



Burch Conference, June 2009
Day 4: Tax Competition

Tax Competition

Tax Havens



What are the incentives for host country tax policies?

- Diamond/Mirrlees, (*AER* 1971), as interpreted by Gordon (*AER* 1986): a small open economy should not attempt to tax inbound FDI.
 - The burden of a tax on FDI is borne entirely by the country in the form of lower wages/lower land prices.
 - Plus, the tax is distortionary. Less distortion from taxing local labor or land directly.
- But what if you need the money?
- The idea is that it's better to get the money other ways.



Does that work?

- Experience of tax haven countries. Very rapid economic growth (table from Hines, “Do tax havens flourish?” *Tax Policy and the Economy*, vol. 19, 2005). So they have the income levels necessary to fund government activities, but do they raise the necessary funds?
- The evidence says that tax haven governments are only modestly smaller than the governments of other countries.

Annual per Capita Real Income Growth Rates, 1982–1999

	GDP		GNP
	Penn world table	World development indicators	Penn world table
World total	1.4%	1.7%	1.4%
All tax havens	3.3%	2.6%	3.0%

Government Sizes in Tax Haven Countries

	Government product/GDP Penn World Table (1999)	Government spending/GDP IMF (1995)	Tax revenue/ GDP IMF (1995)
World Total	19.74	30.94	22.28
All Tax Havens	25.35	30.34	22.39



Is this problematic?

- It is not difficult to identify situations in which competitive tax reductions lead to tax rates everywhere that are too low.
- What is an example of such a situation? Suppose that world capital is fixed in supply but mobile between countries.
 - If all countries could coordinate their policies, then a uniform 99% tax rate on capital would be an efficient way of raising revenue to finance governments.
 - Labor taxes in this world are less efficient, because labor supply is distorted by high tax rates.
 - But uncoordinated actions of governments will lead to very low or zero capital tax rates.



Just how worrisome is this case?

- Note that it relies on a setup in which the optimal coordinated policy is very heavy capital taxation.
- Another view is that the natural tendency of governments is to tax capital too heavily, so international tax competition prevents them from doing what they would otherwise do – but shouldn't.
- Recent (last 25 years) of theory is very skeptical about the desirability of taxing capital income, adding fuel to the argument that maybe competition-induced tax reductions are not such bad things.
- But do we know that competition reduces taxes?



What about tax competition lowering tax rates and revenues?

- There is ample evidence that statutory corporate tax rates have fallen since 1980.
- Among OECD countries, however, tax bases have expanded by at least as much as rates have fallen, so corporate tax revenues have not been eroded (until very recently).
- This is the dog that does not bark; if it were otherwise, then declining tax collections would be taken as evidence of tax competition.
- The evidence instead suggests that governments have become more selective about whom they tax.
- In particular, the tax burdens (defined inclusive of their avoidance opportunities) on multinational firms have probably fallen while tax burdens on other firms have remained stable.

