of b

	Bias Bound Ratio	L1 Ratio	Bias Bound Orig	Bias Bound Opt	L1 Orig	L1 Opt
b=2x	10.2261	62.5195	0.0575	0.0056	0.0464	0.0007
b=1x	7.3857	42.9836	0.0575	0.0078	0.0960	0.0022
b=.5x	4.8136	20.9332	0.0472	0.0098	0.2027	0.0097
b=.25x	3.0477	9.8693	0.0343	0.0112	0.3783	0.0383
b=.125x	2.2043	5.4290	0.0280	0.0127	0.4964	0.0914

Table 8: KPOP + MF=TRUE + NO PID: Choice of b and Estimated Outcome

	Bias Bound Ratio	L1 Ratio	Est Vote Margin	Diff from Target
b=2x	10.2261	62.5195	-0.0187	-0.0451
b=1x	7.3857	42.9836	-0.0214	-0.0478
b=.5x	4.8136	20.9332	-0.0187	-0.0451
b=.25x	3.0477	9.8693	-0.0115	-0.0379
b=.125x	2.2043	5.4290	-0.0044	-0.0308

```
## [1] "b=.25x"
## [1] "b=.5x"
## [1] "b=.25x"
## [1] "b=2x"
## [1] "b=.125x"
```

```
## [1] "b=.5x"
```

```
## [1] "b=.125x"
```

```
## [1] "b=2x"
```

Best Choice of B

MF = F + Pid

```
#best
#bb_comp: best in terms of balance on target
rownames(bb_comp)[which(abs(bb_comp$Diff_from_Target) == min(abs(bb_comp$Diff_from_Target)))]
```

```
## [1] "b=.25x"
```

```
#best in terms of bias bound ratio
rownames(bb_comp)[which(abs(bb_comp$bb_ratio) == max(abs(bb_comp$bb_ratio)))]
```

```
## [1] "b=.5x"
```

MF = T + Pid

```
#best
#bb_comp_mf: best in terms of balance on target
rownames(bb_comp_mf)[which(abs(bb_comp_mf$Diff_from_Target) == min(abs(bb_comp_mf$Diff_from_Target)))]
```

```
## [1] "b=.25x"
```

```
#best in terms of bias bound ratio
rownames(bb_comp_mf)[which(abs(bb_comp_mf$bb_ratio) == max(abs(bb_comp_mf$bb_ratio)))]
```

```
## [1] "b=2x"
```

MF = F + No Pid

```
#best
#bb_comp_nopid: best in terms of balance on target
rownames(bb_comp_nopid)[which(abs(bb_comp_nopid$Diff_from_Target) == min(abs(bb_comp_nopid$Diff_from_Ta
```

```
## [1] "b=.125x"
```

```
#best in terms of bias bound ratio
rownames(bb_comp_nopid)[which(abs(bb_comp_nopid$bb_ratio) == max(abs(bb_comp_nopid$bb_ratio)))]
```

```
## [1] "b=.5x"
```

MF = T + No Pid

```
#best
#bb_comp_nopid_mf: best in terms of balance on target
rownames(bb_comp_mf_nopid)[which(abs(bb_comp_mf_nopid$Diff_from_Target) == min(abs(bb_comp_mf_nopid$Dif
```

```
## [1] "b=.125x"
```

```r
#best in terms of bias bound ratio
rownames(bb_comp_mf_nopid)[which(abs(bb_comp_mf_nopid$bb_ratio) == max(abs(bb_comp_mf_nopid$bb_ratio)))]
```

```
## [1] "b=2x"
```

How did things change by moving to fullSVD?