

TABLE 5.2
Regression DD estimates of MLDA effects on death rates

Dependent variable	(1)	(2)	(3)	(4)
All deaths	10.80 (4.59)	8.47 (5.10)	12.41 (4.60)	9.65 (4.64)
Motor vehicle accidents	7.59 (2.50)	6.64 (2.66)	7.50 (2.27)	6.46 (2.24)
Suicide	.59 (.59)	.47 (.79)	1.49 (.88)	1.26 (.89)
All internal causes	1.33 (1.59)	.08 (1.93)	1.89 (1.78)	1.28 (1.45)
State trends	No	Yes	No	Yes
Weights	No	No	Yes	Yes

Notes: This table reports regression DD estimates of minimum legal drinking age (MLDA) effects on the death rates (per 100,000) of 18–20-year-olds. The table shows coefficients on the proportion of legal drinkers by state and year from models controlling for state and year effects. The models used to construct the estimates in columns (2) and (4) include state-specific linear time trends. Columns (3) and (4) show weighted least squares estimates, weighting by state population. The sample size is 714. Standard errors are reported in parentheses.

causes. The regression DD evidence for an effect on suicide is weaker than the corresponding RD evidence in Table 4.1. At the same time, both strategies suggest any increase in numbers of suicides is smaller than for MVA deaths.

Probing DD Assumptions

↑ Samples that include many states and years allow us to relax the common trends assumption, that is, to introduce a degree of nonparallel evolution in outcomes between states in the absence of a treatment effect. A regression DD model with controls for state-specific trends looks like

TABLE 5.3
Regression DD estimates of MLDA effects controlling for beer taxes

Dependent variable	Without trends		With trends	
	Fraction legal (1)	Beer tax (2)	Fraction legal (3)	Beer tax (4)
All deaths	10.98 (4.69)	1.51 (9.07)	10.03 (4.92)	-5.52 (32.24)
Motor vehicle accidents	7.59 (2.56)	3.82 (5.40)	6.89 (2.66)	26.88 (20.12)
Suicide	.45 (.60)	-3.05 (1.63)	.38 (.77)	-12.13 (8.82)
Internal causes	1.46 (1.61)	-1.36 (3.07)	.88 (1.81)	-10.31 (11.64)

Notes: This table reports regression DD estimates of minimum legal drinking age (MLDA) effects on the death rates (per 100,000) of 18–20-year-olds, controlling for state beer taxes. The table shows coefficients on the proportion of legal drinkers by state and year and the beer tax by state and year, from models controlling for state and year effects. The fraction legal and beer tax variables are included in a single regression model, estimated without trends to produce the estimates in columns (1) and (2) and estimated with state-specific linear trends to produce the estimates in columns (3) and (4). The sample size is 700. Standard errors are reported in parentheses.

less precisely than MLDA effects, most likely because beer taxes change less often than the MLDA. The beer tax estimates from models that include state trends are especially noisy. Still, the Beer Institute will be pleased to learn that these results don't speak in favor of further beer tax increases. We're likewise pleased to know that our MLDA estimates are robust to the inclusion of a beer tax control; we'll share a beer to celebrate!

What Are You Weighting For?

The estimates of equations (5.5) and (5.6) in columns (1) and (2) of Table 5.2 give all observations equal weight, as if data from each state were equally valuable. States are not created equal, however, in at least one important respect: some,