

The Politics of Investment: Partisanship and the Activity of Multinational Corporations

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The Politics of Investment

- **Question**

- How does foreign investment (FDI) react to changing political conditions in host countries?

- **Answer**

- Partisan cycles affect investment performance at the industry level

- **Theory**

- Formal model predicts incumbents allegiance to labor or capital affects regulatory framework (taxes) offered to foreign investors.
- Reflected in FDI performance (level of FDI flows) at the industry level.

- **Empirics**

- Analyze pattern of direct investment to OECD countries (1985-2000) by sector.
- Link that pattern to type of FDI (constrained by data)

What Drives the Politics of FDI

- **Demand side:** Theory of preferences
 - Predict what kind of policies will different voters/groups demand
 - Derive individual/group preferences from:
 - Actors positions in the economy: ownership of factors of production (labor and capital)
 - Effects of FDI flows on factor return
- **Supply side:** government's objective function
 - Predict how government would react to demands from different interest groups/voters
- **Our Contribution:**
 - Model actors' interests/preferences: whether FDI is a complement or a substitute to factor owned by agent
 - Model government's reaction according to its type: Pro-labor (left) or pro-capital (right)
 - Look for effects of partisanship on FDI performance at industry level
 - Effects likely to covary with type of FDI

Assumptions

- 3 (factors) x 2 (sectors)
- Production: $q^i = f^i(K^i, k^i, L^i)$ for $i= 1,2$
- K^i is domestic capital, k^i is foreign capital, and L^i is labor
- f^i is homogeneous of degree 1
- Domestic labor (L) and capital (K) are fixed in supply
- Domestic capital (K) is mobile across sectors, and Labor (L) is sector specific
- Foreign capital (k) is perfectly elastic and can be rented at an exogenous rate (r)
- Utility of individuals (U_h) results from income y_h and an in-kind transfer from government (g_h):
$$U_h = y_h + v(g_h), \text{ for } h = \mathcal{L}, \mathcal{K}, \text{ where}$$
$$v' > 0, v'(0) \rightarrow \infty, v'' < 0.$$
- Allocation of (k) in sector i is determined by: $f_k^i - t^i = r$
and return to \mathcal{K} in sectors 1 and 2 is equalized: $\bar{r} \equiv f_K^1 = f_K^2$

Solution

Second Stage: Allocation of domestic and foreign capital

$$f_k^1 - r - t^1 = 0, \quad (3)$$

$$f_k^2 - r - t^2 = 0, \quad (4)$$

$$f_K^1 - f_K^2 = 0. \quad (5)$$

Comparative Statics:

$$\frac{\partial k^1}{\partial t^1} = \frac{f_{kk}^2 (f_{KK}^1 + f_{KK}^2) - (f_{kk}^2)^2}{|J|} < 0, \quad \frac{\partial k^1}{\partial t^2} = -\frac{f_{kk}^1 f_{KK}^2}{|J|} \quad (6)$$

$$\frac{\partial k^2}{\partial t^1} = -\frac{f_{KK}^1 f_{kk}^2}{|J|}, \quad \frac{\partial k^2}{\partial t^2} = \frac{f_{kk}^1 (f_{KK}^1 + f_{KK}^2) - (f_{kk}^1)^2}{|J|} < 0 \quad (7)$$

$$\frac{\partial K^1}{\partial t^1} = -\frac{f_{KK}^1 f_{kk}^2}{|J|}, \quad \frac{\partial K^1}{\partial t^2} = \frac{f_{KK}^2 f_{kk}^1}{|J|} \quad (8)$$

Solution: second stage (cont.)

Effect of t^i on the return to domestic capital:

$$\frac{\partial \bar{r}}{\partial t^1} \frac{1}{f_{KK}^1} = \frac{f_{kk}^2 f_{KK}^2 - (f_{kk}^2)^2}{|J|} < 0, \quad (9)$$

$$\frac{\partial \bar{r}}{\partial t^2} \frac{1}{f_{KK}^2} = \frac{f_{kk}^1 f_{KK}^1 - (f_{kk}^1)^2}{|J|} < 0. \quad (10)$$

Effect of t^i on wages:

Assume: $w^i = q^i - \bar{r}K^i - (r + t^i)k^i, \quad i = 1, 2. \quad (11)$

Then:

$$\begin{aligned} \left(\frac{\partial w^1}{\partial t^1} + \frac{\partial w^2}{\partial t^1} \right) &= - \left(\frac{\partial \bar{r}}{\partial t^1} \bar{K} + k^1 \right), \\ \left(\frac{\partial w^1}{\partial t^2} + \frac{\partial w^2}{\partial t^2} \right) &= - \left(\frac{\partial \bar{r}}{\partial t^2} \bar{K} + k^2 \right). \end{aligned} \quad (14)$$

