Fiscal Policy and the Firm:

Do Low Corporate Tax Rates Attract Multinational Corporations?

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Abstract:

In this paper I explore the relationship between corporate tax rates and multinational production in the OECD from 1980-2000. I utilize descriptive statistics, standard time-series-cross-sectional models, and dynamic panel analysis to explore the impact of corporate taxation rates and FDI inflows in 19 OECD economies from 1990-2000. My empirical results are perplexing given the current policy initiatives on lowering taxation to attract multinationals. I find no relationship between foreign direct investment and corporate taxation.

Key Words: Foreign Direct Investment, Corporate Taxes, Race to the Bottom, Tax Competition, Multinational Corporation

1. Introduction

Pundits, politicians and academics assert that the mobility of capital has fundamentally altered domestic politics. National governments now find themselves in a vicious competition for capital that takes the form of lowering corporate tax rates or providing investment incentives in order to attract foreign direct investment (FDI). This "golden straightjacket" empowers international capital markets to dictate domestic policy (Frieden 1999).

A frequently cited example of the egregious use of tax incentives and tax competition for foreign investment is the state of Alabama's $250 million tax incentive package to Mercedes-Benz A.G., an incentive package that amounted to $168,000 per job created (Mutti 2003).[1] Along with tax incentives, numerous politicians propose reducing overall levels of corporate taxation to attract both foreign capital and to deter domestic firms from moving operations overseas. Politicians in Finland put forward the idea of cutting corporate taxes from 29% to 26%, which they claim are critical to competing with FDI-hungry Estonia (*Financial Times* 15/16 2004: 4).[2] According to a recent article in *Bloomberg News*, "Austria, Finland, Denmark and Greece are reducing corporate tax rates as they face increasing competition for investment from Eastern Europe, where the

[1] For an empirical analysis of the determinants of tax incentives see Li (2006). For a theoretical discussion of tax competition see Thomas (2000).

[2] How pervasive this tax competition is or its affects on government revenues is beyond the scope of this paper.

new Romanian government this week announced a flat tax rate of 16 percent."[3] This issue is framed slightly different in U.S., where in the 2004 U.S. Presidential election the Democratic Party recommended lowering corporate taxation in order to minimize the impact of outsourcing on American workers. As Goldman Sachs economist Dirk Schumacher sums up the basic argument, "capital is more mobile than labour, so you cannot have big discrepancies in the way countries tax capital. If you are to persuade companies not to relocate abroad, you must either reduce government spending or tax capital more lightly."[4] Thus, the tacit assumption is that manipulating fiscal policy is one of the few responses countries can make to this increasing mobility of capital.

Given this heightened attention to tax policy, one would expect a large and established literature estimating the impact of tax rates on FDI inflows. Surprisingly, this literature is underdeveloped and inconclusive. There is little systematic evidence on the impact of corporate taxation on FDI inflows. In this paper I aim to explore this question by empirically estimating the impact of corporate taxation rates on FDI inflows from 1980-2000 in the OECD. I find that tax policy has little explanatory power in solving the empirical puzzle of why some countries attract so much more capital than others.[5]

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[3] "European Governments Cut Taxes to Spur Growth, Investment." Bloomberg.com Dec. 31, 2004.

[4] Quoted from "Germany jobless figures spur tax reform calls." Financial Times Feb 11, 2005 4.

[5] For papers on the determinants of multinational activities in non-OECD countries see Henisz (2000, 2002), Jensen (2002, 2003, 2004, Forthcoming), Li and Resnick (2003), and Resnick (2001).

2. Capital Taxation and FDI

A massive literature in political science and public policy debates the impact of the "race to the bottom" in tax rates, environmental policy, and business regulations. According to Thomas Friedman, "in a world in which capital is mobile, you cannot adopt rates of taxation that are far from the rates that prevail in other countries" (Friedman 1999, 108). Although most political scientists don't endorse this complete loss of autonomy in tax policy, influential works such as Andrews (1994), Cerny (1990), and Kurzner (1993) argue that global markets seriously pressure governments to lower levels of capital taxation and government spending.

Even if we accept the idea that globalization pressures states into reducing capital taxation and government spending, politicians still must make the decision to reduce taxation and government spending. Scholars such as Cameron (1978), Garrett (1998), Burgoon (2001), and Swank (2002) argue that even with market pressures, politicians responding to electoral incentives may refuse to reduce tax rates or roll back the welfare state. If international trade and mobile capital make voters less economically secure, politicians may come under increasing pressure to provide social safety nets and other government solutions to dampen the effects of globalization.[6] This is an important point. Politicians respond to market pressures when these market pressures translate into electoral pressures.[7]

A number of recent articles have explored how partisanship and domestic political institutions affect tax policy in an era of global capital flows. Basinger and Hallerberg

[6] See Rodik (1997) and Scheve and Slaughter (2001, 2004).

[7] See Rodden and Rose-Ackerman (1997).

(2004) find that while countries are sensitive to tax policy changes of competitor countries, the ability of a government to alter tax policy is tempered by its institutional environment and the ideology of its core constituents. Similarly Hayes (2003) shows that although there is little support for a race to the bottom, when using sophisticated empirical analysis there is a convergence of effective tax rates in the middle. Both articles find that domestic politics still matter, even in an era of global capital flows.

