

COMPETITION POLICY AND FOREIGN DIRECT INVESTMENT

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I. Introduction

This paper will review statistical evidence to find evidence of the impact of national competition laws in encouraging inward FDI. The relationship between competition policy and inbound foreign direct investment (FDI) is important for a number of reasons. Primarily, FDI has important implications for the sustainability of national policies. High levels of FDI can challenge the government's ability to protect domestic industries. The tradeoff between higher FDI, which is considered to be beneficial for the recipient nation, against the ability of the government to maintain its control over certain sectors of the domestic economy, and the benefit of doing so, remains a largely unanswered policy question.

From an international viewpoint, even where competition laws do exist, they differ considerably in terms of their content, sectoral scope and in terms of the entities they cover. Nations that have a competition law may not enforce it, or may be constrained in their ability to do so by differences in their national legal systems. These divergences in application and legal procedure, and the effect those divergences may or may not have upon their ability to attract foreign investment, deserve further analysis.

It is not immediately clear to the outside observer that a highly competitive economy will encourage inbound FDI. Government policies that protect certain segments of the economy may be more attractive to certain investors than a fully competitive market because of the potential for abnormal profit resulting from imperfect competition in that sector. Alternatively, the introduction of a competition policy accompanied by a vigorous enforcement policy may attract investors. In contrast to those investors described above, this latter class of investor will value a level playing field and assurances that the government will not accord unfair advantage to protected or government-owned industries over promises of unfair advantage granted to an elite few. The results of this paper will hopefully contribute to a satisfactory response to the question.

This paper focuses on foreign direct investment rather than portfolio investment because FDI, due to its illiquid and less volatile nature, is a better indicator of changes in the long-term investor assessment of a country's potential and is more likely to have a significant impact on growth and development in the host country.

The analysis is set out in five sections. Section II of this paper studies the existing literature in this area. Section III looks at the methodology undertaken to examine the interaction between FDI and competition and section IV displays the results. Section V offers some preliminary conclusions and suggestions for further study in this area. References and a bibliography may be found at the rear of the document.

II. A selective overview of recent literature on the interaction between FDI and competition policy

This is not the first study to examine the link between competition policy and FDI. An enormous amount of the current literature in this area, however, focuses on the specific relationship between mergers and acquisitions and competition policy, which is not the focus of this paper. Comparatively little research looks at the broader link between FDI and the existence of competition policy. Several papers, though, have made important inroads in this area, the results of which deserve careful attention. A recent endeavour to make sense of the link between competition policy and FDI focused on the channels through which government competition policies, private practices and FDI could interact (Noland, 1999.) Another recent contribution approached the issue of competition policy and FDI using a combination of quantitative analysis and case-study, focusing mainly on Brazil (Oliveira et al, 2001.) A third analysis observed the interaction between competition rules and FDI in a theoretical setting (Horne, Francois, 2000.)

Noland's analysis is concerned about the impact of government policy on FDI, particularly the possibility that those policies may encourage firms to engage in anticompetitive private behaviour that may impede FDI.

“The issue of government policy is salient for two reasons. First, government policy ... can affect the ability of private firms to engage in anticompetitive behaviour and impede FDI. So, for example, cartels are unlikely to be able to raise prices and exclude new entrants to markets unless there is some mechanism ... which impedes the ability of new firms to enter the market and bid down prices.” (Noland, 1999)

His data focuses on the US and Japan, and his results imply that barriers to FDI are far more likely to depend on specific policies or general economic conditions rather than systematic aspects of industrial structure. His conclusion suggests that government competition policies can constrain incumbent's abilities to implement anticompetitive strategies and that those practices can affect FDI.

The Gesner paper takes a more straightforward approach to the question. Among other questions, the Gesner paper asks

- “i) What is the impact of competition policy on FDI? Does competition policy deter or attract FDI?
- ii) Should FDI be exempt from competition policy analysis and merger control in particular? Can FDI have an anticompetitive effect? (Gesner, 2001)

The authors examine the relationship between FDI and competition policy using a Spearman correlation of rankings between the two variables. The authors' results suggest that there is a positive relationship between the two variables and conclude that, at the very least, competition policy is not inimical to FDI.

