Gov 2001 Replication Paper

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Table 1

```
# subset data
df_tab1 <- df %>%
  filter(year > 1870 & year < 1990)
# regress model 1
tab1_mod1 <- plm(Education_pc ~ leg_party_competition + year_1890 + year_1900 +
                                year_1910 + year_1930 + year_1940 + year_1960 +
                                year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod1_se <- coeftest(tab1_mod1, function(x) vcovHC(x, type = 'sss'))
# regress model 2
tab1_mod2 <- plm(Education_pc ~ leg_party_competition + Statewide_Competition +
                                house_dem + senate_dem + gov_dem +
                                CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct +
                                year_1890 + year_1900 + year_1910 + year_1930 +
                                year_1940 + year_1960 + year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod2_se <- coeftest(tab1_mod2, function(x) vcovHC(x, type = 'sss'))
# regress model 3
tab1_mod3 <- plm(HealthSewerSanitation_pc ~ leg_party_competition +
                                year_1890 + year_1900 + year_1910 + year_1930 +
                                year_1940 + year_1960 + year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod3_se <-coeftest(tab1_mod3, function(x) vcovHC(x, type = 'sss'))
# regress model 4
tab1_mod4 <- plm(HealthSewerSanitation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct +
                                year_1890 + year_1900 + year_1910 + year_1930 +
                                year_1940 + year_1960 + year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod4_se <-coeftest(tab1_mod4, function(x) vcovHC(x, type = 'sss'))
# regress model 5
tab1_mod5 <- plm(Transportation_pc ~ leg_party_competition +
                                year_1890 + year_1900 + year_1910 + year_1930 +
                                year_1940 + year_1960 + year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod5_se <-coeftest(tab1_mod5, function(x) vcovHC(x, type = 'sss'))
```

```r
# regress model 6
tab1_mod6 <- plm(Transportation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct +
                                year_1890 + year_1900 + year_1910 + year_1930 +
                                year_1940 + year_1960 + year_1970 + year_1980,
                 index = "state", data = df_tab1)
tab1_mod6_se <-coeftest(tab1_mod6, function(x) vcovHC(x, type = 'sss'))
```

```r
# print Table 1
stargazer(tab1_mod1_se, tab1_mod2_se, tab1_mod3_se,
          tab1_mod4_se, tab1_mod5_se, tab1_mod6_se,
          header = F, type = "latex", digits = 2, style = "apsr",
          title = "Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-198
          column.labels = c("Education spending", "Health spending",
                            "Transportation spending"),
          column.separate = c(2, 2, 2),
          covariate.labels = c("Legislative party competition",
                               "Electoral competition", "Democratic house",
                               "Democratic senate", "Democratic governor",
                               "Income per capita", "Foreign-born percentage",
                               "Black percentage", "Other nonwhite percentage",
                               "Urban population percentage"),
          omit = c("Constant", "year_1890", "year_1900", "year_1910", "year_1920",
                   "year_1930", "year_1940", "year_1960", "year_1970", "year_1980"),
          add.lines = list(c("State fixed effects", "included", "included",
                             "included", "included", "included", "included"),
                           c("Year fixed effects", "included", "included",
                             "included", "included", "included", "included"),
                           c("Observations", "398", "380", "326", "310", "374", "357"),
                           c("R-Squared", "0.96", "0.97", "0.89", "0.92", "0.87", "0.89"),
                           c("Adj. R-Squared", "0.95", "0.96", "0.87", "0.90", "0.85", "0.87")))
```

Table 1: Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-1980

	Education spending		Health spending		Transportation spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Legislative party competition	1.56^{***}	1.18^{*}	0.33^{**}	0.17^{*}	0.49	0.88^{**}
	(0.54)	(0.60)	(0.16)	(0.10)	(0.38)	(0.37)
Electoral competition		-1.53		-0.03		-1.53^{*}
		(1.15)		(0.18)		(0.88)
Democratic house		-2.85		13.41^{*}		-57.09^{**}
		(24.72)		(8.02)		(22.89)
Democratic senate		-29.86		-16.55^{**}		8.67
		(32.08)		(8.11)		(26.24)
Democratic governor		-22.89		-12.80^{**}		6.46
		(24.83)		(5.32)		(14.88)
Income per capita		0.03^{***}		0.01^{***}		-0.01
		(0.01)		(0.002)		(0.01)
Foreign-born percentage		-16.66^{***}		-2.07^{**}		-6.29
		(4.74)		(0.95)		(4.17)
Black percentage		1.59		0.39		-0.07
		(3.95)		(0.86)		(2.95)
Other nonwhite percentage		8.32		4.51^{**}		0.24
		(8.07)		(1.86)		(5.76)
Urban population percentage		5.39^{**}		-0.13		5.06^{***}
		(2.40)		(0.39)		(1.68)
State fixed effects	included	included	included	included	included	included
Year fixed effects	included	included	included	included	included	included
Observations	398	380	326	310	374	357
R-Squared	0.96	0.97	0.89	0.92	0.87	0.89
Adj. R-Squared	0.95	0.96	0.87	0.90	0.85	0.87

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Table 2

```
# subset for model 1
df_tab2_mod1 <- df %>%
  filter(year >= 1930 & year < 2020)
# regress model 1
tab2_mod1 <- plm(infantmortality ~ HealthSewerSanitation_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct + othernonwhite_pct +
                                   urban_pct + as.factor(year),
                 index = "state", data = df_tab2_mod1)
tab2_mod1_se <- coeftest(tab2_mod1, function(x) vcovHC(x, type = 'sss'))
# subset for model 2
df_tab2_mod2 <- df %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(f3_at_birth_life_expectancy = dplyr::lead(at_birth_life_expectancy, 3)) %>%
  filter(year <= 1980)
# regress model 2
tab2_mod2 <- plm(f3_at_birth_life_expectancy ~ HealthSewerSanitation_pc +
                                   CPI_per_capita_income + foreignborn_pct +
                                   black_pct + othernonwhite_pct + urban_pct +
                                   as.factor(year),
                 index = "state", data = df_tab2_mod2)
tab2_mod2_se <- coeftest(tab2_mod2, function(x) vcovHC(x, type = 'sss'))
# subset for model 3
df_tab2_mod3 <- df %>%
  filter(year >= 1880 & year <= 2010)
# regress model 3
tab2_mod3 <- plm(graduation_combined ~ Education_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct+ othernonwhite_pct +
                                   urban_pct + south + as.factor(year),
                 index = "state", data = df_tab2_mod3)
tab2_mod3_se <- coeftest(tab2_mod3, function(x) vcovHC(x, type = 'sss'))
# use same data as model 3, regress model 4
tab2_mod4 <- plm(illiteracy_proportional_30 ~ Education_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct + othernonwhite_pct +
                                   urban_pct + south + as.factor(year),
                 index = "state", data = df_tab2_mod3)
tab2_mod4_se <- coeftest(tab2_mod4, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 2
stargazer(tab2_mod1_se, tab2_mod2_se, tab2_mod3_se, tab2_mod4_se,
          header = F, type = "latex", font.size = "tiny", style = "apsr",
          title = "Spending Levels Predict Development, 1880-2010",
          column.labels = c("Infant mortality",
                            "Life expectancy (30 years later)",
                            "High school completion",
                            "Illiteracy rate (30 years later)"),
          covariate.labels = c("Health, sewer, sanitation spending per capita",
                               "Education spending per capita",
                               "Income per capita",
                               "Foreign-born percentage", "Black percentage",
                               "Other nonwhite percentage", "Urban population percentage"),
          omit = c("Constant", "south", "year"),
          add.lines = list(c("State fixed effects",
```

```
  "included", "included", "included", "included"),
c("Year fixed effects",
  "included", "included", "included", "included"),
c("Observations", "240", "272", "374", "168"),
c("R-Squared", "0.92", "0.98", "0.96", "0.43"),
c("Adjusted R-Squared", "0.89", "0.97", "0.96", "0.14")))
```

Table 2: Spending Levels Predict Development, 1880-2010

	Infant mortality	Life expectancy (30 years later)	High school completion	Illiteracy rate (30 years later)
	(1)	(2)	(3)	(4)
Health, sewer, sanitation spending per capita	-0.039^{***}	0.003		
	(0.014)	(0.002)		
Education spending per capita			0.004^{***}	0.004^{***}
			(0.001)	(0.002)
Income per capita	0.001	0.00001	-0.0002	0.00002
	(0.001)	(0.0001)	(0.0003)	(0.0001)
Foreign-born percentage	0.042	-0.054	-0.335^{***}	0.074^{***}
	(0.383)	(0.039)	(0.107)	(0.014)
Black percentage	0.178	-0.002	0.083	-0.027
	(0.353)	(0.036)	(0.084)	(0.027)
Other nonwhite percentage	-0.383	0.042	0.019	0.023
	(0.626)	(0.066)	(0.169)	(0.052)
Urban population percentage	-0.639^{**}	0.012	0.242^{***}	-0.048^{***}
	(0.295)	(0.018)	(0.050)	(0.012)
State fixed effects	included	included	included	included
Year fixed effects	included	included	included	included
Observations	240	272	374	168
R-Squared	0.92	0.98	0.96	0.43
Adjusted R-Squared	0.89	0.97	0.96	0.14