This attention to the race to the bottom focuses on explaining the lack of empirical evidence for convergence in corporate tax policy. In a massive review of the political science and economics literature on the race to the bottom, Drezner (2001, 75) claims that "the lack of support for the RTB (race to the bottom) argument is striking." According to Hayes (2003, 82), "the race-to-the-bottom argument is a straw man that political scientists are knocking down with increasing frequency." Contrary to the predictions of race to the bottom theories, there hasn't been a massive convergence in capital taxation rates across countries.

Although most scholars have focused on domestic politics, an alternative explanation is that there simply aren't major market pressures for lower taxes.[8] Thus, levels of corporate taxation may not be significant determinants of foreign direct investment inflows. While this seems unlikely initially, political scientists such as Garrett (1998) argue that larger governments, financed by high tax rates, can provide market enhancing public goods. High tax countries such as Finland consistently rank as one of the best locations to run a business, either in spite of high tax rates, or partially because of these tax rates. If these tax rates provide for an educated workforce, a well-

[8] See Jensen (Forthcoming).

developed infrastructure, or other public goods, multinational corporations may choose Finland as an investment location.

Beside the provision of public goods, the race to the bottom thesis has another serious flaw. The theoretical literature on the determinants of FDI flows are based on models of market imperfections (Kindberger 1969, Caves 1971, Aliber 1971, Dunning 1971, 1977, 1981, and Hymer 1976).[9] Many of these models argue that tax rates area a minor determinant of FDI (Markusen 1995). According to their systematic review of the literature on the impact of taxes on multinational activity, Morisset and Pirnia (1999) claim:

> Tax policies are obviously capable of affecting the volume and location of FDI, since all other considerations are equal, higher taxes reduce after-tax returns. Of course, all other considerations are seldom equal. Countries do not differ in their tax policies, but also in their commercial and regulatory policies, market size, natural endowments, and human capital. All these factors influence the desirability of an investment location.

This finding on the minor role of taxation in FDI decisions is buttressed by numerous surveys of multinationals that confirm this limited role of tax policy in determining location decisions. These studies show that tax policy has very little impact on FDI decisions.[10] Yet, even with this evidence, the straw man refuses to collapse.

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[9] See Brecher and Diaz-Alejandro (1977) for a model of capital taxation that increases host country welfare.

[10] See Morisset and Pirnia (1999) for a review of the existing evidence. Graham (1998?, 64-65) claims that investment incentives lead to MNEs to bluff about their location preferences in developing countries. A survey of multinationals by MIGA (2002) finds

Jensen (Forthcoming) finds in an empirical study of 15 OECD countries from 1980-1993 that rates of capital taxation have no impact on FDI inflows in the OECD. Utilizing interview data from the decision makers from multinational corporations and investment location consultants, Jensen shows that corporate taxation has very little impact on the investment decisions of multinational corporations.

While tax policy is not the primary determinant of multinational decisions and the Race to the Bottom has been discredited in empirical research, tax policy can still have some impact on FDI flows. Scholars, mostly in economics and business schools, have found a negative relationship between corporate tax rates and certain multinational activities. Altshuler, Grubert, and Newlon (2001) estimate the impact of tax rates on U.S. manufacturing investment in 1984 and 1992. They find that tax rates have a significant impact on multinational investments, and this relationship becomes stronger over time (elasticity of 1.5 in 1984 and 3 in 1992). Devereux and Griffith (1998) find that average effective tax rates are a determinant of FDI decisions.[11]

In one of the more recent and comprehensive studies, Mutti (2003) finds that corporate tax rates have a strong impact on manufacturing multinationals' decisions. A 1% decrease in the cost of capital leads to a 3% increase in MNC production.
The catch is that this strong relationship does not hold for market seeking FDI or FDI in high-income countries. As Mutti (2003, 5) states, "such a high response does not apply if the output is destined for local markets or if the country has high per capita income."

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that national and state taxes ranked as the 11th and 14th most important factor for FDI location decisions respectively.

[11] See also Hines (1997) and Gordon and Hines (2002).

In one of the few studies of the impact of tax policy reforms on capital flows in developing countries, Wibbles and Arce (2003) explore the relationship between capital mobility and taxation. First, they find that capital mobility is associated with the lowering of the burden of taxation on capital (the capital/labor ratio). Although they find that FDI is not responsive to this ratio, there is a strong negative relationship between capital taxation and portfolio investment. They do find that an index of overall "general market-friendliness" of tax policy has a positive and weakly significant impact on FDI inflows.

Do corporate tax rates help explain patterns of FDI? More importantly for politicians, how do changes in corporate taxation affect inflows of FDI? Are bouts of massive cuts in corporate tax rates associated with increased inflows of FDI? Should governments lower rates of capital taxation to increase FDI inflows?

3. Data

Measuring tax rates on multinational corporations is not a straightforward matter. Some scholars argue that average statutory tax rates (the published corporate tax rates) are a reliable source of multinational taxation levels. Even though multinationals often negotiate lower levels of taxation, statutory tax rates provide the status quo from which taxes are negotiated. Moreover, according to Mutti (2003), these statutory tax rates influence in which jurisdiction in which a firm declares its taxable income.[12]

Although statutory tax could influence multinational activity, many scholars find that these tax rates are a crude measure of the costs imposed on multinationals. Mintz (2001,

[12] See Kind et al (2004) for a discussion of Separate Accounting (SA) and Formula Accounting (FA).