Horne and Francois explore the possible implications of competition policy on FDI through a general equilibrium model. The Horne, Francois model proposes that differing competition policies result in different industry cost structures across countries, and assert that beggar-thy-neighbour competition policies may be undermined by FDI. This is based on their observation that a strategic competition policy that increases the profits of domestic firms by permitting larger markups than would prevail under perfect competition will also enhance the competitive position of those firms by lowering their marginal costs.

The authors then go on to hypothesise that this reduction in marginal costs in the country pursuing an export oriented strategy (country 1) will actually attract FDI by encouraging overseas manufacturers to invest in the more competitive factors of production there. Those investors will reduce the profit of domestic manufacturers in country 1 through the repatriation of earnings. This process will continue; overseas firms will have an incentive to invest in country 1 for as long as any differences remain in production costs between the overseas economies and country 1. In their model, FDI is disadvantageous for the recipient country because it suffers a loss of income.

Horne and Francois therefore float the question of whether some countries will be worse off as a result of the increased FDI that results from competition policy and surmise that countries pursuing a beggar-thy-neighbour competition policy may oppose any international accord which attempts to set minimum standards for a multilateral framework on competition precisely because it will have a negative impact on their national welfare.

Thus far, the literature concerning the link between inbound FDI and the existence of a competition policy has yielded varying results and focused on the relationship between the two from a number of different vantage points. Gesner's research and Noland's research into the link between government competition policies and FDI closely parallels that which is being undertaken here. The Horne Francois paper leaves open the possibility for further research in to the actual effect of competition laws on each government's national economic strategy and its attendant implications for a multilateral framework on competition of the type currently being debated in Geneva.

III. Quantitative Analysis

By using data on FDI before and after the competition law was put in place, one can examine whether there is a systematic deviation of the amount of FDI before and after the changes took place. The variables are assessed using a general least squares model with random effects.

The country sample was assembled from StatCan. The list was pared down to exclude countries with a small economy (totaling less than five billion in GDP) and/or a low population. So as to avoid assuming that the quantitative impact of each determinant of FDI was the same in each continent, five distinct samples were formed; for recipients of FDI in Africa, in Asia, in Latin America and the Caribbean, in Europe, and in Oceania. Statistics Canada's *World Trade Analyzer*—which employs the United Nations' classification of economies and customs territories—was used to identify all of the potential recipients of FDI in each continent. The following table shows the final country list.

Table III.1

Africa	Latin America	Asia	Europe	Oceania
South Africa	Argentina	Israel	Denmark	Australia
Algeria	Bolivia	Iran	Greece	New Zealand
Morocco	Brazil	Jordan	Ireland	
Tunisia	Chile	Lebanon	Italy	
Egypt	Colombia	Saudi Arabia	Portugal	
Cameroon	Ecuador	Syria	Spain	
Chad	Mexico	Turkey	United Kingdom	
Gabon	Paraguay	Yemen	Austria	
Angola	Peru	Bangladesh	Finland	
Benin	Venezuela	Cambodia	Norway	
Ethiopia	Costa Rica	Hong Kong	Sweden	
Ghana	El Salvador	India	Bulgaria	
Guinea	Guatemala	Indonesia	Hungary	
Cote D'Ivoire	Honduras	Korea	Poland	
Kenya	Nicaragua	Laos	Romania	
Madagascar	Dominican	Malaysia		
Malawi	Republic	Nepal		
Mali	Haiti	Pakistan		
Mauritius	Jamaica	Philippines		
Mozambique	Trinidad Tobago	Thailand		
Niger	Panama	China		
Nigeria				

Rwanda Senegal Zimbabwe Togo Uganda Tanzania Burkina Faso Zambia		Vietnam		
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Small countries were eliminated because trade flows in these countries exhibit unusual patterns. Second, from each sample any economy was deleted that was formed from the breakup of two or more other economies during the years 1985 to 2000. This excluded many of the formerly Communist states, in particular those nations that emerged after the fall of the Soviet Union. This second step is rationalized on the grounds that such newly-formed states would not have a complete set of observations on FDI since 1985.

This study took account of the cartel laws prevailing in the recipient countries. Valid arguments have been raised pertaining to the relative strength and efficacy of each country's cartel laws. Gauging the potency of anti-trust legislation and enforcement is problematic. In an attempt to sidestep this debate, several measures of cartel laws were included in this paper.