*p $<$ .1; **p $<$ .05; ***p $<$ .01

Table 3

```
# create new dataframe for "full sample"
df_tab3_full <- df
# subset for 1880-1940 sample
df_tab3_part <- df %>%
  filter(year >= 1880 & year <= 1940)
# regress model 1
tab3_mod1 <- plm(CPI_per_capita_income_next30 ~ HealthSewerSanitation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_full)
tab3_mod1_se <- coeftest(tab3_mod1, function(x) vcovHC(x, type = 'sss'))
# regress model 2
tab3_mod2 <- plm(CPI_per_capita_income_next30 ~ HealthSewerSanitation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_part)
tab3_mod2_se <- coeftest(tab3_mod2, function(x) vcovHC(x, type = 'sss'))
# regress model 3
tab3_mod3 <- plm(CPI_per_capita_income_next30 ~ Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_full)
tab3_mod3_se <- coeftest(tab3_mod3, function(x) vcovHC(x, type = 'sss'))
# regress model 4
tab3_mod4 <- plm(CPI_per_capita_income_next30 ~ Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_part)
tab3_mod4_se <- coeftest(tab3_mod4, function(x) vcovHC(x, type = 'sss'))
# regress model 5
tab3_mod5 <- plm(CPI_per_capita_income_next30 ~ Transportation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_full)
tab3_mod5_se <- coeftest(tab3_mod5, function(x) vcovHC(x, type = 'sss'))
# regress model 6
tab3_mod6 <- plm(CPI_per_capita_income_next30 ~ Transportation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_tab3_part)
tab3_mod6_se <- coeftest(tab3_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 3
stargazer(tab3_mod1_se, tab3_mod2_se, tab3_mod3_se,
          tab3_mod4_se, tab3_mod5_se, tab3_mod6_se,
          header = F, type = "latex", font.size = "tiny", style = "apsr", digits = 2,
          title = "Health and Education Spending Levels Predict Income (Only in Pre-New Deal Period)",
          column.labels = c("Full sample", "1880-1940",
                            "Full sample", "1880-1940",
                            "Full sample", "1880-1940"),
          covariate.labels = c("Health, sewer, sanitation spending per capita",
                               "Education spending per capita",
```

```
                      "Transportation spending per capita",
                      "Income per capita",
                      "Foreign-born pct", "Black pct",
                      "Other nonwhite pct", "Urban population pct"),
      omit = c("Constant", "south", "year"),
      add.lines = list(c("State fixed effects",
                         "included", "included", "included",
                         "included", "included", "included"),
                       c("Year fixed effects",
                         "included", "included", "included",
                         "included", "included", "included"),
                       c("Observations", "336", "192", "408",
                         "264", "384", "240"),
                       c("Orig. R-Squared", "0.98", "0.99", "0.98",
                         "0.98", "0.98", "0.98"),
                       c("R-Squared", "0.92", "0.99", "0.93",
                         "0.97", "0.93", "0.97"),
                       c("Adjusted R-Squared", "0.91", "0.98", "0.91",
                         "0.96", "0.91", "0.96")))
```

Table 3: Health and Education Spending Levels Predict Income (Only in Pre-New Deal Period)

	Full sample	1880-1940	Full sample	1880-1940	Full sample	1880-1940
	(1)	(2)	(3)	(4)	(5)	(6)
Health, sewer, sanitation spending per capita	−0.45	14.03***				
	(4.25)	(4.36)				
Education spending per capita			0.29	4.61**		
			(0.91)	(1.81)		
Transportation spending per capita					−1.40	0.29
					(1.52)	(2.68)
Income per capita	−0.23	−1.12***	−0.06	−0.81***	−0.10	−0.83***
	(0.20)	(0.08)	(0.19)	(0.09)	(0.18)	(0.09)
Foreign-born pct	−187.54***	−32.42	−111.73**	15.88	−151.16***	−14.04
	(69.46)	(32.93)	(46.79)	(31.65)	(49.80)	(29.39)
Black pct	−159.08***	−45.25	−121.90***	−38.40	−126.18***	−9.53
	(51.38)	(41.56)	(42.40)	(46.45)	(47.84)	(52.33)
Other nonwhite pct	17.79	−73.77	38.69	−71.91	33.94	−73.77
	(76.29)	(73.16)	(80.14)	(107.35)	(81.65)	(76.45)
Urban population pct	−94.40***	41.98**	−101.18***	20.40	−94.84***	28.93
	(29.36)	(21.21)	(25.78)	(18.84)	(26.73)	(22.08)
State fixed effects	included	included	included	included	included	included
Year fixed effects	included	included	included	included	included	included
Observations	336	192	408	264	384	240
Orig. R-Squared	0.98	0.99	0.98	0.98	0.98	0.98
R-Squared	0.92	0.99	0.93	0.97	0.93	0.97
Adjusted R-Squared	0.91	0.98	0.91	0.96	0.91	0.96

*p < .1; **p < .05; ***p < .01

Extension 1.1: Use Lagged Values with Year and State FEs for Table 1

```
# subset for Lag Table 1
df_lag1 <- df_tab1 %>%
  select(Education_pc, HealthSewerSanitation_pc, Transportation_pc,
         leg_party_competition, Statewide_Competition, house_dem,
         senate_dem, gov_dem, CPI_per_capita_income, foreignborn_pct, black_pct,
         othernonwhite_pct, urban_pct, state, year, year_1890, year_1900, year_1910,
         year_1920, year_1930, year_1940, year_1950, year_1960, year_1970, year_1980)
# create lagged variables
df_lag1 <- df_lag1 %>%
  mutate(lag_Education_pc = ifelse(year != 1880, lag(Education_pc), NA)) %>%
  mutate(lag_Health_pc = ifelse(year != 1880, lag(HealthSewerSanitation_pc), NA)) %>%
  mutate(lag_Transportation_pc = ifelse(year != 1880, lag(Transportation_pc), NA))
# regress Lag Table 1, Model 1
lag1_mod1 <- plm(Education_pc ~ lag_Education_pc + leg_party_competition +
            year_1890 + year_1900 + year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980, index = "state", data = df_lag1)
lag1_mod1_se <- coeftest(lag1_mod1, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 1, Model 2
lag1_mod2 <- plm(Education_pc ~ lag_Education_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct + year_1890 + year_1900 +
            year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980,
            index = "state", data = df_lag1)
lag1_mod2_se <- coeftest(lag1_mod2, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 1, Model 3
lag1_mod3 <- plm(HealthSewerSanitation_pc ~ lag_Health_pc + leg_party_competition +
            year_1890 + year_1900 + year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980, index = "state", data = df_lag1)
lag1_mod3_se <- coeftest(lag1_mod3, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 1, Model 4
lag1_mod4 <- plm(HealthSewerSanitation_pc ~ lag_Health_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct + year_1890 + year_1900 +
            year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980,
            index = "state", data = df_lag1)
lag1_mod4_se <- coeftest(lag1_mod4, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 1, Model 5
lag1_mod5 <- plm(Transportation_pc ~ lag_Transportation_pc + leg_party_competition +
            year_1890 + year_1900 + year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980, index = "state", data = df_lag1)
lag1_mod5_se <- coeftest(lag1_mod5, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 1, Model 6
lag1_mod6 <- plm(Transportation_pc ~ lag_Transportation_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct + year_1890 + year_1900 +
```

```
            year_1910 + year_1920 + year_1930 + year_1940 +
            year_1950 + year_1960 + year_1970 + year_1980,
            index = "state", data = df_lag1)
lag1_mod6_se <- coeftest(lag1_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 8: Lagged Table 1
stargazer(lag1_mod1_se, lag1_mod2_se, lag1_mod3_se,
          lag1_mod4_se, lag1_mod5_se, lag1_mod6_se,
          header = F, type = "latex", digits = 2, style = "apsr",
          title = "Party Competition Does NOT Predict Human Capital and Infrastructure Spending, 1880-19
          column.labels = c("Education spending", "Health spending",
                            "Transportation spending"),
          column.separate = c(2, 2, 2),
          covariate.labels = c("Lagged education spending", "Lagged health spending",
                               "Lagged transportation spending",
                               "Legislative party competition",
                               "Electoral competition", "Democratic house",
                               "Democratic senate", "Democratic governor",
                               "Income per capita", "Foreign-born percentage",
                               "Black percentage", "Other nonwhite percentage",
                               "Urban population percentage"),
          omit = c("Constant", "year_1890", "year_1900", "year_1910",
                   "year_1920", "year_1930", "year_1940", "year_1950",
                   "year_1960", "year_1970", "year_1980"),
          add.lines = list(c("State fixed effects",
                             "included", "included", "included",
                             "included", "included", "included"),
                           c("Year fixed effects",
                             "included", "included", "included",
                             "included", "included", "included"),
                           c("Observations", "258", "249", "187", "182", "234", "228"),
                           c("R-Squared", "0.97", "0.98", "0.89", "0.92", "0.93", "0.94"),
                           c("Adj. R-Squared", "0.97", "0.97", "0.85", "0.87", "0.91", "0.91")))
```

Table 4: Party Competition Does NOT Predict Human Capital and Infrastructure Spending, 1880-1980

	Education spending		Health spending		Transportation spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged education spending	0.72***	0.62***				
	(0.14)	(0.14)				
Lagged health spending			0.29**	0.09		
			(0.12)	(0.12)		
Lagged transportation spending					0.66***	0.61***
					(0.17)	(0.17)
Legislative party competition	0.41	0.48	0.31*	0.23	0.06	0.43
	(0.59)	(0.57)	(0.18)	(0.15)	(0.40)	(0.51)
Electoral competition		−1.15		0.03		−1.71
		(1.13)		(0.28)		(1.15)
Democratic house		−12.29		14.60		−25.07
		(34.69)		(9.94)		(24.71)
Democratic senate		−60.73*		−23.92**		30.98
		(32.16)		(11.75)		(29.16)
Democratic governor		−37.99		−13.41*		−18.10
		(31.83)		(7.60)		(18.00)
Income per capita		0.03**		0.01***		−0.005
		(0.01)		(0.003)		(0.01)
Foreign-born percentage		−13.78***		−2.79**		−2.16
		(3.90)		(1.39)		(2.05)
Black percentage		−5.37		−0.21		−2.27
		(5.13)		(1.19)		(2.12)
Other nonwhite percentage		10.15		5.03**		7.34*
		(6.80)		(2.28)		(4.12)
Urban population percentage		2.96		−0.31		2.90**
		(2.12)		(0.44)		(1.16)
State fixed effects	included	included	included	included	included	included
Year fixed effects	included	included	included	included	included	included
Observations	258	249	187	182	234	228
R-Squared	0.97	0.98	0.89	0.92	0.93	0.94
Adj. R-Squared	0.97	0.97	0.85	0.87	0.91	0.91