36-37) argues that average tax rates are problematic for analyzing the tax liabilities of U.S. multinationals for the following reasons:

1) Investment depends on other features of a host country's tax system other than corporate income tax.
2) The average corporate income tax rate for a host country does not take into account the impact of subsidiary's decision on corporate income tax paid by the United States on investments abroad or in the United States.
3) There seems to be no incorporation of the dramatic changes in the U.S. treatment of foreign income since 1986, including interest allocation rules and foreign tax credit limitations.
4) The aggregation of taxes and profits in a country masks the role of tax losses in affecting investment decisions.
5) Many studies of foreign investment suggest that the anticipated changes in exchange rates can have a significant impact on investment.

According to Mintz a more appropriate measure of corporate taxation is the effective marginal tax rate (EMTR). This tax rate measures the marginal taxation on an additional dollar of pre-tax profit. The effective marginal tax rate is the most commonly utilized measure to evaluate the impact of tax policy on multinationals.

Finally, Devereux and Griffith (2003) hold that neither statutory tax rates nor effective marginal tax rates are appropriate. They develop a new measure, the effective average tax rate (EATR), which is the ratio of taxes paid to pre-tax profit. Devereux and Griffith (2003, 108) argue:

> Conditional on the choice of location, the size of investment depends on the EMTR. But the choice of location depends on the level of post-tax net present value (NPV); for a given pre-tax NPV in each location, the impact of taxation on the location choice is through its effects on the post-tax NPV. This can be measured by an "effective average tax rate.

Given all these contrary theories, the debate on the appropriate measure of calculating corporate tax rates remains unsettled. I remain indifferent as to the most appropriate measure of corporate taxes; rather I present an empirical analysis of the

relationship between corporate tax rates and FDI using statutory tax rates, effective marginal tax rates, and effective average tax rates.

Insert Chart 1

Insert Chart 2

Insert Chart 3

I present this data on statutory tax rates, effective marginal tax rates, and effective average tax rates in Chart 1, Chart 2, and Chart 3. These charts all illustrate a downward trend in levels of corporate taxation, although substantial differences remain between countries. For most countries, levels of statutory, effective marginal and effective average tax rates are decreasing over time. A subset of countries maintain relatively constant rates of corporate taxation. For example, Ireland held corporate taxation low throughout the period, while Belgium maintained its tax rate at moderately high levels throughout the period. In only a few exceptional circumstances did countries increase their effective marginal rates of corporate taxation, not by changing their statutory rates but in making changes in depreciation allowances or other deductions.[13] No country made significant increases to their statutory tax rates from 1980-2000.

Insert Table 1

Do low-tax countries attract higher levels of FDI inflows? In Table 1 I present data on a snapshot of the relationship between corporate tax rates and foreign direct investment inflows as a percentage of GDP in 2000. In the first set of columns I rank order countries on their statutory tax and in the second set I rank order countries on the

[13] Canada is one of the few exceptions.

effective marginal tax rate (explained in the next section).[14] I also include number the top five FDI recipients. I find there is essentially no relationship between FDI inflows as a percentage of GDP and levels of corporate taxation.

Insert Table 2

This simple snapshot of the data is by no means conclusive. FDI flows vary dramatically over time and the large merger and acquisitions activity in 2000 could skew our picture of the role of taxes in affecting FDI inflows. In Table 2 I present the average FDI inflows from 1990-2000 and the average statutory and effective marginal tax rates from 1990-2000. The evidence is mixed. The top two FDI attracting economies are also the lowest tax environments, although a number of high tax economies such as Belgium and the Netherlands perform very well in attracting FDI inflows.

While these snapshots of the data are informative, they provide no direct test of the causal relationship between FDI and tax rates. In order to estimate the direct causal impact of corporate taxation on FDI inflows I constructed a dataset for 19 OECD countries from 1980-2000 and performed time-series-cross-sectional regression analysis. The dependent variable in all regressions is net FDI inflows as % of GDP from the World Bank World Development Indicators. I used a set of theoretically informed control variables derived from a number of empirical studies on the determinants of FDI inflows (Li and Resnick 2003, Jensen 2003). These variables include: Market Size (log of GDP), Economic Growth (GDP growth), GDPPC (log of GDP per capita), and Trade (exports

[14] The rank order for effective average tax rates is similar to effective marginal tax rates.

+Imports/GDP).[15] I present the summary statistics of all variables in Table 3 and details on coding and sources in the Appendix.

Insert Table 3

4. Empirical Analysis

In this paper I empirically assessed the impact of levels and changes of corporate tax rates on FDI inflows into OECD countries. Studying tax competition for FDI in the OECD has two distinct advantages. First, data quality problems plague global time-series-cross-sectional studies, but these data quality problems are much less acute in OECD countries. Second, focusing only on OECD countries allows me to minimize a number of policy and institutional differences that can affect FDI inflows. OECD countries tend to have democratic governments, open policies towards FDI, strong property rights protections, and are members of bilateral and multilateral institutions that protect foreign direct investors.