Firstly, nations that had declared the existence of a cartel law to the World Trade Organisation (WTO) were deemed to have acquired an anti-cartel law from the year in which notification took place. Secondly, Member notifications to the OECD regarding the existence and/or enforcement of anti-cartel laws were also interpreted as being indicative of the existence of some sort of competition regime. The date of enactment of the anti-cartel law was verified via the web page of the Competition Authority of the country in question. Thirdly, developing country notifications of anti-cartel enforcement as notified to the OECD was interpreted as being indicative of the existence of an anti-cartel law and was verified and indicated in the same manner as set out above. Finally, the presence of a rating for the strength of anti-cartel enforcement in the Global Competitiveness Report, 2000 was interpreted as being indicative of the existence of anti-cartel legislation. The date of implementation of such law was verified by referencing the individual country websites.

The last step in data collection was to identify those economies where there was some evidence of active cartel enforcement. For each recipient of FDI used in this model, the extensive number of submissions to the OECD's 2001 and 2002 Global Forums on Competition were examined to see if there were any reported cases of competition law enforcement activity that resulted in fines or some other form of sanction being imposed, or in an order to cartel members to cease their conspiracy.¹

¹ See the recent annual reports of the national competition authorities to the OECD's Committee on Competition Law and Policy for evidence of cartel enforcement activity at http://www1.oecd.org/daf/clp/Annual_reports/1999-00.htm. See documentation for the 2001 OECD Global

An example may clarify matters. According to OECD documentation, Romania completed at least two cartel enforcement actions during the years 1997 to 2000. Given Romania passed her competition law in 1996 and that that law came into force on January 1, 1997. The algorithm OECD data category above would set indicator variable to zero throughout and change indicator variable to one in the year 1997 and for each year thereafter. In this way, the introduction of a competition law and its attendant affect on FDI may be measured.

A measure of the openness of each economy to trade was also included in the regression. The World Development Indicators measure an economy's openness to trade with as a ratio of trade to GDP, expressed as a percentage. For the purposes of this analysis, the percentage was divided by 100, to configure it as a numeral measured between 0-1, and then logged. The result has been labeled "logOpen" in the regressions tabulated below.

The dependent variable in all the models below is logFDI. The dependent variables change slightly in each of the regressions. For example, it was necessary to differentiate between the effects of the dependent variable "logWCR", which measures the strength of competition enforcement on a scale between 1-7, and "WTO existence", which was a binomial measure indicating the presence of a competition law as recorded by the WTO, to gauge the different effects each upon the FDI received by each country over time.

Given the time invariant nature of many of the explanatory variables – the majority of them, such as distance and geographic location, were measures that did not vary over the period being examined - a fixed effects model was inappropriate for the bulk of the regressions undertaken. The random effects regressions, shown below, allow us to infer more information about the relationships between the dependent and independent variables. Nonetheless, Table IV.5 does display the results of a regression that used a fixed effects model to illustrate the strong positive result that arose when enforcement of competition law in developing countries was measured against FDI.

The data used in all of the following regressions were taken from a panel containing FDI for 98 countries over the years 1985-1999. This analysis was primarily focusing on the interaction between four measures of the existence and strength of competition policy – respectively, logWCR, OECDenforcement, DC enforcement, WTOexistence - against the level of FDI observed in the country.

A number of dummy variables were also included. These included a continental variable, which categorized the countries according to the recipients of FDI according to six different regions, Africa, Asia, North America, South or Central America, Europe and Oceania. Europe was withheld from the regression for the purpose of comparison with other regions. Finally, three variables were included to measure the distance between the

recipient country and the three largest sources of FDI - the USA, Germany and Japan – to see if geographic distance had an impact on FDI. The distances were logged in all models before being regressed against the dependent variable.

The following list contains the names of all variables and a brief explanation of what each variable represents.