Figure 2: Statutory tax rates, G7 countries, 1979-2005

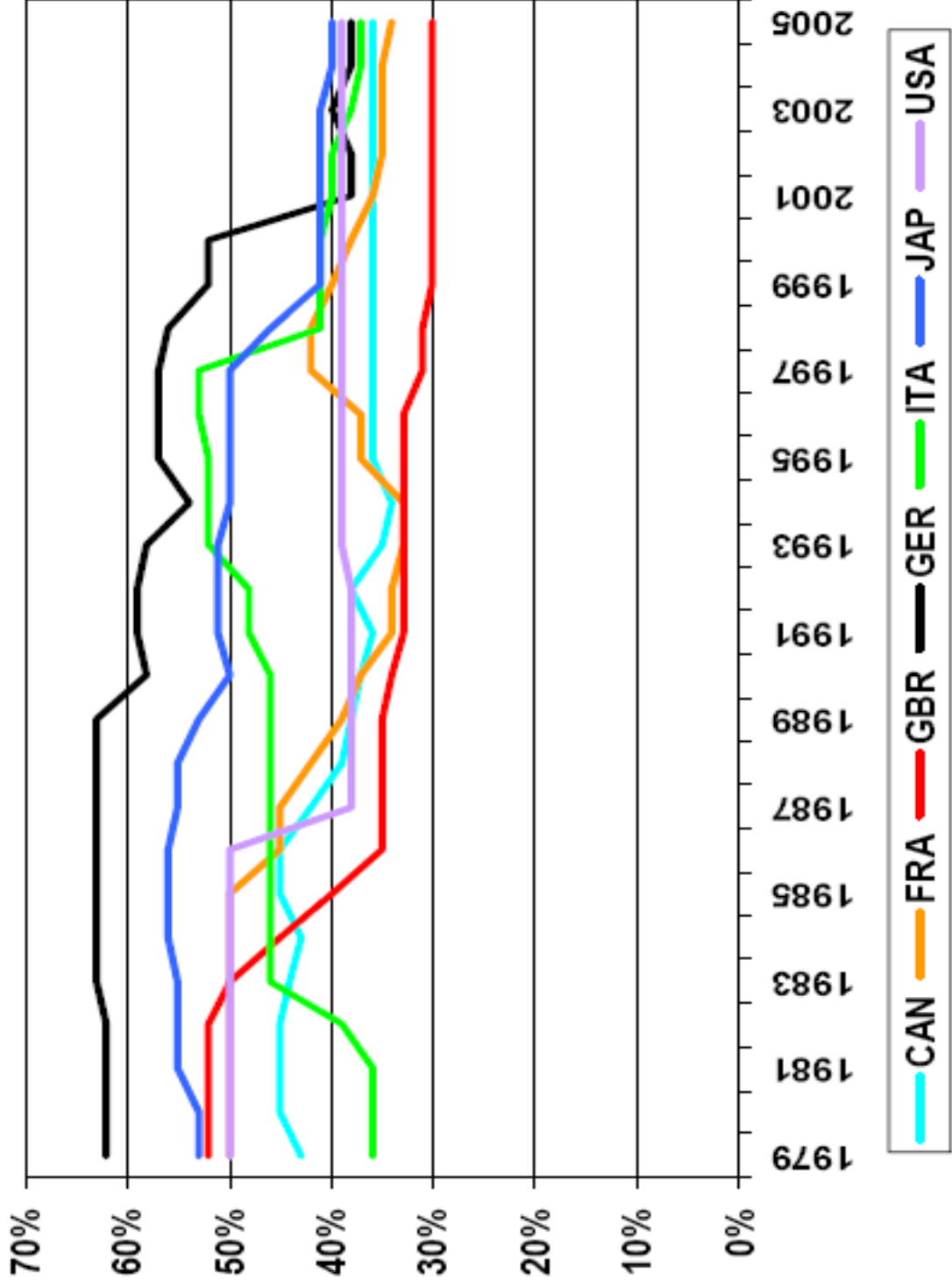


Figure 2:
Mean Top Corporate Tax Rate, OECD