*p < .1; **p < .05; ***p < .01

Extension 1.2: Use Lagged Values with Year and State FEs for Table 2

```
# subset for overall Lag Table 2
df_lag2 <- df %>%
  select(infantmortality, at_birth_life_expectancy, graduation_combined,
         illiteracy_proportional_30, Education_pc, HealthSewerSanitation_pc,
         leg_party_competition, Statewide_Competition, house_dem,
         senate_dem, gov_dem, CPI_per_capita_income, foreignborn_pct, black_pct,
         othernonwhite_pct, urban_pct, state, year, south)
# subset for Lag Table 2, Model 1
df_lag2_mod1 <- df_lag2 %>%
  mutate(lag_infantmortality = ifelse(year != 1880, lag(infantmortality), NA)) %>%
  filter(year >= 1930 & year < 2020)
# regress Lag Table 2, Model 1
lag2_mod1 <- plm(infantmortality ~ lag_infantmortality + HealthSewerSanitation_pc +
                 CPI_per_capita_income + foreignborn_pct + black_pct +
                 othernonwhite_pct + urban_pct + as.factor(year),
                 index = "state", data = df_lag2_mod1)
lag2_mod1_se <- coeftest(lag2_mod1, function(x) vcovHC(x, type = 'sss'))
# subset for Lag Table 2, Model 2
df_lag2_mod2 <- df_lag2 %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(f3_at_birth_life_expectancy = dplyr::lead(at_birth_life_expectancy, 3)) %>%
  filter(year <= 1980)
# regress Lag Table 2, Model 2
lag2_mod2 <- plm(f3_at_birth_life_expectancy ~ at_birth_life_expectancy +
                   HealthSewerSanitation_pc + CPI_per_capita_income +
                   foreignborn_pct + black_pct + othernonwhite_pct +
                   urban_pct + as.factor(year),
                 index = "state", data = df_lag2_mod2)
lag2_mod2_se <- coeftest(lag2_mod2, function(x) vcovHC(x, type = 'sss'))
# subset for Lag Table 2, Models 3 and 4
df_lag2_mod3 <- df_lag2 %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(lag_graduation_combined = ifelse(year != 1880, lag(graduation_combined), NA)) %>%
  mutate(illiteracy_20 = lag(illiteracy_proportional_30))
# regress Lag Table 2, Model 3
lag2_mod3 <- plm(graduation_combined ~ lag_graduation_combined + Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_lag2_mod3)
lag2_mod3_se <- coeftest(lag2_mod3, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 2, Model 4
# note: the lagged variable is the illiteracy rate 20 years later
lag2_mod4 <- plm(illiteracy_proportional_30 ~ illiteracy_20 + Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south + as.factor(year),
                 index = "state", data = df_lag2_mod3)
lag2_mod4_se <- coeftest(lag2_mod4, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 9: Lagged Table 2
stargazer(lag2_mod1_se, lag2_mod2_se, lag2_mod3_se, lag2_mod4_se,
```

```
          header = F, type = "latex", font.size = "tiny", style = "apsr",
          title = "Spending Levels Do NOT Predict Development, 1880-2010",
          column.labels = c("Infant mortality",
                            "Life expectancy (30 years later)",
                            "High school completion",
                            "Illiteracy rate (30 years later)"),
          covariate.labels = c("Lagged infant mortality", "Current life expectancy",
                               "Health spending per capita",
                               "Lagged high school completion", "Illiteracy (20 years later)",
                               "Education spending per capita", "Income per capita",
                               "Foreign-born percentage", "Black percentage",
                               "Other nonwhite percentage", "Urban population percentage"),
          omit = c("Constant", "south", "year"),
          add.lines = list(c("State fixed effects",
                             "included", "included", "included", "included"),
                           c("Year fixed effects",
                             "included", "included", "included", "included"),
                           c("Observations", "215", "181", "336", "134"),
                           c("R-Squared", "0.98", "0.99", "0.98", "0.72"),
                           c("Adjusted R-Squared", "0.98", "0.98", "0.97", "0.52")))
```

Table 5: Spending Levels Do NOT Predict Development, 1880-2010

	Infant mortality	Life expectancy (30 years later)	High school completion	Illiteracy rate (30 years later)
	(1)	(2)	(3)	(4)
Lagged infant mortality	0.575^{***}			
	(0.043)			
Current life expectancy		0.271^{***}		
		(0.057)		
Health spending per capita	-0.004	-0.0002		
	(0.004)	(0.001)		
Lagged high school completion			0.791^{***}	
			(0.098)	
Illiteracy (20 years later)				0.782^{***}
				(0.099)
Education spending per capita			0.001	0.003^{**}
			(0.002)	(0.001)
Income per capita	-0.00001	0.0001	0.00001	-0.0001
	(0.0003)	(0.00005)	(0.0003)	(0.0001)
Foreign-born percentage	-0.324^{**}	-0.018	-0.109^{**}	0.049^{***}
	(0.161)	(0.026)	(0.050)	(0.012)
Black percentage	0.399^{***}	0.093^{***}	-0.087^{**}	-0.037^{**}
	(0.104)	(0.031)	(0.039)	(0.016)
Other nonwhite percentage	0.303^{**}	0.035	-0.144	0.072
	(0.137)	(0.039)	(0.092)	(0.080)
Urban population percentage	-0.211^{***}	-0.011	0.063^{**}	-0.016
	(0.047)	(0.010)	(0.027)	(0.010)
State fixed effects	included	included	included	included
Year fixed effects	included	included	included	included
Observations	215	181	336	134
R-Squared	0.98	0.99	0.98	0.72
Adjusted R-Squared	0.98	0.98	0.97	0.52

*p $<$ .1; **p $<$ .05; ***p $<$ .01

Extension 2.1: Use Lagged Values, Without State Fixed Effects, for Table 1

```
# subset for Lag Table 3 (Table 1, Without State FEs)
df_lag3 <- df_tab1 %>%
  select(Education_pc, HealthSewerSanitation_pc, Transportation_pc,
         leg_party_competition, Statewide_Competition, house_dem,
         senate_dem, gov_dem, CPI_per_capita_income, foreignborn_pct, black_pct,
         othernonwhite_pct, urban_pct, state, year, year_1890, year_1900, year_1910,
         year_1920, year_1930, year_1940, year_1950, year_1960, year_1970, year_1980)
# create lagged variables
df_lag3 <- df_lag3 %>%
  mutate(lag_Education_pc = ifelse(year != 1880, lag(Education_pc), NA)) %>%
  mutate(lag_Health_pc = ifelse(year != 1880, lag(HealthSewerSanitation_pc), NA)) %>%
  mutate(lag_Transportation_pc = ifelse(year != 1880, lag(Transportation_pc), NA))
# regress Lag Table 3, Model 1
lag3_mod1 <- plm(Education_pc ~ lag_Education_pc + leg_party_competition,
                 index = "year", data = df_lag3)
lag3_mod1_se <- coeftest(lag3_mod1, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 3, Model 2
lag3_mod2 <- plm(Education_pc ~ lag_Education_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct,
            index = "year", data = df_lag3)
lag3_mod2_se <- coeftest(lag3_mod2, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 3, Model 3
lag3_mod3 <- plm(HealthSewerSanitation_pc ~ lag_Health_pc + leg_party_competition,
                 index = "year", data = df_lag3)
lag3_mod3_se <- coeftest(lag3_mod3, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 3, Model 4
lag3_mod4 <- plm(HealthSewerSanitation_pc ~ lag_Health_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct,
            index = "year", data = df_lag3)
lag3_mod4_se <- coeftest(lag3_mod4, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 3, Model 5
lag3_mod5 <- plm(Transportation_pc ~ lag_Transportation_pc + leg_party_competition,
                 index = "year", data = df_lag3)
lag3_mod5_se <- coeftest(lag3_mod5, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 3, Model 6
lag3_mod6 <- plm(Transportation_pc ~ lag_Transportation_pc + leg_party_competition +
            Statewide_Competition + house_dem + senate_dem + gov_dem +
            CPI_per_capita_income + foreignborn_pct + black_pct +
            othernonwhite_pct + urban_pct,
            index = "year", data = df_lag3)
lag3_mod6_se <- coeftest(lag3_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 10: Lagged Table 3 (Table 1, Without State FEs)
stargazer(lag3_mod1_se, lag3_mod2_se, lag3_mod3_se,
          lag3_mod4_se, lag3_mod5_se, lag3_mod6_se,
          header = F, type = "latex", digits = 2, style = "apsr",
```

```
          title = "Party Competition Does NOT Predict Human Capital and Infrastructure Spending, 1880-19
          column.labels = c("Education spending", "Health spending",
                            "Transportation spending"),
          column.separate = c(2, 2, 2),
          covariate.labels = c("Lagged education spending", "Lagged health spending",
                               "Lagged transportation spending",
                               "Legislative party competition",
                               "Electoral competition", "Democratic house",
                               "Democratic senate", "Democratic governor",
                               "Income per capita", "Foreign-born percentage",
                               "Black percentage", "Other nonwhite percentage",
                               "Urban population percentage"),
          omit = c("Constant", "year"),
          add.lines = list(c("State fixed effects",
                             "No", "No", "No",
                             "No", "No", "No"),
                           c("Year fixed effects",
                             "Yes", "Yes", "Yes",
                             "Yes", "Yes", "Yes"),
                           c("Observations", "258", "249", "187", "182", "234", "228"),
                           c("R-Squared", "0.55", "0.58", "0.40", "0.52", "0.62", "0.64"),
                           c("Adj. R-Squared", "0.54", "0.56", "0.38", "0.48", "0.61", "0.62")))
```

Table 6: Party Competition Does NOT Predict Human Capital and Infrastructure Spending, 1880-1980

	Education spending		Health spending		Transportation spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged education spending	0.90***	0.80***				
	(0.11)	(0.09)				
Lagged health spending			0.77***	0.44***		
			(0.21)	(0.07)		
Lagged transportation spending					0.81***	0.76***
					(0.06)	(0.02)
Legislative party competition	0.11	−0.49	0.40**	0.20	0.02	0.20
	(0.48)	(0.59)	(0.17)	(0.14)	(0.15)	(0.77)
Electoral competition		−0.71		−0.16		−1.02
		(0.49)		(0.30)		(1.01)
Democratic house		5.73		24.72		−28.62
		(25.04)		(20.85)		(23.37)
Democratic senate		−68.20		−29.87*		29.44
		(45.15)		(16.57)		(31.45)
Democratic governor		−14.31		−12.49		−10.91
		(28.87)		(11.66)		(8.19)
Income per capita		0.01		0.01**		−0.003
		(0.01)		(0.003)		(0.01)
Foreign-born percentage		−5.13*		−0.47		−0.71
		(3.03)		(0.98)		(1.51)
Black percentage		−1.11		0.91		−1.13
		(1.81)		(1.00)		(0.91)
Other nonwhite percentage		4.36		1.77		5.12***
		(5.00)		(1.48)		(0.62)
Urban population percentage		0.74		0.22		0.21
		(0.93)		(0.36)		(0.53)
State fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	258	249	187	182	234	228
R-Squared	0.55	0.58	0.40	0.52	0.62	0.64
Adj. R-Squared	0.54	0.56	0.38	0.48	0.61	0.62