To test the impact of corporate taxation rates on FDI inflows, I utilized a panel data set for 19 OECD countries from 1980-2000. I estimate all regressions using Beck and Katz (1995) recommended OLS regression with panel corrected standard errors. In Table 4 I present results of regressions in the following form:

$$\text{NET FDI INFLOWS}_t = \alpha + \beta_i(\text{CONTROL VARIABLES}_{t-1}) + \beta_i(\text{CONTROL VARIABLES}_{t-1}) + \varepsilon_i$$

Pooled time-series regressions have come under increasing fire in recent years. Beck and Katz (2004) argue that panel corrected standard error models have been used as a panacea for analyzing cross-national regressions, but the structure of the data and the

[15] All data is from the World Bank's World Development Indicators 2004.

theory tested should dictate the empirical strategy. As Beck and Katz (2004) note, numerous scholars have incorrectly interpreted Achen's (2000) methodological suggestions on the use of lagged dependent variables. Many scholars utilize AR1 corrections as an alternative to lagged dependent variables approaches. According to Beck and Katz (2004) these approaches test the same theoretical models. Since both AR1 corrections and the lagged dependent variable estimate the OLS regressions with a lagged value of the dependent variable, the difference is methodological not substantial.

In this analysis I attempt to utilize the most appropriate theoretical and methodological approach. First I estimated this baseline FDI model using ordinary least squares (panel-corrected-standard errors) with both random and fixed effects (country dummies) and performed a Hausman test. This test reveals a statistically significant difference in the coefficients in the fixed and random effects models, which leads me to conclude that the random effects model suffers from omitted variable bias. In the following tables I present the fixed effect regressions.

Insert Chart 4

In Chart 4 I present data on average FDI inflows as a percentage of GDP. FDI inflows are both increasing over time and a number of years in the data set were extraordinary time period for FDI activity. I include both a trend variable and year dummies in all regression equations. I discuss dynamic tests later in this paper.

Insert Table 4

In Table 4 I present two models on the determinants of FDI inflows, one with panel-corrected-standard-errors and an AR1 correction and one model with a lagged dependent variable. As expected, countries with large domestic markets (Market) attract

higher FDI inflows. Contrary to models based on factor endowments, countries with higher levels of GDP per capital (GDPPC) are associated with higher FDI inflows. Neither the size of the domestic market, nor levels of economic growth and nor levels of government consumption have any impact on FDI inflows.

The most important result I find that there is no relationship between levels of government consumption, corporate taxation and FDI inflows. These are extremely conservative models of FDI inflows. For all regressions I include a dummy variable for each country in the dataset. Factors that do not vary over time, such as geographic distance from major markets, political institutions, and other fixed factors are captured in the dummy variable. When these models are re-estimated without country dummies, factors such as the size of the domestic market and the level of economic growth have a positive impact on FDI inflows. Yet even with these models, neither the level of government consumption nor the level of taxation impact FDI inflows

I tested the robustness of the results presented in Table 4 by including other policy and economic performance variables. Inclusion of measures such as capital controls, overall budget balance, and wage rates have no impact on the relationship between tax rates and FDI inflows.

The final and most serious concern is that the dependent variable, along with a number of independent variables, is non-stationary. Augmented Dickey-Fuller tests for non-stationary for both the dependent variable and statutory tax rates find that these variables are non-stationary and not cointegrated. Consequently, the OLS estimates are most likely inconsistent.

Insert Table 5

In Table 5 I present a solution to non-stationary data suggested by Arellano and Bond (1991). Their method, the Arellano-Bond dynamic panel estimator, is a general method of moments (GMM) estimator that utilizes a lagged dependent variable and first differences in exogenous variables with robust standard errors.[16] For simplicity I will only present this model on the relationship between statutory tax rates and FDI inflows.[17] In the first column I present results for a model including only statutory tax and government consumption. In the second column I include a full set of control variables. Diagnostic tests indicate that this model is properly specified in accordance with Arellano and Bond (1991).[18]

Surprisingly, the coefficient on the tax variable is positive and statistically significant in Model 5. I checked the robustness of this relationship by estimating this same model substituting the effective marginal tax rate and effective average tax rate for the statutory tax rate. While the effective marginal tax rate was insignificant the effective

[16] As recommended by Arellano and Bond (1991), I present the coefficients and standard errors using one-step estimation, I perform diagnostic tests using two-step estimation.

[17] I also estimated these models with using first differenced data with OLS-PSCE (AR1) with country and year fixed effects. The results are similar.

[18] Arellano and Bond (1991) argue for this estimates to be consistent the first-difference residuals should display negative first order serial correlation, but no second order serial correlation. For the model presented in Table 5 I present the z value for first order correlation and second order correlation. This model also passes the Sargon test of over-identifying restrictions.

average tax rate was positive and statistically significant.[19] When I include the full set of control variables none of the tax variables are statistically significant, although the signs remain the same. Utilizing the appropriate dynamic test given the structure of the data, I find no relationship between the level of corporate taxation and inflows of foreign direct investment, and I have some very preliminary evidence that the relationship between levels of corporate taxation and FDI could be positive!