Table III.2

logWCR	The log of the strength of competition policy and enforcement within the country. The original measure is a figure between 1-7. Taken from the Global Competitiveness Report, 2000
logOpen	A log measure of the openness of the economy to trade 1985 – 1999. This figure was originally expressed as a percentage of each country’s GDP. For the purposes of the regression below it was converted to a number between 0-1 and logged.
OECDenforcement	A binomial measure of the existence and enforcement of competition law, as reported to the OECD
DCenforcement	A binomial measure of the existence of a competition law, applied only to developing countries, which indicates whether the country had <i>enforced</i> competition law within the previous twelve months
WTOexistence	A binomial measure of the existence of competition law, as reported to the World Trade Organization.
LogFDI	The log of foreign direct investment received; This figure was reported as a percentage of GDP. This measurement was converted to a number between 0-1 and logged.
Africa	FDI recipient is situated in Africa
Nthamerica	FDI recipient is situated in North America
Sthcentralamerica	FDI recipient is situated in South America or Central America
Asia	FDI recipient is situated in Asia
Oceania	FDI recipient is situated in Oceania
Dcexistence	Developing country with record of competition law enforcement
OECDexistence	Developing country which has reported competition law enforcement to OECD
LogUSA	Log of distance between recipient of FDI and the USA
LogJapan	Log of distance between recipient of FDI and Japan
LogGermany	Log of distance between recipient of FDI and Germany

IV. Results

Regression 1

The first regression examined focused on the significance of competition law enforcement. It did so by regressing the two measures of enforcement – DC and OECD – against foreign direct investment between 1985 and 1999.² The results of the regression were strongly positive and significant. It showed clearly that actual enforcement of competition policy was important to the level of inbound FDI. The country's openness to trade was strongly positive and significant for FDI.

Interestingly, the other regressors such as distance from source country of FDI or membership of a continental cluster were not significant. Distance from Germany and Japan displayed a positive coefficient, but remained insignificant overall.

The results of the regression are contained in the table below.

Table IV.1

Random-effects GLS regression of Competition Law Enforcement Against Inbound FDI, 1985-1999

Dep. Var. FDI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
logOpen	1.872781	.1378609	13.58	0.000	1.602578	2.142983
africa	-.6642404	.557298	-1.19	0.233	-1.756524	.4280437
nthamerica	1.011696	1.721689	0.59	0.557	-2.362753	4.386145
sthcentral~a	.734442	.9582263	0.77	0.443	-1.143647	2.612531
asia	-.6581205	.5635837	-1.17	0.243	-1.762724	.4464831
oceania	.0698663	.9034033	0.08	0.938	-1.700772	1.840504
dcenforcemen	1.619945	.2512221	6.45	0.000	1.127559	2.112331
oecdforcem	.5529718	.1256466	4.40	0.000	.306709	.7992347
logUSA	.6294228	.4676663	1.35	0.178	-.2871864	1.546032

² .Note that the two measure were complementary, in the sense that no country appeared in both the DC and OECD columns simultaneously.

logJapan		.1913261	.395135	0.48	0.628	-.5831243	.9657764
logGermany		.1836302	.2921244	0.63	0.530	-.388923	.7561834

Number of obs = 1170
R-sq: within = 0.1929
between = 0.3407
overall = 0.2717

Regression 2

The second regression focused on the relationship between the effectiveness of competition policy as measured by a scale ranging from 1 to 7, taken from the World Competitiveness Report. The regression showed that the effect of competition policy on FDI - using the WCR measure - was mildly, but not significantly, positive. The country's openness to trade was strongly positive and significant for FDI. All other regressors remained insignificant. (The number of observations for this regression was lower than regression 1 and 3 because of the small number of countries included in the WCR survey.)

Table IV.2

Random-effects GLS regression of Strength of Competition Policy Against Inbound FDI, 1985-1999

Dep. Var. FDI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]		
logOpen		1.874041	.1393719	13.45	0.000	1.600877	2.147205
africa		-.8949773	.552876	-1.62	0.105	-1.978594	.1886397
nthamerica		.1882141	1.72354	0.11	0.913	-3.189862	3.56629
sthcentral		.1348618	.9524503	0.14	0.887	-1.731907	2.00163
asia		-1.033408	.5567808	-1.86	0.063	-2.124678	.0578627
oceania		-.2788548	.8963676	-0.31	0.756	-2.035703	1.477993
wcrmonopol		.116947	.0236695	4.94	0.000	.0705555	.1633385
logUSA		.4235858	.4687588	0.90	0.366	-.4951646	1.342336
logJapan		.1890324	.3928847	0.48	0.630	-.5810074	.9590723

logGermany		.3123005	.2906596	1.07	0.283	-.2573819	.8819828
_cons		-11.4815	4.786191	-2.40	0.016	-20.86226	-2.100736

Number of obs = 1170
R-sq: within = 0.1646
between = 0.3678
overall = 0.2741

Regression 3

The third regression looked at the effect of a competition law on FDI. The measure was taken from a list of notifications of the existence of competition law made to the WTO. In this case the relationship between competition law and FDI over time was positive and significant. The country's openness to trade was strongly positive and significant for FDI. As above, the effect of the other regressors on FDI over time was negligible.