Second stage: Intuition

- Effect of FDI in host country:
 - (+) Positive effect on return to complement of FDI
 - (−) Negative effect on return to substitute of FDI
- Owners of factors of production in host country:
 - Incentive to encourage FDI inflows if complement
 - Incentive to discourage FDI inflows if substitute.
- Workers and domestic capital owners will run into conflict over regulation of FDI.
- While both labor and capital might support lower taxes on FDI, both groups will never unanimously support a more restrictive FDI policy (ie: higher taxes on i).

Numerical Example

Table 1: Comparative Statics Results Summary

Sector 1	Sector 2	$\partial(w^1 + w^2)/\partial t^1$	$\partial(w^1 + w^2)/\partial t^2$	$\partial \bar{r}/\partial t^1$	$\partial \bar{r}/\partial t^2$
Complements	Complements	(+)* or (-)**	(+) [†] or (-) [‡]	(-)	(-)
Complements	Substitutes	(+)* or (-)**	(+)	(-)	(+)
Substitutes	Complements	(-)	(+) [†] or (-) [‡]	(+)	(-)
Substitutes	Substitutes	(-)	(-)	(+)	(+)

* It is (+) when $[-(\partial \bar{r}/\partial t^1)K > k^1]$. ** It is (-) when $[-(\partial \bar{r}/\partial t^1)K < k^1]$.

[†] It is (+) when $[-(\partial \bar{r}/\partial t^2)\bar{K} > k^2]$. [‡] It is (-) when $[-(\partial \bar{r}/\partial t^2)\bar{K} < k^2]$.

First Stage

Government (G) can be of two types: pro-labor ($\beta = 1$) or pro-capital ($\beta = 0$). G chooses $\{t^1, t^2, g_{\mathcal{L}}, g_{\mathcal{K}}\}$ to maximize:

$$\Omega = \beta(U_{\mathcal{L}}^1 + U_{\mathcal{L}}^2) + (1 - \beta)(K^1 U_{\mathcal{K}}^1 + K^2 U_{\mathcal{K}}^2) \quad (14)$$

where $U_{\mathcal{L}}^i = w^i + v(g_{\mathcal{L}})$ and $U_{\mathcal{K}}^i = \bar{r} + v(g_{\mathcal{K}})$ for $i = 1, 2$
Subject to (budget constraint): $2g_{\mathcal{L}} + \bar{K}g_{\mathcal{K}} = T$

Solution

$$b_{\mathcal{L}} + (b_{\mathcal{L}} - b_{\mathcal{K}}) \left[\frac{(\partial \bar{r} / \partial t^i) \bar{K}}{k^i} \right] = \frac{\partial T / \partial t^i}{k^i}. \quad (24)$$

where: $b_{\mathcal{L}} = \beta / \lambda$ and $b_{\mathcal{K}} = (1 - \beta) / \lambda$ are, respectively, G's valuation of a change in income of workers and capitalists, (measured in terms of government revenue).

Predictions from Model

- **Pro-labor/Left-leaning government:**
 - adopt regulatory regime to lure foreign capital into sectors where labor is complement
 - keep capital out of sectors where it substitutes for labor
- **Pro-business/Right-leaning government:**
 - Encourage flows into sectors where FDI complements capital and substitutes for labor
 - Usually associated with introduction of labor-saving technology
 - Keep FDI out of sectors where it substitutes for domestic capital
 - Sectors where FDI is likely to compete with domestic business for labor, market share, or rents.

Testable Hypothesis

- A *change* in government partisanship from the right to the left will result in larger inflows to the sector where labor is a *complement* of foreign capital, and/or a *reduction* of FDI inflows to those sectors where it is a *substitute*.
 - Testable with micro-level data (available through BEA Survey of International Business)
- Test on aggregate sectoral data for differential pattern of investment performance as left and right-leaning parties alternate in government.
 - Data available from SourceOECD for a limited sample of countries and years
- Null hypothesis: no relationship between incumbent partisan orientation and foreign investment inflows

FDI Inflows Models

We estimate the following model by sector:

$$FDI_{ijt} = \alpha_{0i} + \alpha_{1i}Left_{jt} + \beta'_i X_{ijt} + \varepsilon_{ijt}, \quad (28)$$