5. Conclusion

The mantra that governments must remain competitive in the global marketplace by slashing levels of corporate taxation has permeated public policy debates. To date, few studies have systematically analyzed the impact of lowering levels of corporate taxation on inflows of FDI. In this study I utilized a number of methods and find essentially no empirical relationship between corporate taxation and FDI flows.

This paper leaves a major question unanswered. If levels of corporate taxation have no impact on FDI inflows, why are politicians pushing for corporate tax reductions? I forward two empirically testable hypotheses for future research. First, politicians may be utilizing common misperceptions on the Race to the Bottom as a cloak for partisan

[19] This dynamic test is also import for theoretical reasons. One possibility is that tax rates differ across countries because of the "illusory compensation effect" (Shah and Toye 1978). Firms with less hospitable environments for FDI lower taxes to compensate MNEs for these location disadvantages. Thus two countries could have very different tax rates, but attract the same amount of FDI.

politics.[20] Parties whose domestic constituency stand to gain from corporate tax reductions would push for tax reform under the guise of global competition. This hypothesis would predict that governments of the right will push for lower *effective* corporate taxes, not in order to attract FDI, but rather as a means of rewarding their core constituents.

A second hypothesis is that governments of the right and the left utilize tax reform as a means of credit claiming for increasing inward flows of FDI. Both governments of the right and the left will push for tax reform, not to induce new FDI inflows, but to claim credit for future flows. This hypothesis predicts that governments of both the right and left will push for lower *statutory* corporate taxes.

Independent of the motivations for policy discussions on lowering corporate taxes, the empirical results in this paper find no relationship between corporate tax rates and levels of FDI inflows. Multinationals may respond to a number to domestic political institutions and a host of government policies, but no empirical evidence suggests that multinationals flock to low tax locations.

[20] This assumes there is some degree of information asymmetry between politicians and voters on the impact of tax policy on FDI inflows.

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Table 1: Tax Rates and FDI inflows (% of GDP) in 2000

Statutory Tax				Effective Marginal Tax			
COUNTRY	Tax	FDI	Rank	COUNTRY	EMTR	FDI	Rank
IRE	0.10	24.02	1	ITA	0.05	1.23	
SWE	0.28	9.23	5	IRE	0.07	24.02	1
NOR	0.28	3.48		AUT	0.10	4.47	
FIN	0.29	7.61		SWE	0.16	9.23	5
GBR	0.30	8.34		GRE	0.16	0.97	
SWI	0.34	8.28		FIN	0.20	7.61	
AUT	0.34	4.47		SWI	0.20	8.28	
AUS	0.34	3.32		GBR	0.20	8.34	
SPA	0.35	6.58		POR	0.20	6.42	
NET	0.35	17.05	2	SPA	0.21	6.58	
POR	0.35	6.42		FRA	0.22	3.24	
CAN	0.36	9.36	4	NOR	0.22	3.48	
FRA	0.38	3.24		USA	0.24	3.29	
USA	0.39	3.29		NET	0.24	17.05	2
GRE	0.40	0.97		CAN	0.25	9.36	4
JAP	0.41	0.17		AUS	0.28	3.32	
ITA	0.41	1.23		JAP	0.29	0.17	
GER	0.52	11.51	3	GER	0.32	11.51	3
AVERAGE	0.34	7.14		AVERAGE	0.20	7.14	

Table 2: Tax Policy and FDI (1990-2000)

Statutory Tax				Effective Marginal Tax Rate			
Country	TAX	FDI	Rank	country	EMTR	FDI	Rank
IRE	0.10	6.91	1	IRE	0.07	6.91	1
SWE	0.30	5.54	2	SWE	0.18	5.54	2
FIN	0.30	2.47		AUT	0.18	1.38	
NOR	0.32	1.87		FIN	0.18	2.47	
GBR	0.32	3.27	5	SPA	0.20	2.32	
SWI	0.34	2.61		FRA	0.20	1.80	
NET	0.35	5.29	3	SWI	0.20	2.61	
SPA	0.35	2.32		GBR	0.22	3.27	5
AUT	0.36	1.38		ITA	0.22	0.43	
CAN	0.36	2.45		POR	0.23	2.42	
AUS	0.36	1.94		USA	0.23	1.33	
FRA	0.37	1.80		NOR	0.24	1.87	
POR	0.39	2.42		NET	0.24	5.29	3
USA	0.39	1.33		CAN	0.25	2.45	
BEL	0.40	5.04	4	GRE	0.26	0.87	
GRE	0.40	0.87		BEL	0.27	5.04	4
ITA	0.48	0.43		AUS	0.28	1.94	
JAP	0.48	0.07		JAP	0.36	0.07	
GER	0.56	1.58		GER	0.37	1.58	
AVERAGE	0.37	2.61		AVERAGE	0.23	2.61	

Table 3: Summary Statistics

Variable	*Obs*	*Mean*	*SD*	*Min*	*Max*
FDI	394	1.76	2.72	-0.67	24.02
Market	456	26.79	1.30	24.31	29.84
Growth	456	2.60	2.11	-6.26	11.14
GDPPC	456	9.99	0.41	8.87	10.76
Trade	453	63.95	32.13	15.92	182.43
Tax	438	0.40	0.11	0.1	0.63
EMTR	438	0.34	0.10	0.055	0.56
EATR	438	0.25	0.10	0	0.48