*p < .1; **p < .05; ***p < .01

Extension 2.2: Use Lagged Values, Without State Fixed Effects, For Table 2

```
# subset for overall Lag Table 4 (Table 2, Without State FEs)
df_lag4 <- df %>%
  select(infantmortality, at_birth_life_expectancy, graduation_combined,
         illiteracy_proportional_30, Education_pc, HealthSewerSanitation_pc,
         leg_party_competition, Statewide_Competition, house_dem,
         senate_dem, gov_dem, CPI_per_capita_income, foreignborn_pct, black_pct,
         othernonwhite_pct, urban_pct, state, year, south)
# subset for Lag Table 2, Model 1
df_lag4_mod1 <- df_lag4 %>%
  mutate(lag_infantmortality = ifelse(year != 1880, lag(infantmortality), NA)) %>%
  filter(year >= 1930 & year < 2020)
# regress Lag Table 2, Model 1
lag4_mod1 <- plm(infantmortality ~ lag_infantmortality + HealthSewerSanitation_pc +
                 CPI_per_capita_income + foreignborn_pct + black_pct +
                 othernonwhite_pct + urban_pct, index = "year", data = df_lag4_mod1)
lag4_mod1_se <- coeftest(lag4_mod1, function(x) vcovHC(x, type = 'sss'))
# subset for Lag Table 2, Model 2
df_lag4_mod2 <- df_lag4 %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(f3_at_birth_life_expectancy = dplyr::lead(at_birth_life_expectancy, 3)) %>%
  filter(year <= 1980)
# regress Lag Table 2, Model 2
lag4_mod2 <- plm(f3_at_birth_life_expectancy ~ at_birth_life_expectancy +
                   HealthSewerSanitation_pc + CPI_per_capita_income +
                   foreignborn_pct + black_pct + othernonwhite_pct +
                   urban_pct, index = "year", data = df_lag4_mod2)
lag4_mod2_se <- coeftest(lag4_mod2, function(x) vcovHC(x, type = 'sss'))
# subset for Lag Table 2, Models 3 and 4
df_lag4_mod3 <- df_lag4 %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(lag_graduation_combined = ifelse(year != 1880, lag(graduation_combined), NA)) %>%
  mutate(illiteracy_20 = lag(illiteracy_proportional_30))
# regress Lag Table 2, Model 3
lag4_mod3 <- plm(graduation_combined ~ lag_graduation_combined + Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_lag4_mod3)
lag4_mod3_se <- coeftest(lag4_mod3, function(x) vcovHC(x, type = 'sss'))
# regress Lag Table 2, Model 4
# note: the lagged variable is the illiteracy rate 20 years later
lag4_mod4 <- plm(illiteracy_proportional_30 ~ illiteracy_20 + Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_lag4_mod3)
lag4_mod4_se <- coeftest(lag4_mod4, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 11: Lagged Table 4
stargazer(lag4_mod1_se, lag4_mod2_se, lag4_mod3_se, lag4_mod4_se,
          header = F, type = "latex", font.size = "tiny", style = "apsr",
          title = "Spending Levels Do NOT Predict Development, 1880-2010",
```

```
          column.labels = c("Infant mortality",
                            "Life expectancy (30 years later)",
                            "High school completion",
                            "Illiteracy rate (30 years later)"),
          covariate.labels = c("Lagged infant mortality", "Current life expectancy",
                               "Health spending per capita",
                               "Lagged high school completion", "Illiteracy (20 years later)",
                               "Education spending per capita", "Income per capita",
                               "Foreign-born percentage", "Black percentage",
                               "Other nonwhite percentage", "Urban population percentage"),
          omit = c("Constant", "south", "year"),
          add.lines = list(c("State fixed effects", "No", "No", "No", "No"),
                           c("Year fixed effects", "Yes", "Yes", "Yes", "Yes"),
                           c("Observations", "215", "181", "336", "134"),
                           c("R-Squared", "0.86", "0.70", "0.84", "0.68"),
                           c("Adjusted R-Squared", "0.85", "0.68", "0.84", "0.66")))
```

Table 7: Spending Levels Do NOT Predict Development, 1880-2010

	Infant mortality	Life expectancy (30 years later)	High school completion	Illiteracy rate (30 years later)
	(1)	(2)	(3)	(4)
Lagged infant mortality	0.563^{***}			
	(0.056)			
Current life expectancy		0.528^{***}		
		(0.143)		
Health spending per capita	-0.0004	0.002^{***}		
	(0.002)	(0.001)		
Lagged high school completion			0.916^{***}	
			(0.038)	
Illiteracy (20 years later)				0.781^{***}
				(0.187)
Education spending per capita			0.002^{**}	0.0002
			(0.001)	(0.0001)
Income per capita	0.0002^{*}	0.0001	0.00002	-0.00002
	(0.0001)	(0.0001)	(0.0001)	(0.00002)
Foreign-born percentage	-0.245^{**}	0.071	-0.019	0.015^{***}
	(0.112)	(0.050)	(0.036)	(0.002)
Black percentage	0.157^{***}	-0.038^{*}	-0.053^{***}	0.001
	(0.040)	(0.022)	(0.020)	(0.004)
Other nonwhite percentage	0.265^{*}	0.055^{***}	-0.168^{**}	0.037^{***}
	(0.149)	(0.018)	(0.073)	(0.007)
Urban population percentage	-0.060^{***}	-0.009	-0.002	-0.009^{***}
	(0.016)	(0.009)	(0.023)	(0.001)
State fixed effects	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes
Observations	215	181	336	134
R-Squared	0.86	0.70	0.84	0.68
Adjusted R-Squared	0.85	0.68	0.84	0.66

*p < .1; **p < .05; ***p < .01

Extension 3.1: Removing the State Fixed Effects from Table 1

```
# subset data
df_tab5 <- df %>%
  filter(year > 1870 & year < 1990)
# regress model 1
tab5_mod1 <- plm(Education_pc ~ leg_party_competition,
                 index = "year", data = df_tab5)
tab5_mod1_se <- coeftest(tab5_mod1, function(x) vcovHC(x, type = 'sss'))
# regress model 2
tab5_mod2 <- plm(Education_pc ~ leg_party_competition + Statewide_Competition +
                                house_dem + senate_dem + gov_dem +
                                CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "year", data = df_tab5)
tab5_mod2_se <- coeftest(tab5_mod2, function(x) vcovHC(x, type = 'sss'))
# regress model 3
tab5_mod3 <- plm(HealthSewerSanitation_pc ~ leg_party_competition,
                 index = "year", data = df_tab5)
tab5_mod3_se <- coeftest(tab5_mod3, function(x) vcovHC(x, type = 'sss'))
# regress model 4
tab5_mod4 <- plm(HealthSewerSanitation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "year", data = df_tab5)
tab5_mod4_se <- coeftest(tab5_mod4, function(x) vcovHC(x, type = 'sss'))
# regress model 5
tab5_mod5 <- plm(Transportation_pc ~ leg_party_competition,
                 index = "year", data = df_tab5)
tab5_mod5_se <- coeftest(tab5_mod5, function(x) vcovHC(x, type = 'sss'))

# regress model 6
tab5_mod6 <- plm(Transportation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "year", data = df_tab5)
tab5_mod6_se <- coeftest(tab5_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 5
stargazer(tab5_mod1_se, tab5_mod2_se, tab5_mod3_se,
          tab5_mod4_se, tab5_mod5_se, tab5_mod6_se,
          header = F, type = "latex", digits = 2, style = "apsr",
          title = "Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-198
          column.labels = c("Education spending", "Health spending",
                            "Transportation spending"),
          column.separate = c(2, 2, 2),
          covariate.labels = c("Legislative party competition",
                               "Electoral competition", "Democratic house",
                               "Democratic senate", "Democratic governor",
                               "Income per capita", "Foreign-born percentage",
                               "Black percentage", "Other nonwhite percentage",
                               "Urban population percentage"),
```

```
          omit = c("Constant"),
          add.lines = list(c("State fixed effects", "No", "No",
                             "No", "No", "No", "No"),
                           c("Year fixed effects", "Yes", "Yes",
                             "Yes", "Yes", "Yes", "Yes"),
                           c("Observations", "398", "380", "326", "310", "374", "357"),
                           c("R-Squared", "0.09", "0.33", "0.09", "0.42", "0.02", "0.20"),
                           c("Adj. R-Squared", "0.07", "0.30", "0.07", "0.39", "0.00", "0.16")))
```

Table 8: Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-1980

	Education spending		Health spending		Transportation spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Legislative party competition	2.18***	0.67	0.49***	0.19	0.71***	0.48
	(0.73)	(0.48)	(0.16)	(0.14)	(0.24)	(0.54)
Electoral competition		−2.05***		−0.15		−1.75*
		(0.72)		(0.19)		(1.03)
Democratic house		−40.90		17.77		−71.44**
		(27.94)		(14.49)		(33.23)
Democratic senate		−54.16		−18.97*		−8.29
		(41.50)		(11.11)		(33.79)
Democratic governor		−4.60		−9.46		6.57
		(25.20)		(8.59)		(8.90)
Income per capita		0.03***		0.01***		0.005
		(0.01)		(0.002)		(0.01)
Foreign-born percentage		−11.79**		−0.18		−3.91**
		(4.69)		(0.41)		(1.65)
Black percentage		−2.46*		1.08**		−2.82*
		(1.40)		(0.51)		(1.52)
Other nonwhite percentage		25.13***		1.54		7.36***
		(6.99)		(1.37)		(2.17)
Urban population percentage		0.78		0.26		−1.32
		(0.65)		(0.20)		(0.96)
State fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	398	380	326	310	374	357
R-Squared	0.09	0.33	0.09	0.42	0.02	0.20
Adj. R-Squared	0.07	0.30	0.07	0.39	0.00	0.16