- *FDI* : net inflows in sector (i), country (j), year (t),
- *Invest* : gross domestic investment in country (j), year (t)
- *Left* : dummy (and left share of cabinet portfolios)
- X_{ijt} : correlates for country (j), year (t)

Data Sources

- FDI: OECD, International Direct Investment Statistics Yearbook
- Employment: OECD, STructural ANalysis (STAN) Industry database
- Left: Database of political institutions (Beck et al.); Political Strength of Political Parties (Swank)

Sample:

- *Countries* : Australia, Austria, Belgium-Luxembourg, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom, and United States.
- *Years* : 1985-2000 (with gaps)

Regressions by Sector: Primary and Manufacturing

Dependent Variable: FDI Inflows into Sector i as a Proportion of Country Investment										
Industry Code	Left		Real GDP (per capita)	Openness		Population (millions)	Constant	Obs.	Countries	R^2
1	0.0029 (0.0110)		0.0017 (0.0036)	0.0011 (0.0006)	*	0.0002 (0.0005)	-0.0224 (0.0791)	249	21	0.175
2	0.3591 (0.1543)	**	0.0773 (0.0520)	0.0156 (0.0092)	*	-0.0211 (0.0083)	-1.4820 (1.1527)	271	21	0.28
3	0.3065 (0.0791)	***	-0.0262 (0.0265)	0.0092 (0.0046)	**	-0.0173 (0.0053)	0.7598 (0.5467)	280	23	0.404
4	0.0813 (0.1272)		0.0033 (0.0344)	0.0093 (0.0049)	*	-0.0125 (0.0105)	-0.1457 (0.7179)	220	23	0.291
5	0.7963 (1.3968)		0.1580 (0.3152)	0.0306 (0.0457)		-0.1049 (0.1172)	-2.8113 (6.8114)	209	22	0.158
6	0.4318 (0.2284)	*	0.0638 (0.0592)	0.0297 (0.0137)	**	-0.0148 (0.0162)	-1.9186 (1.3009)	224	22	0.471
7	0.1550 (0.2132)		0.1273 (0.0446)	0.0322 (0.0114)	***	0.0062 (0.0109)	-4.7107 (2.0412)	** 200	20	0.343
8	0.3533 (0.1293)	***	-0.0122 (0.0333)	-0.0080 (0.0072)		-0.0076 (0.0110)	-0.3975 (1.0082)	166	18	0.534

All regressions include country and year dummies.

Heteroscedastic Panel Corrected Standard Errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Regressions by Sector: Services

Dependent Variable: FDI Inflows into Sector i as a Proportion of Country Investment											
Industry Code	Left		Real GDP (per capita)	Openness		Population (millions)	Constant		Obs.	Countries	R^2
9	0.3560 (0.2066)	*	0.1565 (0.1709)	0.0194 (0.0138)		-0.0507 (0.0382)	-2.5914 (3.3463)		123	18	0.39
10	-0.0733 (0.0256)	***	-0.0021 (0.0082)	-0.0024 (0.0015)	*	-0.0056 (0.0015)	0.1811 (0.1745)	***	278	23	0.364
11	0.1776 (0.1156)		0.0727 (0.0447)	0.0390 (0.0101)	***	-0.0114 (0.0075)	-1.1418 (0.9592)		326	23	0.379
12	-0.0145 (0.0880)		-0.0231 (0.0136)	0.0040 (0.0041)	*	0.0106 (0.0054)	0.6198 (0.3325)	*	148	19	0.155
13	-0.0667 (0.0398)	*	0.0053 (0.0133)	-0.0054 (0.0033)		-0.0031 (0.0020)	0.6563 (0.6179)		196	18	0.531
14	0.9110 (0.4844)	*	0.6229 (0.2290)	0.0459 (0.0247)	*	-0.1157 (0.0430)	-13.069 (4.2292)	***	137	17	0.465
15	1.4960 (0.4321)	***	0.4363 (0.2114)	0.0965 (0.0329)	***	-0.1156 (0.0314)	-8.2864 (4.2416)	*	342	24	0.943
16	-0.0436 (0.0643)		0.1526 (0.0431)	0.0217 (0.0058)	***	-0.0278 (0.0113)	2.4710 (2.2152)	**	109	18	0.768
17	-0.0588 (1.0898)		0.4501 (0.9774)	-0.1083 (0.1222)		-0.6815 (0.2449)	148.71 (50.978)	***	109	18	0.471

All regressions include country and year dummies.