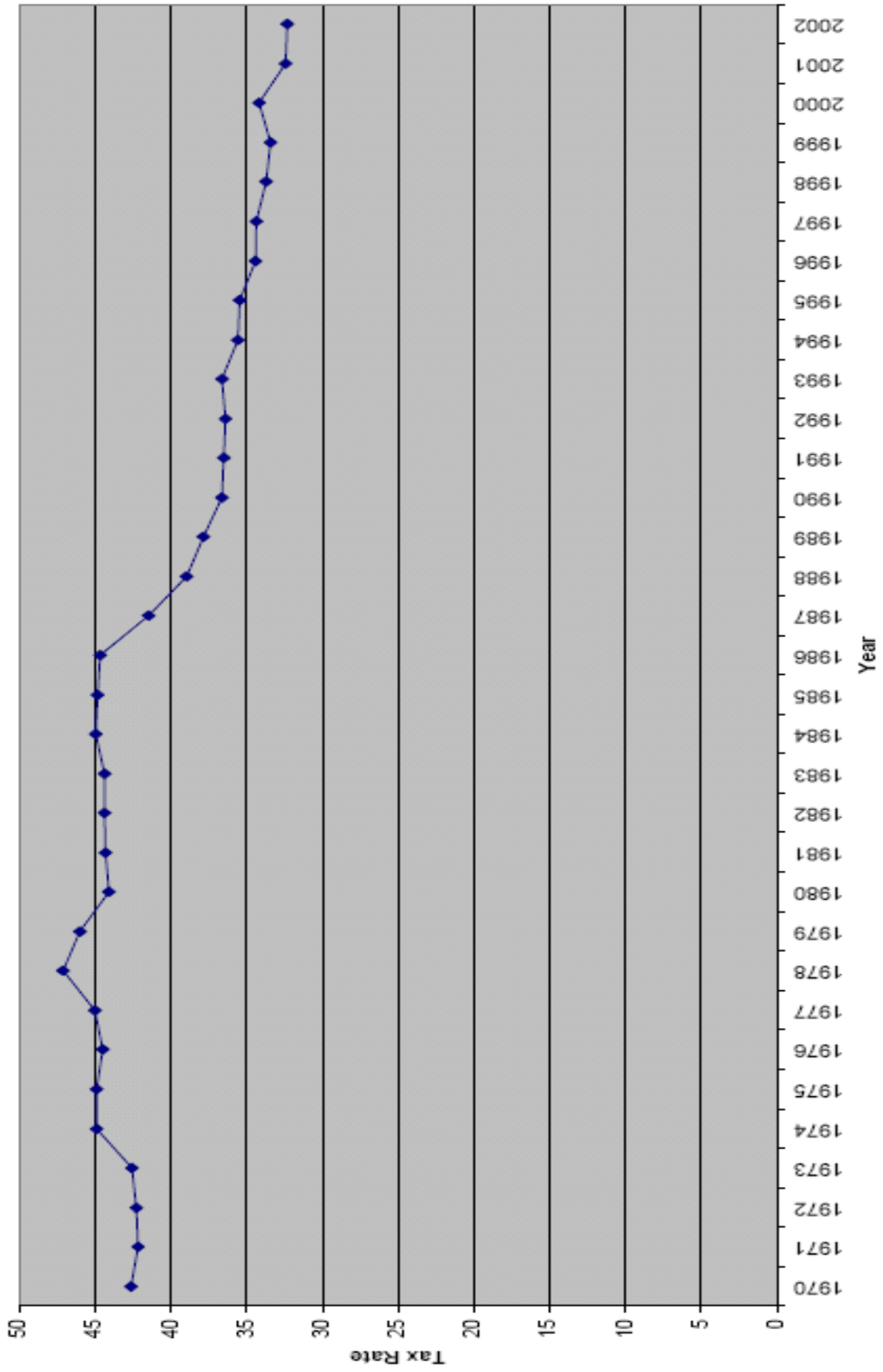


Figure 3:
Mean of Corporate Taxes/GDP, OECD Countries

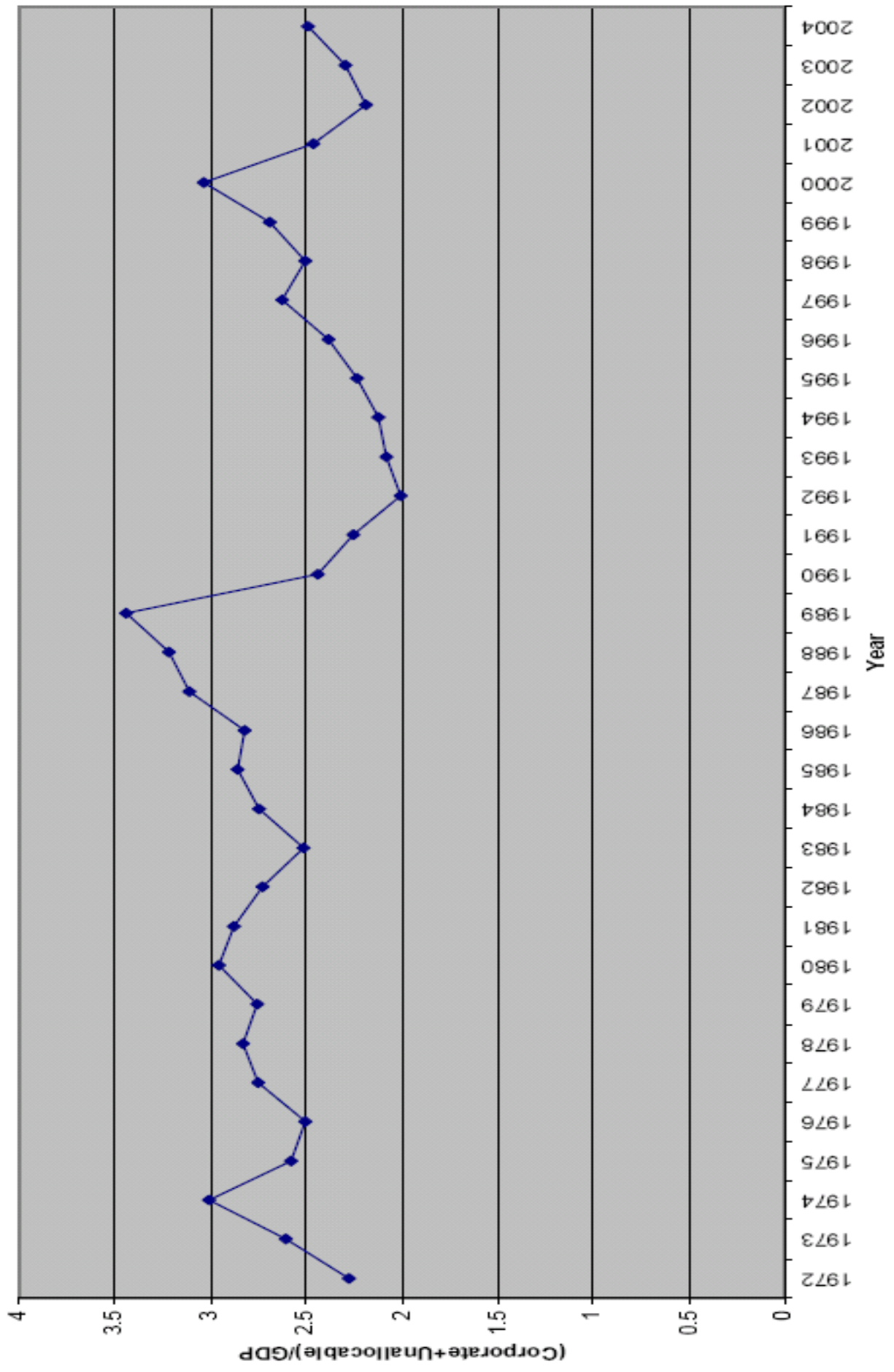
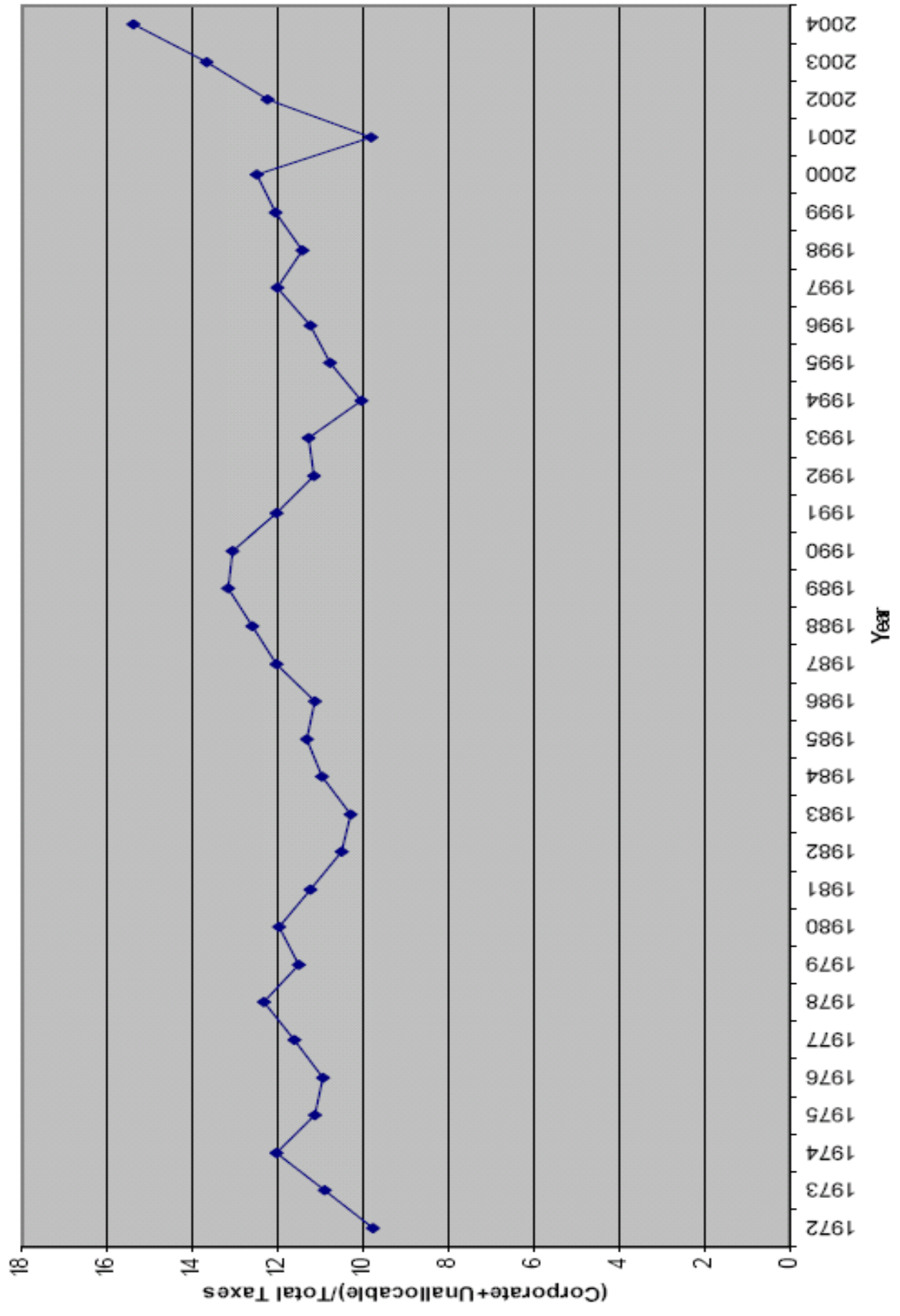