*p < .1; **p < .05; ***p < .01

Extension 3.2: Removing the State Fixed Effects from Table 2

```
# subset for model 1
df_tab6_mod1 <- df %>%
  filter(year >= 1930 & year < 2020)
# regress model 1
tab6_mod1 <- plm(infantmortality ~ HealthSewerSanitation_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct + othernonwhite_pct +
                                   urban_pct,
                 index = "year", data = df_tab6_mod1)
tab6_mod1_se <- coeftest(tab6_mod1, function(x) vcovHC(x, type = 'sss'))
# subset for model 2
df_tab6_mod2 <- df %>%
  filter(year >= 1880 & year <= 2010) %>%
  mutate(f3_at_birth_life_expectancy = dplyr::lead(at_birth_life_expectancy, 3)) %>%
  filter(year <= 1980)
# regress model 2
tab6_mod2 <- plm(f3_at_birth_life_expectancy ~ HealthSewerSanitation_pc +
                                   CPI_per_capita_income + foreignborn_pct +
                                   black_pct + othernonwhite_pct + urban_pct,
                 index = "year", data = df_tab6_mod2)
tab6_mod2_se <- coeftest(tab6_mod2, function(x) vcovHC(x, type = 'sss'))
# subset for model 3
df_tab6_mod3 <- df %>%
  filter(year >= 1880 & year <= 2010)
# regress model 3
tab6_mod3 <- plm(graduation_combined ~ Education_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct+ othernonwhite_pct +
                                   urban_pct + south,
                 index = "year", data = df_tab6_mod3)
tab6_mod3_se <- coeftest(tab6_mod3, function(x) vcovHC(x, type = 'sss'))
# use same data as model 3, regress model 4
tab6_mod4 <- plm(illiteracy_proportional_30 ~ Education_pc + CPI_per_capita_income +
                                   foreignborn_pct + black_pct + othernonwhite_pct +
                                   urban_pct + south,
                 index = "year", data = df_tab6_mod3)
tab6_mod4_se <- coeftest(tab6_mod4, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 6
stargazer(tab6_mod1_se, tab6_mod2_se, tab6_mod3_se, tab6_mod4_se,
          header = F, type = "latex", font.size = "tiny", style = "apsr",
          title = "Spending Levels Predict Development, 1880-2010",
          column.labels = c("Infant mortality",
                            "Life expectancy (30 years later)",
                            "High school completion",
                            "Illiteracy rate (30 years later)"),
          covariate.labels = c("Health, sewer, sanitation spending per capita",
                               "Education spending per capita",
                               "Income per capita",
                               "Foreign-born percentage", "Black percentage",
                               "Other nonwhite percentage", "Urban population percentage"),
          omit = c("Constant", "south", "year"),
          add.lines = list(c("State fixed effects", "No", "No", "No", "No"),
                           c("Year fixed effects", "Yes", "Yes", "Yes", "Yes"),
```

```
                        c("Observations", "240", "272", "374", "168"),
                        c("R-Squared", "0.28", "0.44", "0.55", "0.32"),
                        c("Adjusted R-Squared", "0.25", "0.42", "0.54", "0.28")))
```

Table 9: Spending Levels Predict Development, 1880-2010

	Infant mortality	Life expectancy (30 years later)	High school completion	Illiteracy rate (30 years later)
	(1)	(2)	(3)	(4)
Health, sewer, sanitation spending per capita	−0.006	0.004***		
	(0.006)	(0.001)		
Education spending per capita			0.008***	0.001
			(0.002)	(0.001)
Income per capita	0.0003***	0.00001	0.0003***	−0.00001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Foreign-born percentage	−0.262**	0.003	−0.216***	0.006
	(0.125)	(0.021)	(0.046)	(0.006)
Black percentage	0.307***	−0.088***	−0.144**	0.004
	(0.042)	(0.009)	(0.068)	(0.006)
Other nonwhite percentage	1.374	−0.094	−0.212	0.032**
	(0.940)	(0.091)	(0.177)	(0.014)
Urban population percentage	−0.123***	−0.001	0.021	−0.014***
	(0.025)	(0.005)	(0.026)	(0.005)
State fixed effects	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes
Observations	240	272	374	168
R-Squared	0.28	0.44	0.55	0.32
Adjusted R-Squared	0.25	0.42	0.54	0.28

*p < .1; **p < .05; ***p < .01

Extension 3.3: Removing State Fixed Effects from Table 3

```
# create new dataframe for "full sample"
df_tab7_full <- df %>%
  filter(year >= 1880 & year <= 2010)
# subset for 1880-1940 sample
df_tab7_part <- df %>%
  filter(year >= 1880 & year <= 1940)
# regress model 1
tab7_mod1 <- plm(CPI_per_capita_income_next30 ~ HealthSewerSanitation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_full)
tab7_mod1_se <- coeftest(tab7_mod1, function(x) vcovHC(x, type = 'sss'))
# regress model 2
tab7_mod2 <- plm(CPI_per_capita_income_next30 ~ HealthSewerSanitation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_part)
tab7_mod2_se <- coeftest(tab7_mod2, function(x) vcovHC(x, type = 'sss'))
# regress model 3
tab7_mod3 <- plm(CPI_per_capita_income_next30 ~ Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_full)
tab7_mod3_se <- coeftest(tab7_mod3, function(x) vcovHC(x, type = 'sss'))
# regress model 4
tab7_mod4 <- plm(CPI_per_capita_income_next30 ~ Education_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_part)
tab7_mod4_se <- coeftest(tab7_mod4, function(x) vcovHC(x, type = 'sss'))
# regress model 5
tab7_mod5 <- plm(CPI_per_capita_income_next30 ~ Transportation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_full)
tab7_mod5_se <- coeftest(tab7_mod5, function(x) vcovHC(x, type = 'sss'))
# regress model 6
tab7_mod6 <- plm(CPI_per_capita_income_next30 ~ Transportation_pc +
                   CPI_per_capita_income + foreignborn_pct + black_pct +
                   othernonwhite_pct + urban_pct + south,
                 index = "year", data = df_tab7_part)
tab7_mod6_se <- coeftest(tab7_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 7
stargazer(tab7_mod1_se, tab7_mod2_se, tab7_mod3_se,
          tab7_mod4_se, tab7_mod5_se, tab7_mod6_se,
          header = F, type = "latex", font.size = "tiny", style = "apsr", digits = 2,
          title = "Health and Education Spending Levels Predict Income (Only in Pre-New Deal Period)",
          column.labels = c("Full sample", "1880-1940",
                            "Full sample", "1880-1940",
                            "Full sample", "1880-1940"),
          covariate.labels = c("Health, sewer, sanitation spending per capita",
```

```
                        "Education spending per capita",
                        "Transportation spending per capita",
                        "Income per capita",
                        "Foreign-born pct", "Black pct",
                        "Other nonwhite pct", "Urban population pct"),
        omit = c("Constant", "south", "year"),
        add.lines = list(c("State fixed effects", "No", "No",
                           "No", "No", "No", "No"),
                         c("Year fixed effects", "Yes", "Yes",
                           "Yes", "Yes", "Yes", "Yes"),
                         c("Observations", "336", "192", "408",
                           "264", "384", "240"),
                         c("R-Squared", "0.13", "0.23", "0.12",
                           "0.25", "0.14", "0.22"),
                         c("Adjusted R-Squared", "0.09", "0.18", "0.09",
                           "0.21", "0.11", "0.18")))
```

Table 10: Health and Education Spending Levels Predict Income (Only in Pre-New Deal Period)

	Full sample	1880-1940	Full sample	1880-1940	Full sample	1880-1940
	(1)	(2)	(3)	(4)	(5)	(6)
Health, sewer, sanitation spending per capita	5.64	2.67				
	(5.17)	(6.13)				
Education spending per capita			−1.02	4.36**		
			(0.74)	(1.73)		
Transportation spending per capita					−2.99**	2.24
					(1.27)	(2.81)
Income per capita	0.18	−0.27**	0.24	−0.32***	0.25*	−0.27**
	(0.14)	(0.11)	(0.14)	(0.10)	(0.15)	(0.12)
Foreign-born pct	9.16	−52.47***	−7.77	−28.52*	−0.48	−34.67**
	(51.48)	(11.13)	(26.16)	(16.40)	(36.26)	(15.58)
Black pct	8.44	−9.13	−0.88	−16.66*	−6.75	−16.08
	(15.85)	(13.75)	(12.65)	(9.93)	(12.55)	(10.66)
Other nonwhite pct	−228.65***	21.15	−219.53***	−18.33	−218.46***	20.64
	(78.14)	(35.78)	(71.23)	(17.99)	(71.71)	(33.91)
Urban population pct	4.16	61.92***	6.68	52.30***	1.08	56.59***
	(28.38)	(19.70)	(21.42)	(16.57)	(27.71)	(17.15)
State fixed effects	No	No	No	No	No	No
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	336	192	408	264	384	240
R-Squared	0.13	0.23	0.12	0.25	0.14	0.22
Adjusted R-Squared	0.09	0.18	0.09	0.21	0.11	0.18