Heteroscedastic Panel Corrected Standard errors in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Summary of Coefficient on Left

Dependent Variable: $FDI_{ijt}/Invest_{jt}$

Sector Code	Sector	Coeff.	PCSE	Sign, Signif.
1	Agriculture and fishing	0.003	(0.011)	+
2	Mining and quarrying	0.359	(0.154)	+ **
3	Food products	0.307	(0.079)	+ ***
4	Textile and wood	0.081	(0.127)	+
5	Petroleum, chemical, etc.	0.796	(1.397)	+
6	Metal and mechanical	0.432	(0.228)	+ *
7	Machinery, computers, etc.	0.155	(0.213)	+
8	Vehicles and transport	0.353	(0.129)	+ ***
9	Electricity, gas and water	0.356	(0.207)	+ *
10	Construction	-0.073	(0.026)	- ***
11	Trade and repairs	0.178	(0.116)	+
12	Hotels and restaurants	-0.015	(0.088)	-
13	Transportation	-0.067	(0.040)	- *
14	Telecommunications	0.911	(0.484)	+ *
15	Financial Intermediation	1.496	(0.432)	+ ***
16	Real estate	-0.044	(0.064)	-
17	Other business activities	-0.059	(1.090)	-

* significant at 10%; ** significant at 5%; *** significant at 1%

FDI and Wages Model

- Cannot directly assess characteristics of FDI by sector
- There is also good reason to believe that within sector firms might decide to enter with different technology
- Decide to look at the effect of inflows when left is in power compared to other partisan governments.
- Estimate pooled regression:

$$\Delta W_{jt} = \gamma_0 + \gamma_1 FDI_{ijt} + \gamma_2 Left_{jt} + \gamma_3 FDI_{ijt} \times Left_{jt} + \delta' Z + v_{jt}, \quad (29)$$

- W_{jt} : total wages (per hour) in country (j), year (t)
- FDI_{ijt} : net inflows in sector (i), country (j), year (t)
- Left: dummy = 1 when incumbent party in $country_{jt}$ is left-leaning.
- Z: controls, including change in GDP per capita, change in openness, sector (i), country (j), and time (t) dummies

Effect of FDI Inflows on Aggregate Wages

Dependent Variable: Δ Aggregate Wages		
Left	0.9643	***
	(0.0841)	
FDI Inflows	-0.0036	
	(0.0050)	
Left \times (FDI Inflows)	0.0185	**
	(0.0086)	
Δ Real GDP (per capita)	0.0012	***
	(0.0002)	
Δ Openness	-0.0082	
	(0.0416)	
Constant	3.3828	***
	(0.4909)	
Sector Dummies	Yes	
Country Dummies	Yes	
Year Dummies	Yes	
Observations	3077	
Parameters	61	
R^2	0.578	

Note: Heteroscedastic Panel Corrected Standard errors in brackets.

* significant at 10%; ** significant at 5%; *** significant at 1%

Summary of Results

- FDI flows to manufacturing sector when left is in power
- Manufacturing sector has lowest capital/worker ratios
- FDI allocation at industry level covaries with partisanship of incumbent
- Industries that receive higher levels of FDI have lower capital/worker ratios than sample average

Conclusions

- We argued that investment performance results from the strategic interaction between partisan governments and foreign investors
- Foreign investors react to changing political conditions
- Foreign investors reaction depends on:
 - Whether FDI is a complement or a substitute of domestic factors of production.
 - Whether owners of the factors that benefit or hurt from FDI inflows are politically influential: government pro-labor or pro-business orientation.
- We find evidence of partisan cycles in FDI performance at the industry level.
- Provides preliminary support to one of the implications of our model: partisanship affects sectoral allocation of FDI.

Caveats and Extensions

Caveats:

- Cannot directly test whether FDI is a complement or substitute to domestic factors of production with available data.

Extensions: Empirics

- Test using micro-level data (BEAs Surveys of Direct Investment Abroad)
 - Introduction of labor-saving technologies and complementarities between foreign and domestic capital.
- Developing countries

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Extensions: time-consistency

Theory

- Governments objective function:
 - Wages or employment (endogenously determined)
- Role of institutions

Dynamic effects and Economic Outcomes

- Policy regime offered ex-ante is not enough to lure FDI:
 - Strategic investors need reassurance of stable policy environment;
 - Stay out where risks are high
- Broad losses for host country and investors:
 - Reduced output, lower wages and taxes, and missed investment opportunities

Extensions: Partisan commitment

Government partisanship as a commitment technology

- When government represents factor that is a *complement* of FDI: lower risk of government opportunistic behavior.
- When government represents FDI's *substitute*:
 - Host government is more likely to offer a regulatory regime that is not credible;
 - Links to those hurt by FDI inflows reinforce incentives to act opportunistically.

