Extension Write-Up

As done in the previous parts of the assignment, this code replicates the linear (independence), normality (Heckit), and quadratic control-function specifications reported in Lee (2017). **It then additionally** implements an additional cubic control-function model that is not estimated in the original paper. Lee (2017) notes that higher-order polynomial approximations of the selection index are theoretically admissible, but the published article reports results only up to the quadratic case. Building on that observation, the ado file here augments the outcome equation with the corresponding third-order term $\frac{\varphi(M)}{\Phi(M)}(2 + M^2)$ (see Lee (2017) for the functional form of M) in the selection index and computes the associated intensive margin effect (IME), extensive margin effect (EME), and total effect (TE). The rows labeled IME_cub, EME_cub, and TE_cub in the output table are therefore new estimates produced by this replication/extension, using the original data and covariates, and do not appear in Lee (2017). The added estimates and inference are similar to that of the quadratic case and suggests that the results are robust.

Output

Table 1: Extensive and Intensive Margin Effects (Lee, 2017)

	Estimate	Std. Err.	95% CI lower	95% CI upper
Tobit	.1435579	.0133751	.1195571	.1675532
IME_ind	-.0626832	.0049002	-.0715186	-.0518146
EME_ind	.2094379	.016756	.1792414	.2401934
TE_ind	.1467547	.0171911	.1167288	.1809648
IME_nor	-.1487247	.0098656	-.1661907	-.1297252
EME_nor	.3045402	.024551	.2587204	.3485208
TE_nor	.1558155	.0181942	.1238322	.1922616
IME_qua	-.1572057	.0109561	-.1774103	-.134525
EME_qua	.3071671	.0246718	.260056	.3525467
TE_qua	.1499613	.0175364	.1193335	.1847584
IME_cub	-.1577669	.0110575	-.1782499	-.1355234
EME_cub	.3070517	.0246589	.2600691	.352587
TE_cub	.1492848	.0175237	.118818	.1839596