*p < .1; **p < .05; ***p < .01

Extension 4 (Unused): Removing the Year Fixed Effects from Table 1

```
# subset data
df_tab4 <- df %>%
  filter(year > 1870 & year < 1990)
# regress model 1
tab4_mod1 <- plm(Education_pc ~ leg_party_competition,
                 index = "state", data = df_tab4)
tab4_mod1_se <- coeftest(tab4_mod1, function(x) vcovHC(x, type = 'sss'))
# regress model 2
tab4_mod2 <- plm(Education_pc ~ leg_party_competition + Statewide_Competition +
                                house_dem + senate_dem + gov_dem +
                                CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "state", data = df_tab4)
tab4_mod2_se <- coeftest(tab4_mod2, function(x) vcovHC(x, type = 'sss'))
# regress model 3
tab4_mod3 <- plm(HealthSewerSanitation_pc ~ leg_party_competition,
                 index = "state", data = df_tab4)
tab4_mod3_se <- coeftest(tab4_mod3, function(x) vcovHC(x, type = 'sss'))
# regress model 4
tab4_mod4 <- plm(HealthSewerSanitation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "state", data = df_tab4)
tab4_mod4_se <- coeftest(tab4_mod4, function(x) vcovHC(x, type = 'sss'))
# regress model 5
tab4_mod5 <- plm(Transportation_pc ~ leg_party_competition,
                 index = "state", data = df_tab4)
tab4_mod5_se <- coeftest(tab4_mod5, function(x) vcovHC(x, type = 'sss'))

# regress model 6
tab4_mod6 <- plm(Transportation_pc ~ leg_party_competition +
                                Statewide_Competition  + house_dem + senate_dem +
                                gov_dem + CPI_per_capita_income + foreignborn_pct +
                                black_pct + othernonwhite_pct + urban_pct,
                 index = "state", data = df_tab4)
tab4_mod6_se <- coeftest(tab4_mod6, function(x) vcovHC(x, type = 'sss'))
```

```
# print Table 4
stargazer(tab4_mod1_se, tab4_mod2_se, tab4_mod3_se,
          tab4_mod4_se, tab4_mod5_se, tab4_mod6_se,
          header = F, type = "latex", digits = 2, style = "apsr",
          title = "Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-198
          column.labels = c("Education spending", "Health spending",
                            "Transportation spending"),
          column.separate = c(2, 2, 2),
          covariate.labels = c("Legislative party competition",
                               "Electoral competition", "Democratic house",
                               "Democratic senate", "Democratic governor",
                               "Income per capita", "Foreign-born percentage",
```

```
                            "Black percentage", "Other nonwhite percentage",
                            "Urban population percentage"),
          omit = c("Constant"),
          add.lines = list(c("State fixed effects", "Yes", "Yes",
                             "Yes", "Yes", "Yes", "Yes"),
                           c("Year fixed effects", "No", "No",
                             "No", "No", "No", "No"),
                           c("Observations", "398", "380", "326", "310", "374", "357"),
                           c("R-Squared", "0.15", "0.94", "0.18", "0.87", "0.13", "0.80"),
                           c("Adj. R-Squared", "0.03", "0.93", "0.04", "0.84", "0.00", "0.77")))
```

Table 11: Party Competition Predicts Higher Human Capital and Infrastructure Spending, 1880-1980

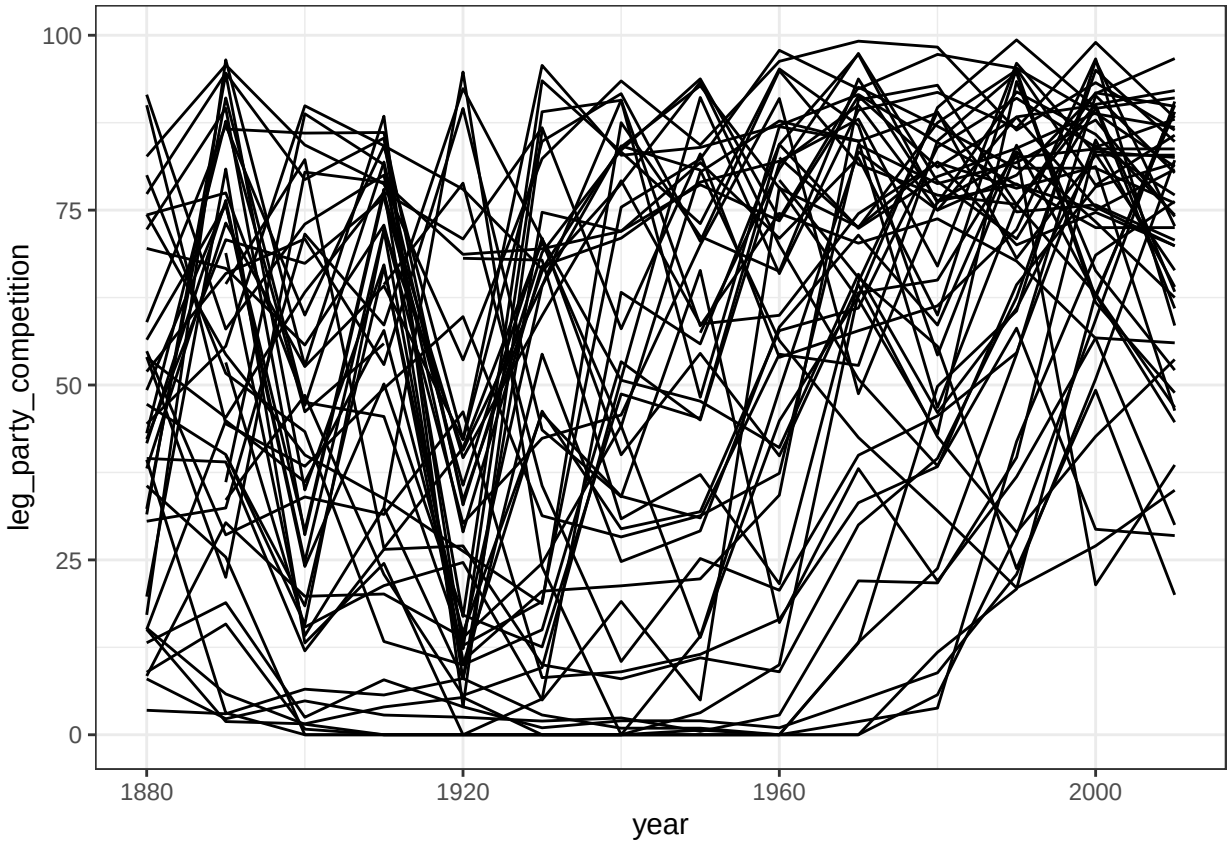
	Education spending		Health spending		Transportation spending	
	(1)	(2)	(3)	(4)	(5)	(6)
Legislative party competition	16.32***	1.49**	2.46***	0.15	5.75***	1.13***
	(2.23)	(0.61)	(0.35)	(0.15)	(0.82)	(0.42)
Electoral competition		−0.02		−0.16		−0.66
		(1.06)		(0.22)		(0.85)
Democratic house		−55.70		19.63*		−91.16***
		(41.20)		(10.63)		(31.56)
Democratic senate		−55.47		−22.71**		35.47
		(51.36)		(10.30)		(32.01)
Democratic governor		−39.50		−18.28**		20.95
		(30.97)		(7.31)		(18.11)
Income per capita		0.09***		0.01***		0.02***
		(0.004)		(0.001)		(0.003)
Foreign-born percentage		−14.71***		−1.84***		−9.81***
		(3.19)		(0.66)		(2.47)
Black percentage		−0.98		−0.40		−1.97
		(4.04)		(0.77)		(2.86)
Other nonwhite percentage		1.67		12.13***		−18.54**
		(10.94)		(1.43)		(9.39)
Urban population percentage		−1.99		−0.83**		4.66***
		(2.17)		(0.34)		(1.36)
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No	No	No
Observations	398	380	326	310	374	357
R-Squared	0.15	0.94	0.18	0.87	0.13	0.80
Adj. R-Squared	0.03	0.93	0.04	0.84	0.00	0.77

*p < .1; **p < .05; ***p < .01

Extension 5 (Unused): Visualizing Party Competition over Time

```
df_extfig1 <- df %>%
  select(state, year, leg_party_competition) %>%
  filter(year >= 1880 & year <= 2010)
df_extfig1 %>%
  ggplot(aes(x = year, y = leg_party_competition, group = state)) +
  geom_line() +
  theme_bw()
```

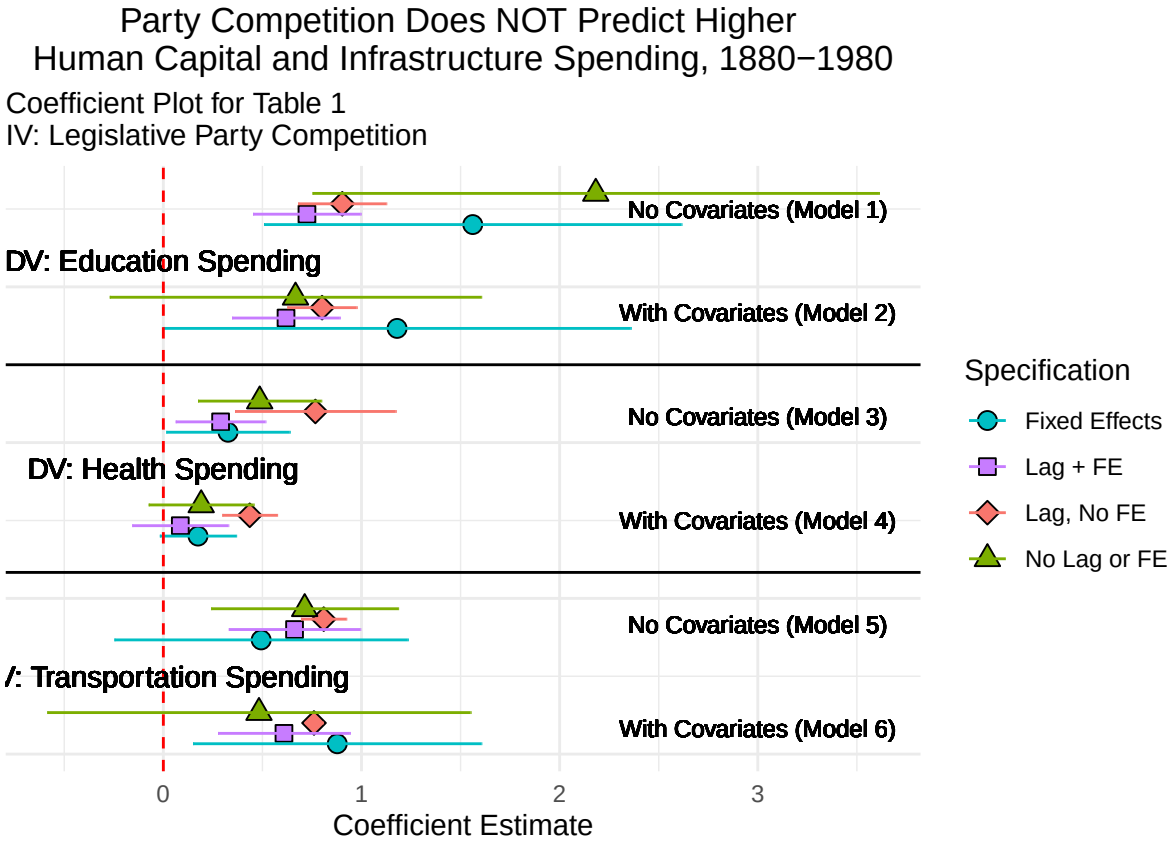
```
## Warning: Removed 69 row(s) containing missing values (geom_path).
```