Table IV.3

Random-effects GLS regression of the Existence of a Competition Law Against inbound FDI, 1985-1999

Dep.Var.FDI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]		
logOpen		1.883011	.1379075	13.65	0.000	1.612717	2.153304
africa		-1.102148	.5502209	-2.00	0.045	-2.180561	-.0237354
nthamerica		-.228706	1.72458	-0.13	0.894	-3.60882	3.151408
sthcentral~a		-.1704063	.9544775	-0.18	0.858	-2.041148	1.700335
asia		-1.044581	.5560412	-1.88	0.060	-2.134401	.0452402
oceania		-.5912908	.8977224	-0.66	0.510	-2.350794	1.168213
wtoexisten~w		.7214845	.1071054	6.74	0.000	.5115616	.9314073
logUSA		.3725747	.467821	0.80	0.426	-.5443375	1.289487
logJapan		.2383733	.3929878	0.61	0.544	-.5318687	1.008615
logGermany		.4367481	.2917477	1.50	0.134	-.135067	1.008563

Number of obs = 1170
 R-sq: within = 0.1646
 between = 0.3678
 overall = 0.2741

Regression 4

This fixed effects model has been included to show that the strongly positive effects modeled in the fixed effects regressions above continue when the a fixed effects regression is used.

Table IV.4

Fixed-effects Model of the Enforcement of Competition Law against Inbound FDI, 1985-1999

Dep. Var. FDI	Coef.	Std. Err.	z	P> z 	[95% Conf. Interval]	
logOpen	2.13854	.1644555	13.00	0.000	1.815851	2.46123
dcentforcemen	1.809652	.2619819	6.91	0.000	1.2956	2.323704
oecdforcem	.495371	.128738	3.85	0.000	.2427656	.7479764
logUSA	(dropped)					
logJapan	(dropped)					
logGermany	(dropped)					
cons	-3.580336	.1093901	-32.73	0.000	-3.794978	-3.365695

Number of obs = 1170
 R-sq: within = 0.1936
 between = 0.1983
 overall = 0.1789

V. Conclusions and Caveats

The above results infer that there is a positive relationship between the existence of a competition law, the enforcement of competition law and FDI. The evidence for this relationship warrants further exploration, perhaps using a greater number of explanatory variables. In particular, the use of time and an increased number of time variant regressors would be helpful to facilitate an analysis of the relationship between FDI and competition law in a fixed-effects setting.

The data also shows a strong, positive link between FDI and openness to trade.

The data does not support the conclusion that geographic location has an effect on FDI. Although Table 2 does show a mildly positive relationship between FDI and location in the Americas, the finding is not significant. None of the other tables show any relationship between a country's FDI and its distance from the source of that investment.

Neither does the location of a country on a specific continent seem to have any effect upon the FDI that country receives. There was no significant difference in FDI received between any of the countries in this survey when judged from their location on a particular continent.³

This analysis does not answer the question of whether the adoption or enforcement of a competition law results in a one-off increase in FDI that then decreases over time, nor does it answer the question of whether the increase in FDI is a result of the many permutations and inconsistencies that presently exist in competition laws across nations, the standardization of which by way of a multilateral framework on competition may dampen the positive relationship suggested by the data above.

This paper's empirical findings are nonetheless relevant to the debate about whether WTO members should adopt cartel laws as part of a potential multilateral agreement on competition policy. The analysis presented here suggests strongly that there is a positive welfare gain enjoyed by countries that have adopted a competition law. If nothing else, the positive relationship implied by these results could significantly allay fears currently being voiced in international fora about the potential costs of implementing a competition regime, and implies the need for more extensive research in this area.

³ Note that Europe was excluded from the regressions for the purpose of comparison.

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