Figure 4:
Mean of Corporate Taxes/Total Taxes, OECD Countries





Has competition made tax policies more uniform?

- There is evidence (Devereux et al., *Journal of Public Economics*, 2008) that tax policies exhibit interdependence: if one country increases its tax rate, that raises the likelihood that another country increases its tax rate.
- But we still do not have uniformity in any sense: even among otherwise-similar countries, there are important differences in:
 - Statutory tax rates
 - Tax base rules
 - Reliance on excise taxes, property taxes, VATs, other sources of revenue.
- Do we really know how much competition there is, and how much purchase it has on government decisions?

Top Corporate Tax Rates in the OECD, 2005

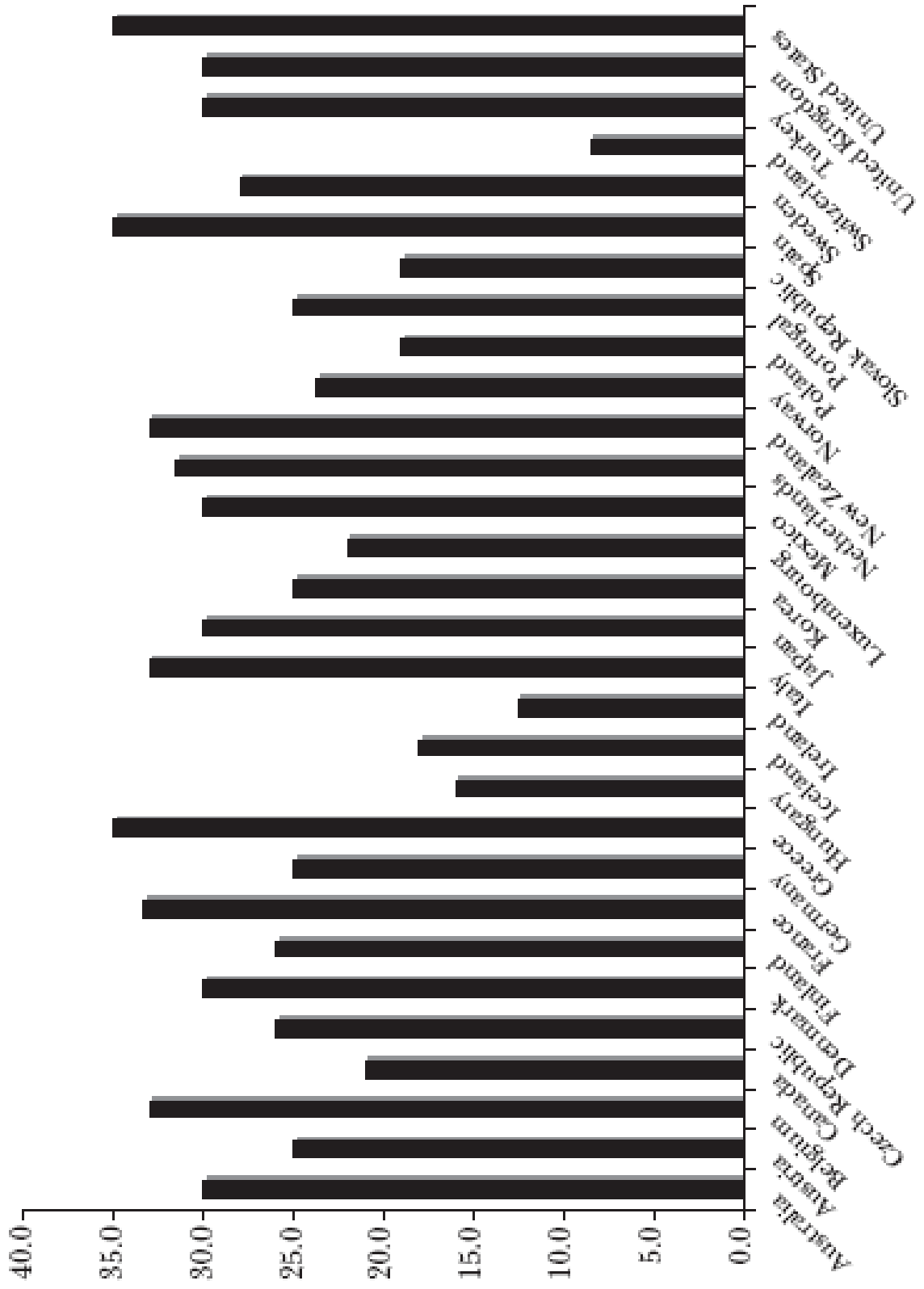


Figure 1: Taxes per 1000 liters Unleaded Gasoline, 2003

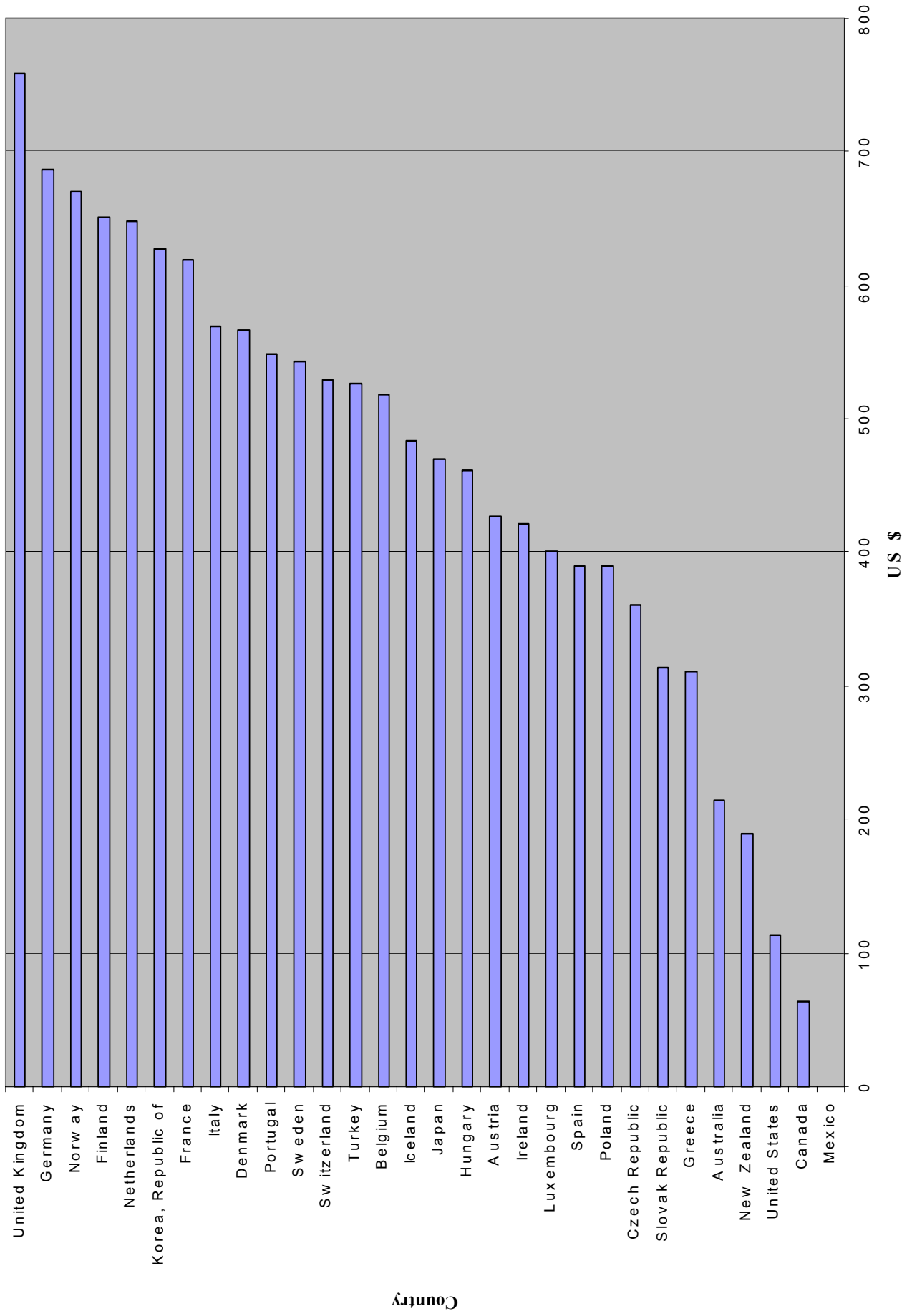