Coefficient Plot: Table 1

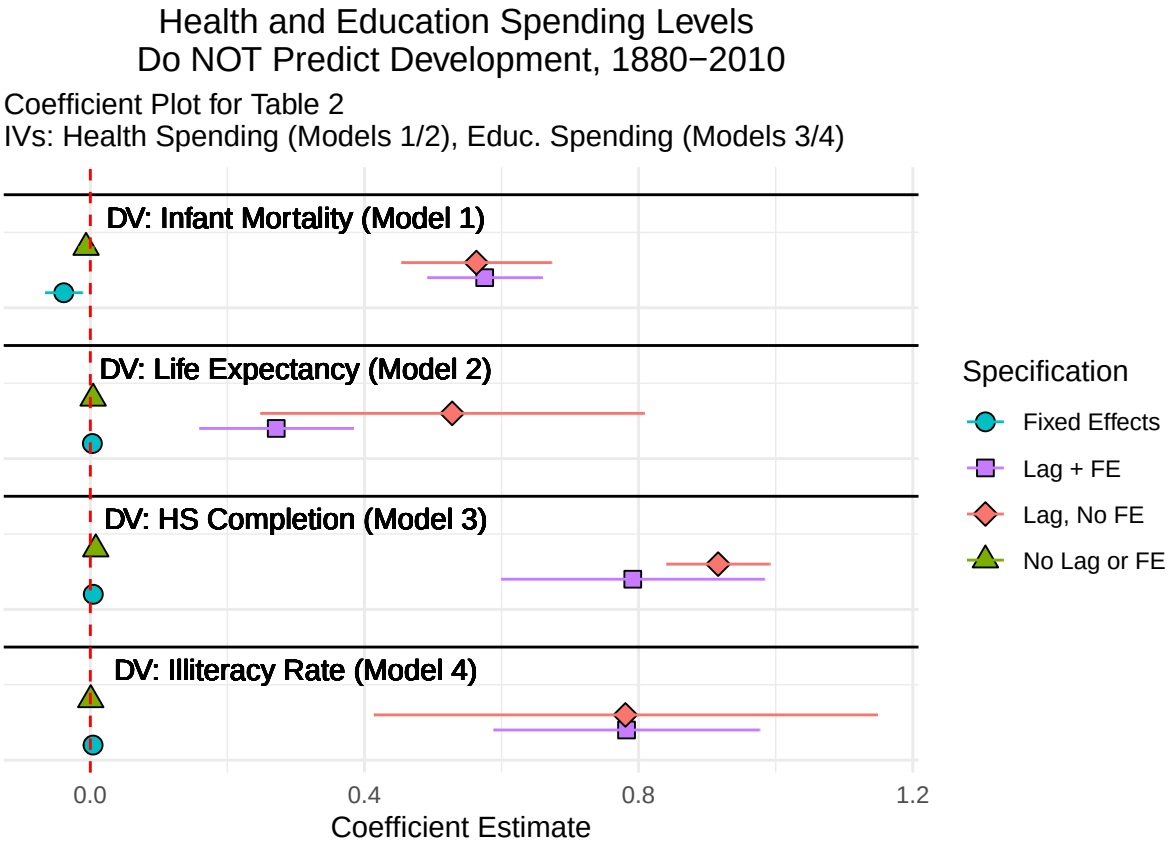
```
coef_df1 <- tribble(
~Estimate, ~SE, ~DV, ~IV, ~Confounders, ~Specification,
tab1_mod1_se[1,][1], tab1_mod1_se[1,][2], "Education Spending", "Leg. Party Comp.", "No", "Fixed Effects
lag1_mod1_se[1,][1], lag1_mod1_se[1,][2], "Education Spending", "Leg. Party Comp.", "No", "Lag + FE",
lag3_mod1_se[1,][1], lag3_mod1_se[1,][2], "Education Spending", "Leg. Party Comp.", "No", "Lag, No FE",
tab5_mod1_se[1,][1], tab5_mod1_se[1,][2], "Education Spending", "Leg. Party Comp.", "No", "No Lag or FE
tab1_mod2_se[1,][1], tab1_mod2_se[1,][2], "Education Spending", "Leg. Party Comp.", "Yes", "Fixed Effec
lag1_mod2_se[1,][1], lag1_mod2_se[1,][2], "Education Spending", "Leg. Party Comp.", "Yes", "Lag + FE",
lag3_mod2_se[1,][1], lag3_mod2_se[1,][2], "Education Spending", "Leg. Party Comp.", "Yes", "Lag, No FE"
tab5_mod2_se[1,][1], tab5_mod2_se[1,][2], "Education Spending", "Leg. Party Comp.", "Yes", "No Lag or F
tab1_mod3_se[1,][1], tab1_mod3_se[1,][2], "Health Spending", "Leg. Party Comp.", "No", "Fixed Effects",
lag1_mod3_se[1,][1], lag1_mod3_se[1,][2], "Health Spending", "Leg. Party Comp.", "No", "Lag + FE",
lag3_mod3_se[1,][1], lag3_mod3_se[1,][2], "Health Spending", "Leg. Party Comp.", "No", "Lag, No FE",
tab5_mod3_se[1,][1], tab5_mod3_se[1,][2], "Health Spending", "Leg. Party Comp.", "No", "No Lag or FE",
tab1_mod4_se[1,][1], tab1_mod4_se[1,][2], "Health Spending", "Leg. Party Comp.", "Yes", "Fixed Effects"
lag1_mod4_se[1,][1], lag1_mod4_se[1,][2], "Health Spending", "Leg. Party Comp.", "Yes", "Lag + FE",
lag3_mod4_se[1,][1], lag3_mod4_se[1,][2], "Health Spending", "Leg. Party Comp.", "Yes", "Lag, No FE",
tab5_mod4_se[1,][1], tab5_mod4_se[1,][2], "Health Spending", "Leg. Party Comp.", "Yes", "No Lag or FE",
tab1_mod5_se[1,][1], tab1_mod5_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "No", "Fixed E
lag1_mod5_se[1,][1], lag1_mod5_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "No", "Lag + F
lag3_mod5_se[1,][1], lag3_mod5_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "No", "Lag, No
tab5_mod5_se[1,][1], tab5_mod5_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "No", "No Lag
tab1_mod6_se[1,][1], tab1_mod6_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "Yes", "Fixed
lag1_mod6_se[1,][1], lag1_mod6_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "Yes", "Lag +
lag3_mod6_se[1,][1], lag3_mod6_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "Yes", "Lag, N
tab5_mod6_se[1,][1], tab5_mod6_se[1,][2], "Transportation Spending", "Leg. Party Comp.", "Yes", "No Lag
) %>%
  mutate(min = Estimate - 1.96*SE,
         max = Estimate + 1.96*SE)
coef_df1$y_pos <- c(10.2, 10.4, 10.6, 10.8,
                    8.2, 8.4, 8.6, 8.8,
                    6.2, 6.4, 6.6, 6.8,
                    4.2, 4.4, 4.6, 4.8,
                    2.2, 2.4, 2.6, 2.8,
                    0.2, 0.4, 0.6, 0.8)
coef_df1 %>%
  ggplot() +
  geom_point(aes(x = Estimate, y = y_pos, fill = Specification, shape = Specification), size = 3) +
  geom_errorbarh(aes(xmin = min, xmax = max, y = y_pos, col = Specification, height = 0)) +
  geom_hline(yintercept = c(3.5, 7.5)) +
  geom_vline(xintercept = 0, col = 'red', lty = 'dashed') +
  theme_minimal() +
  labs(x = 'Coefficient Estimate', y = '') +
  geom_text(x = 0, y = 9.5, label = "DV: Education Spending") +
  geom_text(x = 0, y = 5.5, label = "DV: Health Spending") +
  geom_text(x = 0, y = 1.5, label = "DV: Transportation Spending") +
  geom_text(x = 3, y = 10.5, label = "No Covariates (Model 1)", size = 3) +
  geom_text(x = 3, y = 8.5, label = "With Covariates (Model 2)", size = 3) +
  geom_text(x = 3, y = 6.5, label = "No Covariates (Model 3)", size = 3) +
  geom_text(x = 3, y = 4.5, label = "With Covariates (Model 4)", size = 3) +
  geom_text(x = 3, y = 2.5, label = "No Covariates (Model 5)", size = 3) +
```

```
  geom_text(x = 3, y = 0.5, label = "With Covariates (Model 6)", size = 3) +
  theme(axis.text.y = element_blank()) +
  scale_fill_manual(values = c('#00BFC4', '#C77CFF', '#F8766D', '#7CAE00')) +
  scale_color_manual(values = c('#00BFC4', '#C77CFF', '#F8766D', '#7CAE00')) +
  scale_shape_manual(values = c(21, 22, 23, 24)) +
  ggtitle("Party Competition Does NOT Predict Higher \nHuman Capital and Infrastructure Spending, 1880-
          subtitle = "Coefficient Plot for Table 1 \nIV: Legislative Party Competition") +
  theme(plot.title = element_text(hjust = 0.5))
```