Table 4: Tax Policy and FDI

	Model 1	***Model 2***
Lagged FDI		0.634***
		(8.73)
Market	-2.501	-5.454*
	(-0.50)	(-1.94)
GDPPC	12.723***	7.825***
	(2.52)	(2.67)
Trade	0.135***	0.096***
	(4.89)	(5.44)
Growth	-0.052	-0.004
	(-1.00)	(-0.10)
Government Consumption	-0.151	-0.136**
	(-1.34)	(-2.02)
Tax	-1.459	-1.507
	(-0.69)	(-1.18)
Trend Variable	Yes	Yes
Country Dummies	Yes	Yes
Chi-2	4160.73	16590.92
R-sq	0.35	0.69
N	366	365

Note: The dependent variable in all regressions is net FDI inflows as % of GDP.
*=p<.1 **p<.05 ***=p<.01

Table 5: Arellano-Bond dynamic panel-data estimation

	Model 3	***Model 4***
FDI (t-1)	0.735**	0.501**
	(3.10)	(2.78)
ΔTax	4.114**	1.057
	(2.11)	(0.51)
ΔMarket		9.253**
		(2.22)
ΔTrade		0.118**
		(3.26)
ΔGovernment		0.125
		(0.88)
Ar1 (z)	-1.77*	-1.76*
Ar2 (z)	1.56	1.10
Sargon (Chi2)	16.70	10.75
N	346	346

Note: The dependent variable in all regressions is net FDI inflows as % of GDP.
*=p<.1 **p<.05 ***=p<.01