Figure 2: Taxes per Hectoliter Alcohol, 2003

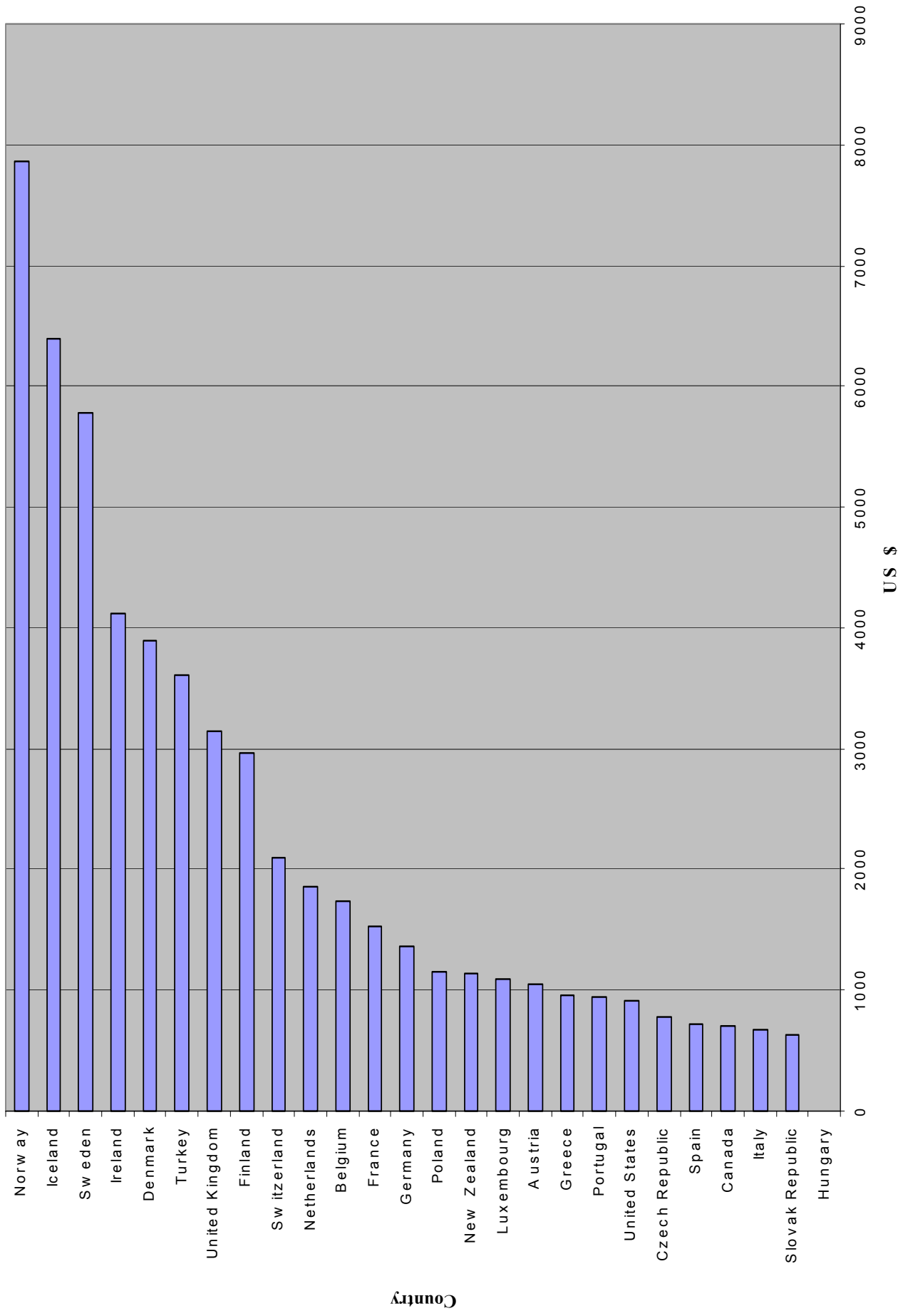


Figure 3: Specific Taxes/Total Taxes, 2000

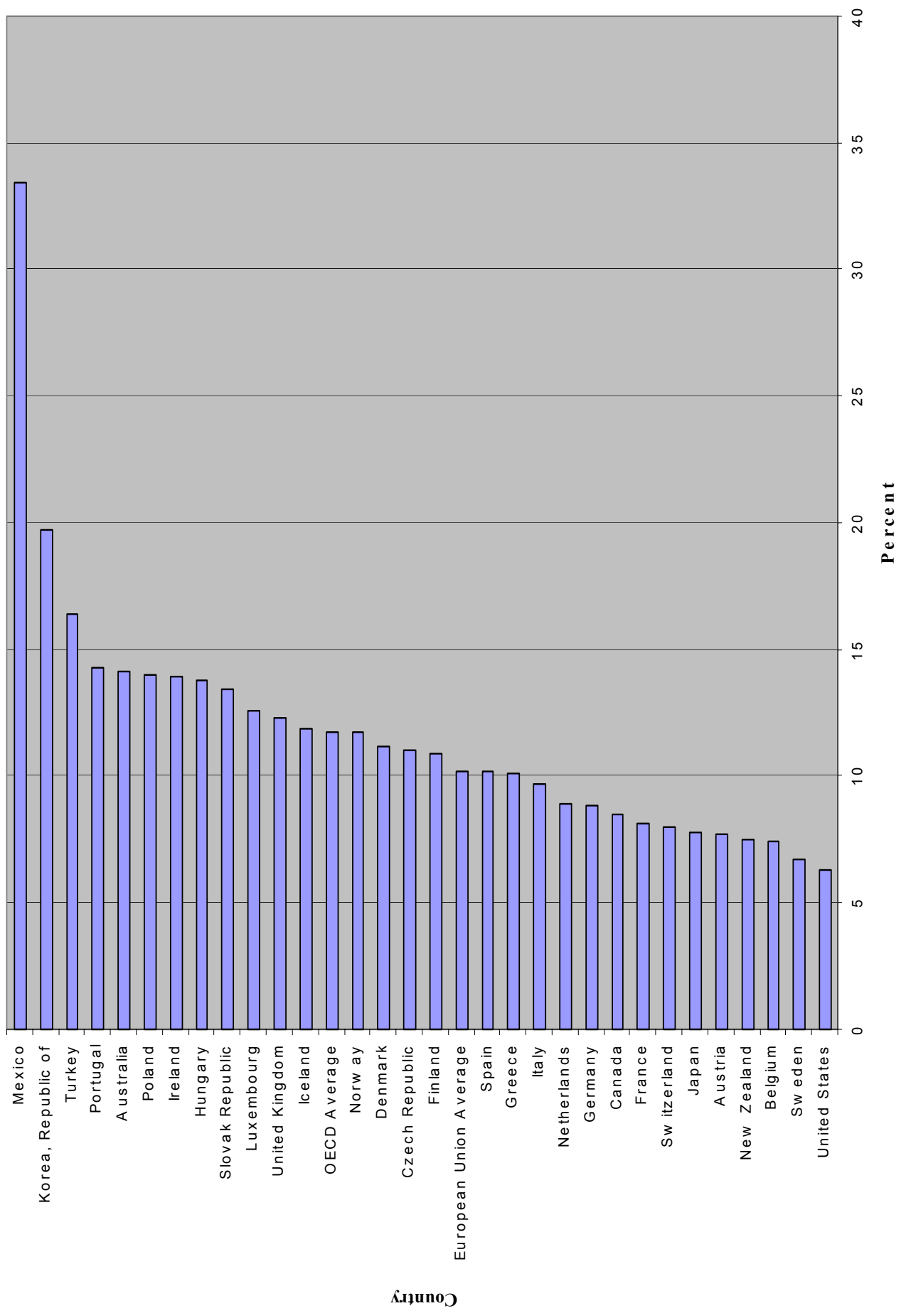


Figure 4: Environmental Taxes/Total Taxes, 2000

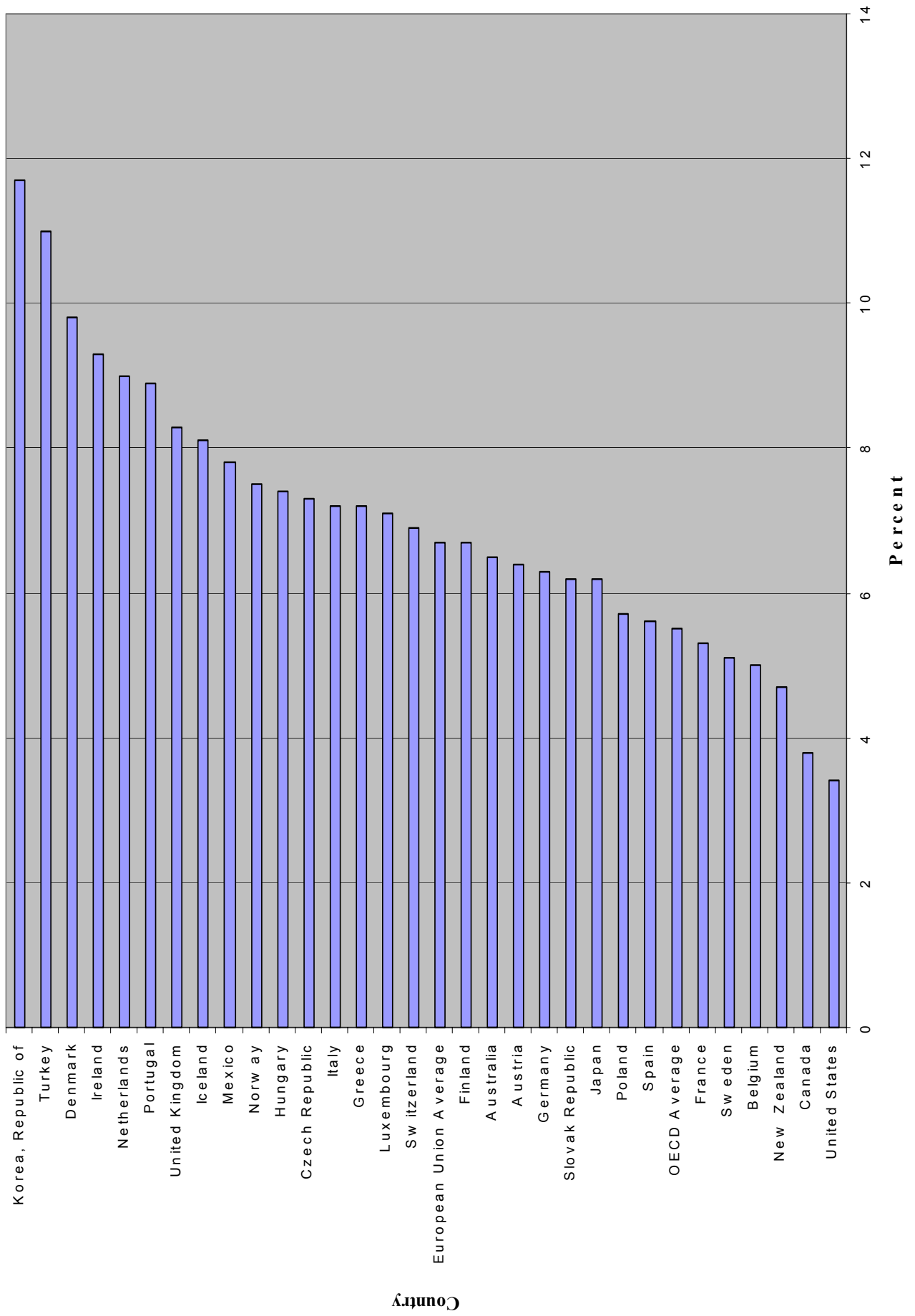
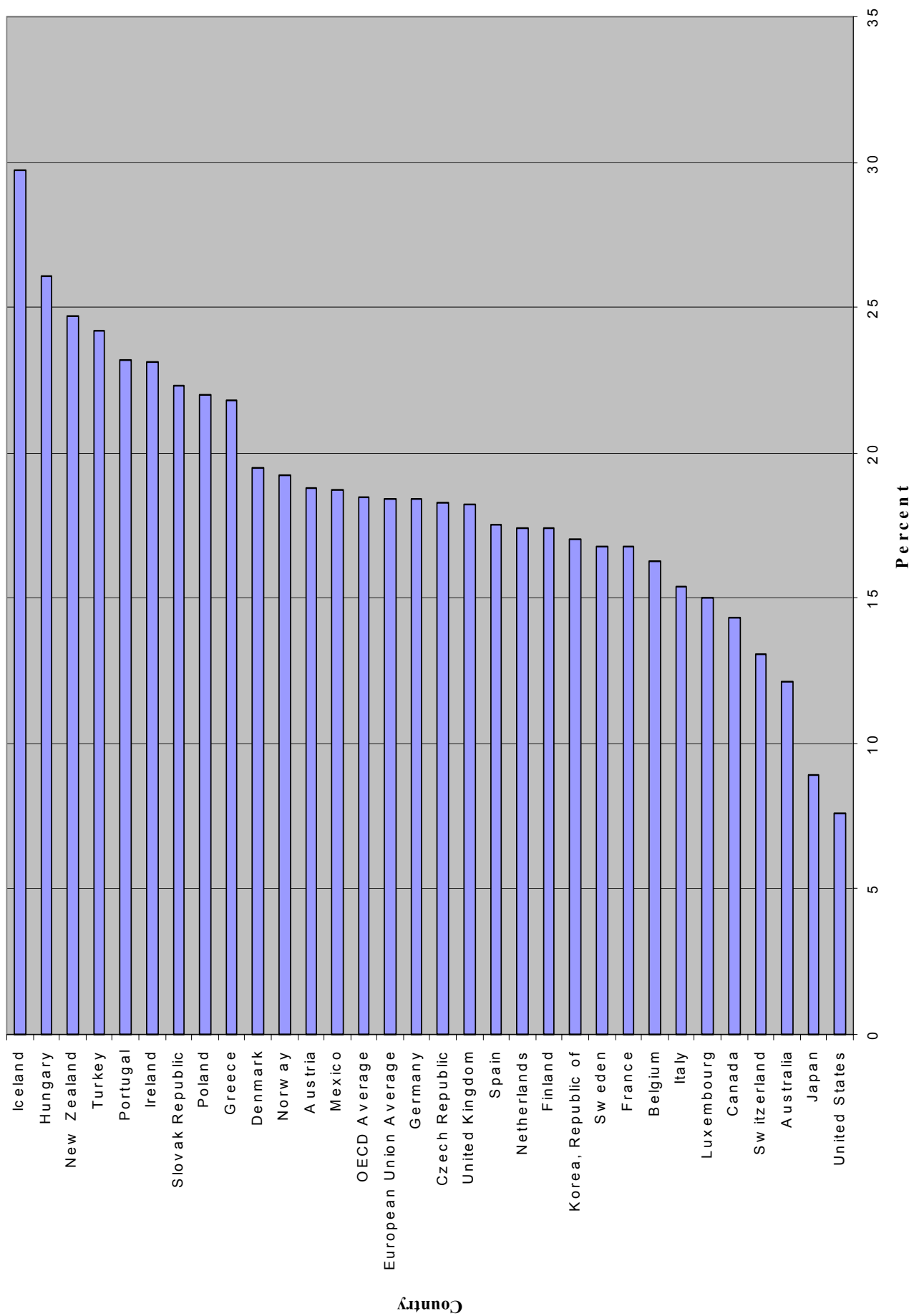


Figure 6: General Consumption Taxes/Total Taxes, 2000

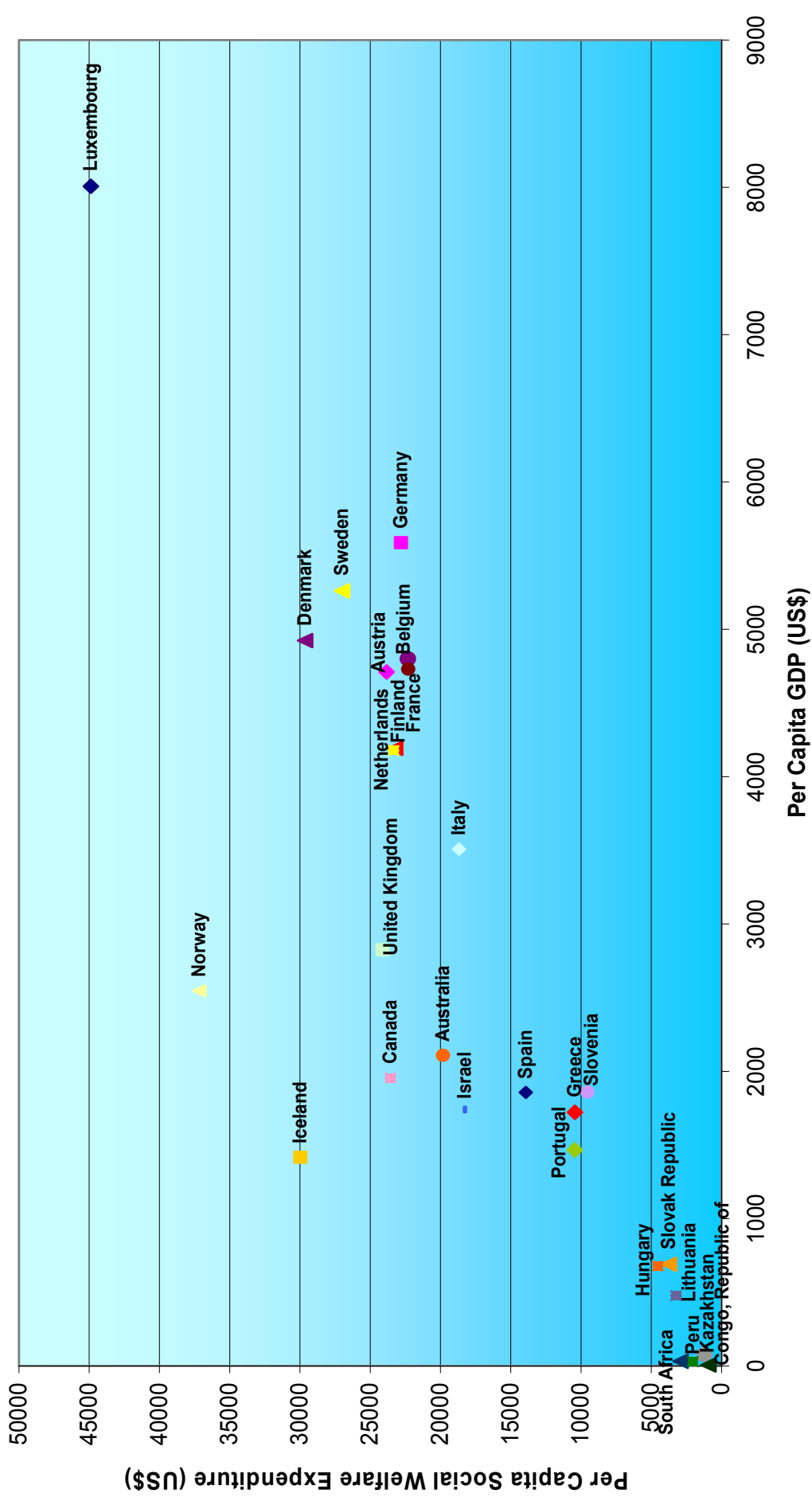




Back to the money.

