Rough Data Analysis

Griffin Shufeldt

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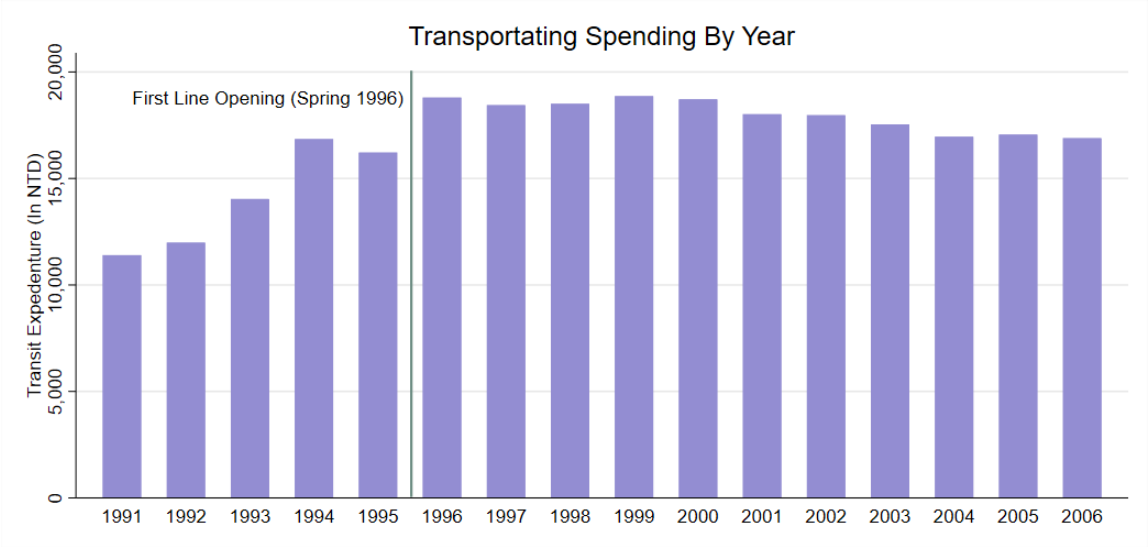
1 Transit expenditure over time

On the following page are two graphic demonstrations of a research question I have. The impact of living in a district connected to the MRT on transit spending. The first graph shows transit spending by household over time, the solid line shows when the first line opened. There were moderate increases overall after the first line opened and then somewhat of a plateau. However, this trend is just to give us a general idea of the landscape of transit spending in Taiwan during this time.

The second figure is an OLS regression on the amount of stations a household lives in the same district in, num stations, (which I've gathered separately and appended to the survey data) on their transit spending (itm823). The controls include year, income, age, education, employment status, marital status, industry, and employment classification. There seems to be a small, but statistically significant positive impact on yearly household transit spending when the number of stations in your district increase by 1. For context, 170 NTD in 1996 is roughly 10 USD, Taiwan's income per-capita around this time was close to 12,000 USD. This is again just to get an idea of the relationship between the treatment and an outcome of interest. I'm currently working on coding the event study, which has proved to be a bit of a challenge and outside of my comfort zone in Stata. I'm confident the DiD specification I have in mind is achievable within the next few weeks and I plan to consult with professor Faber to discuss.



itm823	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
num_stations	170.6478	44.42298	3.84	0.000	83.57684	257.7188
year	118.3208	28.26217	4.19	0.000	62.92572	173.7159
itm190	.0064527	.0001762	36.61	0.000	.0061072	.0067981
b3_1	2124.634	266.2129	7.98	0.000	1602.844	2646.423
b4_1	151.9091	10.64318	14.27	0.000	131.048	172.7702
b5_1	196.3703	61.59188	3.19	0.001	75.64748	317.0931
b11_1	-991.9979	99.6357	-9.96	0.000	-1187.288	-796.7076
b13_1	-47.73969	616.1295	-0.08	0.938	-1255.381	1159.901
b14_1	2017.003	485.272	4.16	0.000	1065.849	2968.158
b16_1	-9.829299	3.176413	-3.09	0.002	-16.05521	-3.60339
_cons	-231531.1	56342.23	-4.11	0.000	-341964.4	-121097.8

Figure 1: Relationship with number of stations in a district that a household lives in at a given year and transportation purchases (itm823)