Chart 1: Statutory Tax Rates in the OECD

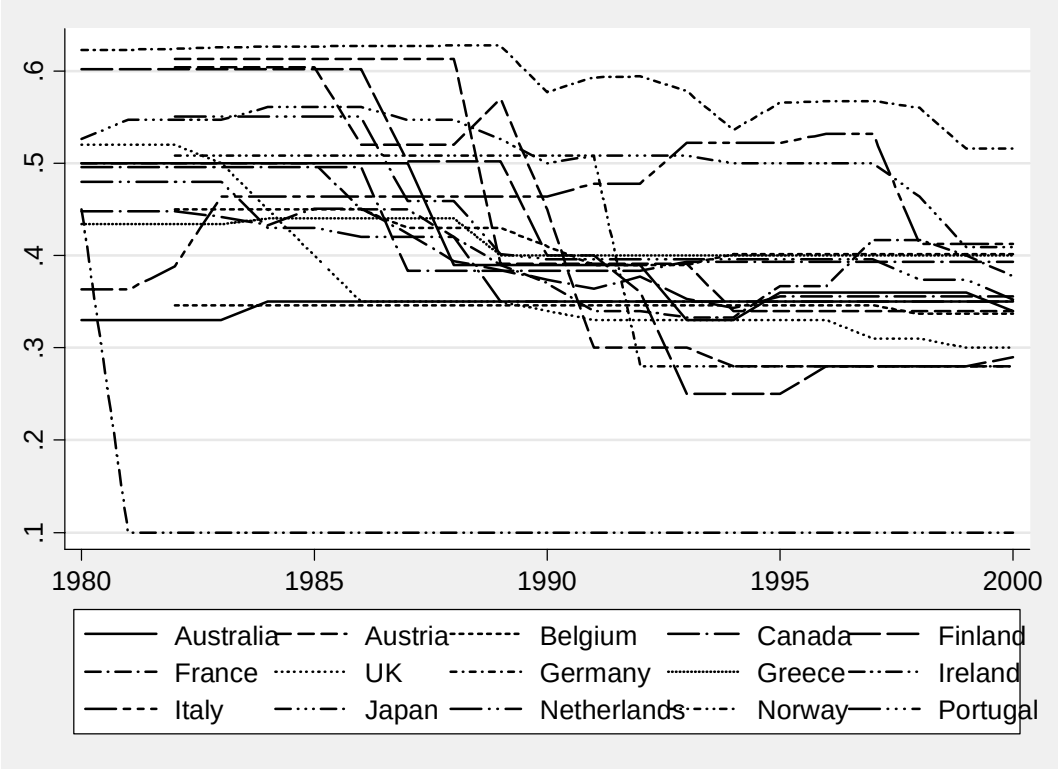


Chart 2: Effective Average Tax Rates

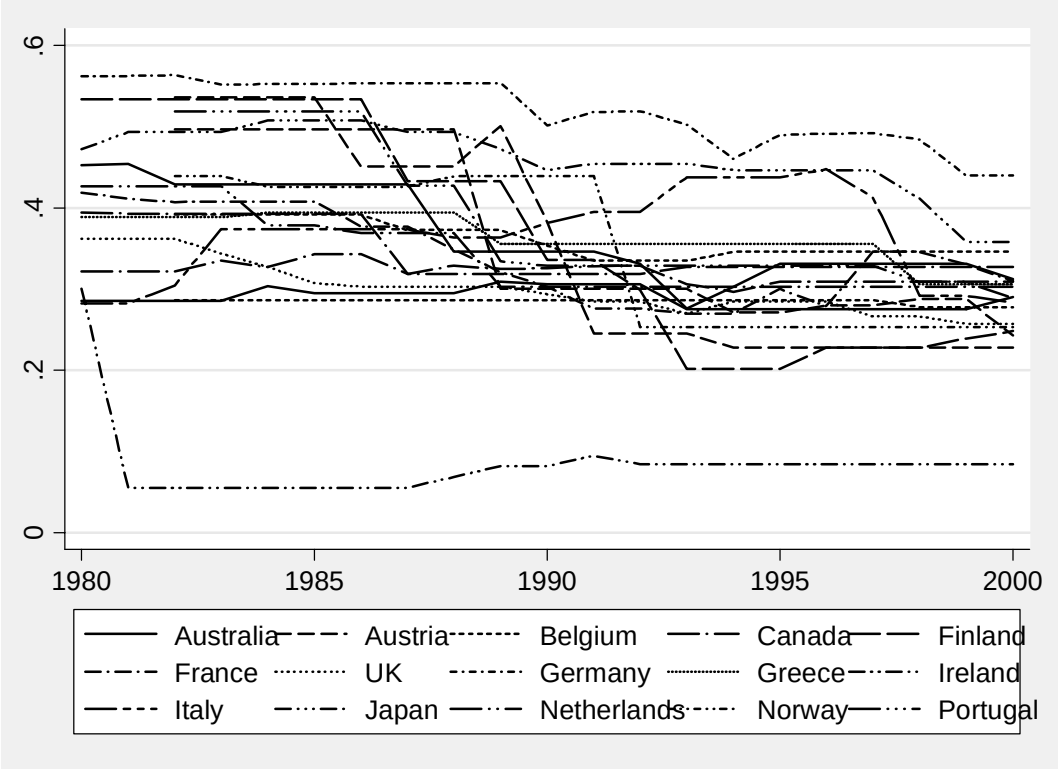


Chart 3: Effective Marginal Tax Rates

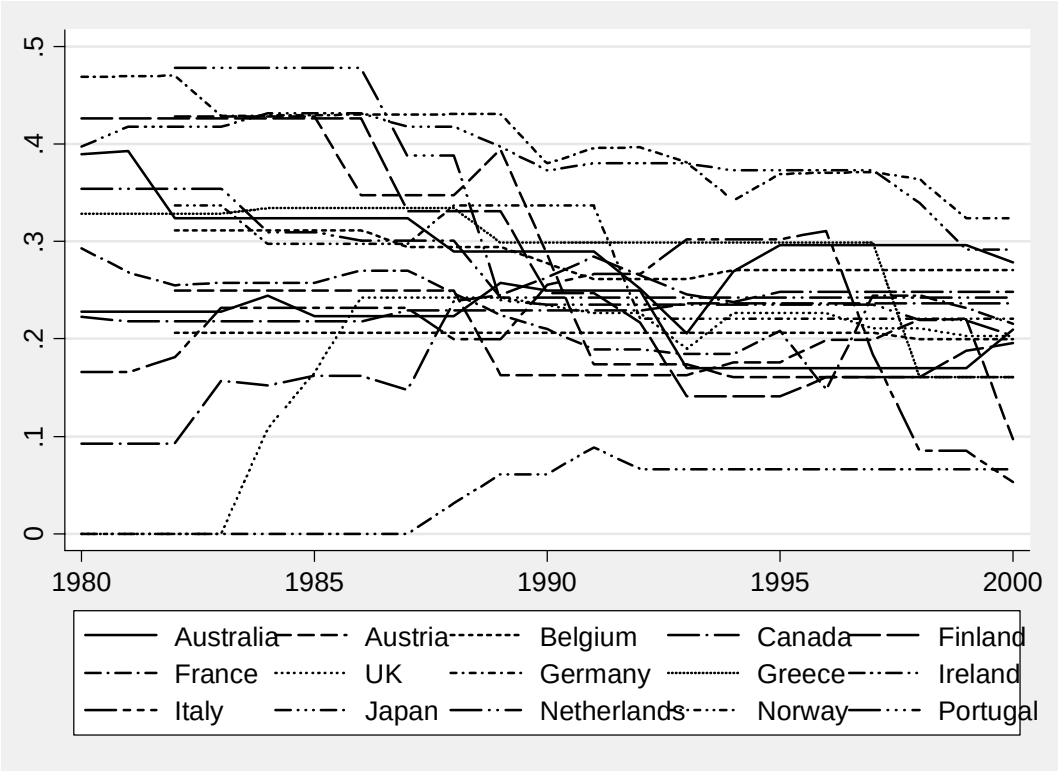
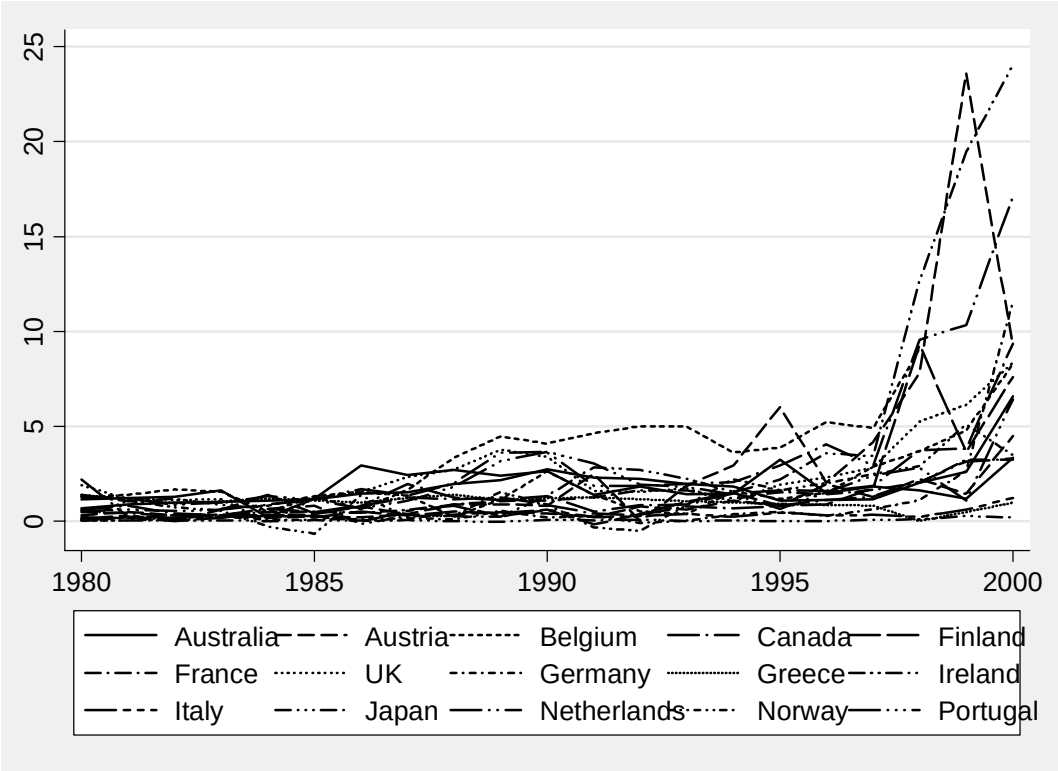