- Without taxing foreign investment, how are governments to be financed?
- More specifically, should one be concerned that tax competition will erode social welfare programs by making it impossible to finance these expenditures?
- Probably not. Governments with significant social welfare programs have alternative revenue sources that are more efficient than taxing foreign investment.
 - Almost any tax alternative looks better than taxing foreign investment.
 - Taxes on foreign investment are usually small fractions of total revenue in any case.
- Furthermore, national affluence largely determines welfare spending, not tax mix choices.

Per Capita Social Welfare Expenditure and GDP, 2000





Analysis of tax harmonization.

- The standard analysis of the welfare benefits of tax harmonization starts from a setting in which all countries are (substantially) identical.
- Hence there are potential benefits from tax harmonization.
 - Reduces investment misallocation.
 - Prevents other forms of tax avoidance.
- Since the sign of the welfare consequence of harmonization (positive) is determined by the model setup, the point of the analysis is merely to measure just how large the benefits are.
- Sørensen et al. (2006) analysis: modest benefits.
 - Welfare gain to the EU as a whole: 0.1% of GDP.
 - Welfare gain to the UK: 0.2% of GDP.



Probing the assumptions.

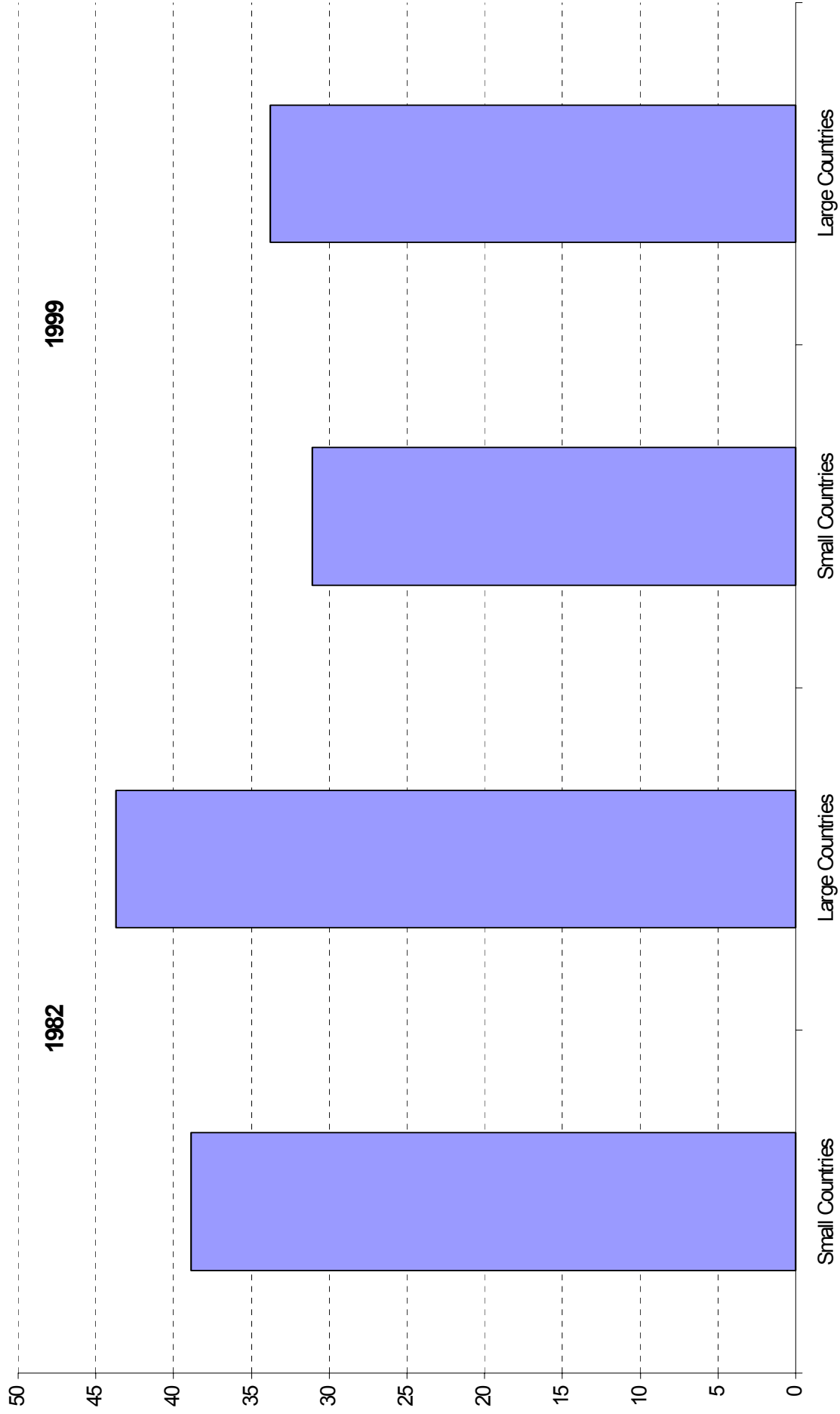
- Are (European, say) countries identical?
- (In this context, “identical” means that they would benefit from adopting identical tax systems.)
- If governments are rational optimizers, then identical countries should adopt identical tax policies. But in fact, tax policies differ.
- What does this tell us? Is it that some governments err whereas others do not?
- What are the odds that the optimal tax configuration for Malta is identical to that for Germany?



Probing a bit more.

- Who gains and who loses from tax harmonization in one of these setups?
- Countries with lower tax rates – typically small countries – tend to lose, and big countries tend to win.
- Why? Because in these frameworks, small countries lure investment from larger countries by offering low tax rates.
 - Or, to put it differently, large countries exploit their market power by taxing at higher rates, which pushes capital to small countries.
 - As a result, small countries are harmed by tax harmonization.
- There is evidence that smaller countries impose lower tax rates, and this has remained true over time, even as tax rates in general have fallen.

Statutory Tax Rates, by year and country size





Preferential regimes.

- Suppose you think that tax competition is bad.
- Then should you favor prohibiting countries from offering preferential tax regimes to certain investors (e.g., manufacturing zones for foreign investors)?
- This is controversial as a theoretical matter, though Keen (National Tax Journal, 2001) offers a powerful argument that the ability to target tax reductions only to a subset of investors improves welfare.
- Absent competition, a rational government is likely to benefit from the ability to tailor its taxation to individual circumstances. When might it not?
 - If committing to uniform taxation strengthens your bargaining position with foreign investors.
 - If tailoring worsens competitive outcomes.



Economic and policy issues concerning tax havens.

- Many governments, particularly those in economic federations such as the European Union, and some outside federations, like the United States, express concern about the proliferation of tax havens.
- Tax havens can be used to facilitate tax avoidance, though concern in high-income, high-tax, countries is also often focused on the issue of possible diversion of economic activity (“jobs”).
- A lot of recent research evaluates the likely impact of tax havens on the economic performance of the rest of the world.

To which countries does the research refer?

- There are different definitions of tax havens, each appropriate to different applications.
- Rose and Spiegel analyze the impact of what they call “offshore financial centres;” Desai, Foley and Hines, as well as Dharmapala and Hines, analyze “tax havens.”
- There is extensive overlap between these groups, though they are not identical.