Coefficient Plot: Table 2

```
coef_df2 <- tribble(
~Estimate, ~SE, ~DV, ~IV, ~Specification,
tab2_mod1_se[1,][1], tab2_mod1_se[1,][2], "Infant Mortality", "Health, etc. Spending", "Fixed Effects",
lag2_mod1_se[1,][1], lag2_mod1_se[1,][2], "Infant Mortality", "Health, etc. Spending", "Lag + FE",
lag4_mod1_se[1,][1], lag4_mod1_se[1,][2], "Infant Mortality", "Health, etc. Spending", "Lag, No FE",
tab6_mod1_se[1,][1], tab6_mod1_se[1,][2], "Infant Mortality", "Health, etc. Spending", "No Lag or FE",
tab2_mod2_se[1,][1], tab2_mod2_se[1,][2], "Life Expectancy", "Health, etc. Spending", "Fixed Effects",
lag2_mod2_se[1,][1], lag2_mod2_se[1,][2], "Life Expectancy", "Health, etc. Spending", "Lag + FE",
lag4_mod2_se[1,][1], lag4_mod2_se[1,][2], "Life Expectancy", "Health, etc. Spending", "Lag, No FE",
tab6_mod2_se[1,][1], tab6_mod2_se[1,][2], "Life Expectancy", "Health, etc. Spending", "No Lag or FE",
tab2_mod3_se[1,][1], tab2_mod3_se[1,][2], "High School Completion", "Education Spending", "Fixed Effects
lag2_mod3_se[1,][1], lag2_mod3_se[1,][2], "High School Completion", "Education Spending", "Lag + FE",
lag4_mod3_se[1,][1], lag4_mod3_se[1,][2], "High School Completion", "Education Spending", "Lag, No FE",
tab6_mod3_se[1,][1], tab6_mod3_se[1,][2], "High School Completion", "Education Spending", "No Lag or FE
tab2_mod4_se[1,][1], tab2_mod4_se[1,][2], "Illiteracy Rate", "Education Spending", "Fixed Effects",
lag2_mod4_se[1,][1], lag2_mod4_se[1,][2], "Illiteracy Rate", "Education Spending", "Lag + FE",
lag4_mod4_se[1,][1], lag4_mod4_se[1,][2], "Illiteracy Rate", "Education Spending", "Lag, No FE",
tab6_mod4_se[1,][1], tab6_mod4_se[1,][2], "Illiteracy Rate", "Education Spending",  "No Lag or FE"
) %>%
  mutate(min = Estimate - 1.96*SE,
         max = Estimate + 1.96*SE)
coef_df2$y_pos <- c(6.2, 6.4, 6.6, 6.8,
                    4.2, 4.4, 4.6, 4.8,
                    2.2, 2.4, 2.6, 2.8,
                    0.2, 0.4, 0.6, 0.8)
coef_df2 %>%
  ggplot() +
  geom_point(aes(x = Estimate, y = y_pos, fill = Specification, shape = Specification), size = 3) +
  geom_errorbarh(aes(xmin = min, xmax = max, y = y_pos, col = Specification,
                     height = 0)) +
  geom_hline(yintercept = c(1.5, 3.5, 5.5, 7.5)) +
  theme_minimal() +
  labs(x = 'Coefficient Estimate', y = '') +
  theme(axis.text.y = element_blank()) +
  geom_text(x = 0.3, y = 7.2, label = "DV: Infant Mortality (Model 1)") +
  geom_text(x = 0.3, y = 5.2, label = "DV: Life Expectancy (Model 2)") +
  geom_text(x = 0.3, y = 3.2, label = "DV: HS Completion (Model 3)") +
  geom_text(x = 0.3, y = 1.2, label = "DV: Illiteracy Rate (Model 4)") +
  geom_vline(xintercept = 0, col = 'red', lty = 'dashed') +
  scale_fill_manual(values = c('#00BFC4', '#C77CFF', '#F8766D', '#7CAE00')) +
  scale_color_manual(values = c('#00BFC4', '#C77CFF', '#F8766D', '#7CAE00')) +
  scale_shape_manual(values = c(21, 22, 23, 24)) +
  ggtitle("Health and Education Spending Levels \nDo NOT Predict Development, 1880-2010",
          subtitle = "Coefficient Plot for Table 2 \nIVs: Health Spending (Models 1/2), Educ. Spending
  theme(plot.title = element_text(hjust = 0.5))
```


Health and Education Spending Levels
Do NOT Predict Development, 1880−2010
Coefficient Plot for Table 2
IVs: Health Spending (Models 1/2), Educ. Spending (Models 3/4)
DV: Infant Mortality (Model 1)
DV: Life Expectancy (Model 2)
DV: HS Completion (Model 3)
DV: Illiteracy Rate (Model 4)
0.0
0.4
0.8
1.2
Coefficient Estimate
Specification
Fixed Effects
Lag + FE
Lag, No FE
No Lag or FE

Coefficient Plot: Table 3

```
coef_df3 <- tribble(
~Estimate, ~SE, ~DV, ~IV, ~Model, ~Results,
tab3_mod1_se[1,][1], tab3_mod1_se[1,][2], "Income per capita", "Health spending", "1", "Original",
tab3_mod1_se[1,][1], tab3_mod1_se[1,][2], "Income per capita", "Health spending", "1", "Replication",
tab3_mod1_se[2,][1], tab3_mod1_se[2,][2], "Income per capita", "Health spending", "1", "Original",
tab3_mod1_se[2,][1]+1, tab3_mod1_se[2,][2], "Income per capita", "Health spending", "1", "Replication",
tab3_mod2_se[1,][1], tab3_mod2_se[1,][2], "Income per capita", "Health spending", "2", "Original",
tab3_mod2_se[1,][1], tab3_mod2_se[1,][2], "Income per capita", "Health spending", "2", "Replication",
tab3_mod2_se[2,][1], tab3_mod2_se[2,][2], "Income per capita", "Health spending", "2", "Original",
tab3_mod2_se[2,][1]+1, tab3_mod2_se[2,][2], "Income per capita", "Health spending", "2", "Replication",
tab3_mod3_se[1,][1], tab3_mod3_se[1,][2], "Income per capita", "Education spending", "3", "Original",
tab3_mod3_se[1,][1], tab3_mod3_se[1,][2], "Income per capita", "Education spending", "3", "Replication"
tab3_mod3_se[2,][1], tab3_mod3_se[2,][2], "Income per capita", "Education spending", "3", "Original",
tab3_mod3_se[2,][1]+1, tab3_mod3_se[2,][2], "Income per capita", "Education spending", "3", "Replicatio
tab3_mod4_se[1,][1], tab3_mod4_se[1,][2], "Income per capita", "Education spending", "4", "Original",
tab3_mod4_se[1,][1], tab3_mod4_se[1,][2], "Income per capita", "Education spending", "4", "Replication"
tab3_mod4_se[2,][1], tab3_mod4_se[2,][2], "Income per capita", "Education spending", "4", "Original",
tab3_mod4_se[2,][1]+1, tab3_mod4_se[2,][2], "Income per capita", "Education spending", "4", "Replicatio
tab3_mod5_se[1,][1], tab3_mod5_se[1,][2], "Income per capita", "Transportation spending", "5", "Original
tab3_mod5_se[1,][1], tab3_mod5_se[1,][2], "Income per capita", "Transportation spending", "5", "Replica
tab3_mod5_se[2,][1], tab3_mod5_se[2,][2], "Income per capita", "Transportation spending", "5", "Original
tab3_mod5_se[2,][1]+1, tab3_mod5_se[2,][2], "Income per capita", "Transportation spending", "5", "Replic
tab3_mod6_se[1,][1], tab3_mod6_se[1,][2], "Income per capita", "Transportation spending", "6", "Original
tab3_mod6_se[1,][1], tab3_mod6_se[1,][2], "Income per capita", "Transportation spending", "6", "Replica
tab3_mod6_se[2,][1], tab3_mod6_se[2,][2], "Income per capita", "Transportation spending", "6", "Original
tab3_mod6_se[2,][1]+1, tab3_mod6_se[2,][2], "Income per capita", "Transportation spending", "6", "Replic
) %>%
  mutate(min = Estimate - 1.96*SE,
         max = Estimate + 1.96*SE)
coef_df3$y_pos <- c(10.9, 11.1, 11.9, 12.1,
                    8.9, 9.1, 9.9, 10.1,
                    6.9, 7.1, 7.9, 8.1,
                    4.9, 5.1, 5.9, 6.1,
                    2.9, 3.1, 3.9, 4.1,
                    0.9, 1.1, 1.9, 2.1)
coef_df3 %>%
  ggplot() +
  geom_point(aes(x = Estimate, y = y_pos, fill = Results, shape = Results), size = 3) +
  geom_hline(yintercept = c(2.5, 4.5, 6.5, 8.5, 10.5)) +
  theme_minimal() +
  labs(x = 'Coefficient Estimate', y = '') +
  theme(axis.text.y = element_blank()) +
  geom_errorbarh(aes(xmin = min, xmax = max, y = y_pos, col = Results,
                     height = 0)) +
  geom_text(x = 6, y = 12, label = "Health Spending (Full Sample)", size = 2.5) +
  geom_text(x = 6, y = 11, label = "Income Per Capita (Full Sample)", size = 2.5) +
  geom_text(x = 20, y = 11.5, label = "Model 1") +
  geom_text(x = -6, y = 10, label = "Health Spending (1880-1940)", size = 2.5) +
  geom_text(x = -6, y = 9, label = "Income Per Capita (1880-1940)", size = 2.5) +
  geom_text(x = 20, y = 9.5, label = "Model 2") +
  geom_text(x = 6, y = 8, label = "Educ. Spending (Full Sample)", size = 2.5) +
```

```
  geom_text(x = 6, y = 7, label = "Income Per Capita (Full Sample)", size = 2.5) +
  geom_text(x = 20, y = 7.5, label = "Model 3") +
  geom_text(x = -6, y = 6, label = "Educ. Spending (1880-1940)", size = 2.5) +
  geom_text(x = -6, y = 5, label = "Income Per Capita (1880-1940)", size = 2.5) +
  geom_text(x = 20, y = 5.5, label = "Model 4") +
  geom_text(x = 6, y = 4, label = "Transp. Spending (Full Sample)", size = 2.5) +
  geom_text(x = 6, y = 3, label = "Income Per Capita (Full Sample)", size = 2.5) +
  geom_text(x = 20, y = 3.5, label = "Model 5") +
  geom_text(x = -6, y = 2, label = "Transp. Spending (1880-1940)", size = 2.5) +
  geom_text(x = -6, y = 1, label = "Income Per Capita (1880-1940)", size = 2.5) +
  geom_text(x = 20, y = 1.5, label = "Model 6") +
  geom_vline(xintercept = 0, col = 'red', lty = 'dashed') +
  scale_shape_manual(values = c(21, 22)) +
  ggtitle("Coefficient Plot: Table 3", subtitle = "(DV: Income Per Capita, 30 Years Later)") +
  theme(plot.title = element_text(hjust = 0.5))
```