Theories of FDI

- **Micro-level theories of MNCs:**

Explain why firms become multinational and invest abroad (Dunning; Markusen):

- Protect sensitive assets (ownership and internalization)
- Factor proportions (associated with vertical FDI)
- Supply local markets (associated with vertical FDI)

- **Regulating FDI:**

- Obsolescing Bargain (Vernon; Kobrin; Whiting)
- Taxation (Hines)
- Capital controls (Quinn; Alfaro; Brooks)

- **Political Institutions:**

- Regime type and property rights (Jensen; Oneal; Li & Resnick)
- Federalism (Jensen)
- Veto gates and credibility (Henisz)

- **Preferences and class conflict:**

- Triple Alliance (Evans; Frank).
- Labor versus capital: labor supports, capital opposes (Pinto)

Partisan Governments

- **Motive/Preferences**

- Complement benefits from FDI and will like to encourage inward flows
- Substitute is hurt and will try to keep FDI out.

- **Opportunity/Influence**

- Partisan governments are more likely to respond to core constituents interests and to react more favorably to their demands (Hibbs 1977, 1992; Tufte 1978).

- **Labor, Capital, Left and Right**

- No Downsian competition
- Party of the left (pro-labor)
 - advance political agenda of labor;
 - respond to labors interests;
 - react favorably to labors demands.
- Party of the right (pro-business)
 - advance political agenda of domestic business;
 - react favorably to domestic capitals demands.

Second state: Intuition (cont.)

- Workers and domestic capital owners will run into conflict over regulation of FDI.
 - When foreign and domestic capital are substitutes, total wages increase with lower tax rates, while the return on domestic capital increases with higher tax rates.
 - Labor favors higher tax rates and domestic capitalists lower tax rates if domestic and foreign capital are complements (and $-(\partial \bar{r} / \partial t^i) \bar{K} > k^i$, from equation (11) is fulfilled).
 - If K^i and k^i are complements and $-(\partial \bar{r} / \partial t^i) \bar{K} > k^i$, both labor and capital will support lower taxes in sector i .
 - Because total wages and the return on domestic capital decline with t^i .
- While both labor and capital might support lower taxes on FDI, both groups will never unanimously support a more restrictive FDI policy (ie: higher taxes on i).

Predictions (cont.)

- Patterns of FDI will covary with government partisanship
- Foreign investment will flow to the sectors where FDI is a complement of labor when the party of the left (pro-labor) is in power.
- Foreign investment will flow to the sectors where FDI is a substitute of labor when the pro-business party is in power.

Hypothesis

When governments value the support of labor, they will adopt policies that encourage the flow of FDI to the sectors where foreign investment is a complement of labor, all else equal.

- Which sectors or industries?
 - Those where FDI increases labor productivity
 - Those where FDI raises wages
 - Or increases employment depending on labor market institutions (extension from model).
 - Labor intensive sectors in labor abundant countries
 - Sectors with low capital to labor ratios.

Sectors Employed in Analyses

Code	Industrial Sector
1	Agriculture and fishing
2	Mining and quarrying
3	Food products
4	Total textile and wood activities
5	Total petroleum, chemical, rubber, plastic products
6	Total metal and mechanical products
7	Total machinery, computers, RTV, communication
8	Total vehicles and other transport equipments
9	Electricity, gas and water
10	Construction
11	Trade and repairs
12	Hotels and restaurants
13	Transportation
14	Telecommunications
15	Financial Intermediation
16	Real estate
17	Other business activities

Summary of Findings

We find preliminary evidence of the existence of partisan cycles

Left-leaning governments (OECD sample, 1980 – 2000)

Sector Code	Sector	Sign	Signif.
1	Agriculture and fishing	+	
2	Mining and quarrying	+	**
3	Food products	+	***
4	Textile and wood	+	
5	Petroleum, chemical, etc.	+	
6	Metal and mechanical	+	*
7	Machinery, computers, etc.	+	
8	Vehicles and transport	+	***
9	Electricity, gas and water	+	*
10	Construction	–	***
11	Trade and repairs	+	
12	Hotels and restaurants	–	
13	Transportation	–	*
14	Telecommunications	+	*
15	Financial Intermediation	+	***
16	Real estate	–	
17	Other business activities	–	