Chart 4: FDI Inflows (% GDP)



Appendix A: Definitions

Statutory Tax Rate: Devereux and Griffith (2002)

Definition: For countries using different tax rates, the manufacturing rate is chosen. Local taxes (or the average across regions) are included where they exist. Any supplementary taxes are included only if they apply generally.

Effective Marginal Tax Rate: Devereux and Griffith (2002)

Def: See. Assumptions: investment in plant and machinery, financed by equity or retained earnings, taxation at shareholder level not included, real discount rate: 10%, inflation rate: 3.5%, depreciation rate: 12.25%.

Effective Average Tax Rate: Devereux and Griffith (2002)

Def:Assumptions: investment in plant and machinery, financed by equity or retained earnings, taxation at shareholder level not included, rate of economic rent: 10% (i.e. financial return: 20%), real discount rate: 10%, inflation rate: 3.5%, depreciation rate: 12.25%.

Appendix B: Selected Statistics

Country	Year	Tax	EMTR	EATR
Australia	1980	0.5	0.39	0.45
	1990	0.39	0.29	0.35
	2000	0.34	0.28	0.31
Austria	1980			
	1990	0.39	0.16	0.3
	2000	0.34	0.1	0.24
Belgium	1980			
	1990	0.41	0.28	0.35
	2000	0.4	0.27	0.35
Canada	1980	0.45	0.09	0.32
	1990	0.37	0.26	0.33
	2000	0.36	0.25	0.31
Finland	1980	0.6	0.43	0.53
	1990	0.4	0.25	0.34
	2000	0.29	0.2	0.25
France	1980	0.5	0.29	0.42
	1990	0.37	0.21	0.3
	2000	0.38	0.22	0.31
UK	1980	0.52	0	0.36
	1990	0.34	0.23	0.29
	2000	0.3	0.2	0.26
Germany	1980	0.62	0.47	0.56
	1990	0.58	0.38	0.5
	2000	0.52	0.32	0.44
Greece	1980	0.43	0.33	0.39
	1990	0.4	0.3	0.36
	2000	0.4	0.16	0.31
Ireland	1980	0.45	0	0.3
	1990	0.1	0.06	0.08
	2000	0.1	0.07	0.08
Italy	1980	0.36	0.17	0.28
	1990	0.46	0.26	0.38
	2000	0.41	0.05	0.28
Japan	1980	0.53	0.4	0.47
	1990	0.5	0.37	0.45
	2000	0.41	0.29	0.36
Netherlands	1980	0.48	0.35	0.43
	1990	0.35	0.24	0.3
	2000	0.35	0.24	0.3
Norway	1980			
	1990	0.51	0.34	0.44
	2000	0.28	0.22	0.25
Portugal	1980			

	1990	0.4	0.24	0.33
	2000	0.35	0.2	0.29
Spain	1980	0.33	0.23	0.29
	1990	0.35	0.25	0.31
	2000	0.35	0.21	0.29
Sweden	1980			
	1990	0.45	0.29	0.38
	2000	0.28	0.16	0.23
Switzerland	1980			
	1990	0.35	0.21	0.29
	2000	0.34	0.2	0.28
USA	1980	0.5	0.22	0.39
	1990	0.38	0.23	0.32
	2000	0.39	0.24	0.33