Offshore Financial Centres: Default Definition

<i>Caribbean</i>				
Aruba	Bahamas	Barbados	Belize	
Bermuda	Brit. Virgin Islands	Cayman Islands	Costa Rica	
Dominica	Neth. Antilles	St. Kitts & Nevis	Turks and Caicos Is.	
<i>Europe</i>				
Andorra	Cyprus	Gibraltar	Guernsey	
Isle of Man	Jersey	Liechtenstein	Malta	
Monaco				
<i>East Asia</i>				
Hong Kong	Macau	Malaysia	Marshall Islands	
Philippines	Singapore	Thailand		
<i>Middle East</i>				
Bahrain	Israel	Kuwait	Lebanon	
Oman	United Arab Emir.			
<i>Other</i>				
Liberia	Mauritius	Morocco	Panama	
Russia	Uruguay			

Which Countries Are Tax Havens?

- Classification of tax havens follows Hines and Rice (1994) and Diamond and Diamond (2002)

Andorra
Anguilla
Antigua and Barbuda
Aruba !
Bahamas
Bahrain
Barbados
Belize
Bermuda
British Virgin Islands
Cayman Islands
Channel Islands
Cook Islands
Cyprus
Dominica
Gibraltar

Grenada
Hong Kong *
Ireland *
Isle of Man
Jordan *
Lebanon *
Liberia
Liechtenstein
Luxembourg *
Macao *
Maldives
Malta
Marshall Islands
Mauritius !
Monaco
Montserrat

Nauru !
Netherlands Antilles
Niue !
Panama
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Samoa !
San Marino !
Seychelles !
Singapore *
Switzerland *
Tonga !
Turks and Caicos Islands
Vanuatu
Virgin Islands (U.S.) !

! Not included in Hines-Rice tax haven list.

* Not included in OECD tax haven list.



A breakdown of the concerns.

- What is the effect of tax havens on financial market performance in other countries?
- Do tax havens erode the tax bases of high-tax countries, either through facilitating tax avoidance or by accelerating tax competition?
- What is the effect of tax havens on economic activity in other countries?
- And more generally, what countries become tax havens and what role do they play in the world economy?



IFC impact on financial activity elsewhere.

- Paper: “Offshore financial centers: Parasites or symbionts?” *Economic Journal*, October 2007.
- Authors: Andrew K. Rose (UC-Berkeley) and Mark M. Spiegel (Federal Reserve Bank of San Francisco).
- Considers the economic impact of nearby offshore financial centers.



What features determine flows to offshore financial centers?

- Some variables have little effect:
 - The usual suspects, such as small population and high income have little discernable effect.
- Proximity to rich countries increases financial flows.
- Being a tax haven and/or an OECD identified money laundering site are correlated with greater financial flows.



What are their effects?

- Offshore financial centers may facilitate tax avoidance, and thereby indirectly facilitate undesired activity, note Rose and Siegel.
- Offshore financial centers may provide needed competition for local banking sectors, many of which are state-owned or state-controlled, and thereby improve banking efficiency.



Effects on the local banking sector.

- Distance to the nearest offshore financial center is associated with reduced competitiveness of local banking.
- Competitiveness as measured by:
 - Interest rate spreads charged by local banks.
 - Industry share of the five largest banks.
 - Number of commercial banks/GDP.
- Similar results appear for the extent of financial intermediation, such as volume of private credit.
- The paper concludes that offshore financial centers are “symbionts,” improving financial performance elsewhere.



Concentration of American investment in tax havens, 1999.

- Tax havens are small: 0.8% of non-U.S. world population, 2.3% of GDP.
- Lots of U.S. investment in tax havens: 15.7% of foreign assets, 8.4% of property, plant and equipment; 6.1% of employee compensation.
- Note: 13.4% of sales, 30% of reported pretax income in tax havens.
- Little has changed: we observe similar patterns in 1982.
- This is all consistent with many statistical studies, that find low tax rates to encourage FDI and tax avoidance.



Has anything happened recently?

- Well, yes: foreign direct investment has increased dramatically over the last 20 years.
- As a result, tax havens have become more important, since foreign investment in general has become more important. This is true even though tax haven activities remain a very small fraction of total foreign activity of U.S. firms.
- As a consequence, high-tax governments are increasingly edgy over tax havens.



Effects of tax havens on other countries.

- Does economic activity in tax havens come at the expense of activity in other countries?
 - One possibility: there is a certain (fixed) amount of total world economic activity. Implies that locations are substitutes.
 - Another possibility: total world economic activity is not fixed. Greater activity in one place might then stimulate greater activity elsewhere. How could this work?
 - Tax haven affiliates might provide valuable intermediate inputs used by operations elsewhere. Or the trade could go the other way.
 - The use of tax havens to facilitate tax avoidance may reduce the tax cost of operating in high tax places, and thereby make them more attractive than they would otherwise be.



Desai, Foley and Hines estimation strategy.

- Complementarity and substitutability are symmetric properties, so the effect of tax haven operations on non-haven activities can be estimated by examining the effect of non-haven operations on tax haven activities.
- So the paper asks whether firms that expand operations in high-tax locations also expand in tax havens.
- Desai, Foley and Hines (*Journal of Public Economics*, 2006) estimate this in first differences: change in tax haven operations as a function of the change in non-haven activities.
- Instrument for the change in non-haven operations: weighted average growth rate of GDP in countries in which parents have activities in the base period.



First stage results.

- Unit of observation is a parent company in a region and a year.
- First differences are 1982-1989, 1989-1994, 1994-1999.
- Construct weighted averages of regional GDP growth rates, by parent, using base year property, plant and equipment (PPE) fractions.
- Faster GDP growth rate produces faster growth of sales and PPE, the estimated coefficients being 1.23 on sales, 1.45 on PPE.



Second stage results.

- Observations consist only of parent/region/years in which parents without regional tax havens get new ones, or parents that have regional tax havens abandon them. 1 or 0 dependent variable.
- Significant effects of sales and PPE growth on the demand for haven affiliates, with instruments based on GDP growth rates.
- In other words, growing opportunity for FDI is associated with establishing tax haven affiliates.



Regional details.

- The world has five (BEA-defined) regions: Asia/Pacific, Europe, the Americas, Africa, and the Middle East (most U.S. investment in first 3).
- Table 7 regional detail (note much smaller sample sizes):
 - Strongest results for Europe and the Americas.
 - Signs are consistent, but Asia/Pacific effects are smaller and less statistically significant.



Implications: Tax avoidance.

- The use of tax havens is doubtless part of broader tax avoidance strategies of multinational firms.
- Firms are most likely to establish affiliates in large tax haven countries if they face high foreign tax rates, have intangible assets, and sell to related parties abroad.
- Firms are more likely to establish affiliates in smaller tax havens if they face low foreign tax rates, which is consistent with a desire to defer repatriation.
- There is extensive evidence of income reallocation by firms with regional tax haven affiliates.



Implications: Tax policy design.

- Open economies have incentives to tax mobile multinational firms less heavily than they do other firms, since multinational tax bases are more elastic and the efficiency costs of taxing them are greater.
- As practical and political matters, it is very difficult to differentiate tax burdens in this way.
- Foreign tax havens may help to achieve this differentiation, since multinational firms use tax haven operations to reduce their effective tax rates.



Implications: Economic activity.

- The evidence indicates that the establishment of affiliates in tax havens is complementary with economic activity outside of tax havens, controlling for a host of factors captured by firm fixed effects.
- Implies that, in practice, tax havens do not divert economic activity from high-tax locations in the same region; just the opposite is the case.



Implications: Tax competition.

- What does all this imply for tax policy and competition?
- The presence of regional tax havens may permit countries to maintain high corporate tax rates that they effectively impose at different rates on domestic v. multinational taxpayers.
 - Note this can be an optimal configuration.
 - Countries may not even realize this is happening.
 - The striking fact is that high-income countries have maintained high tax rates over the past 30 years.
- The data do not support a simple story of investment diversion.



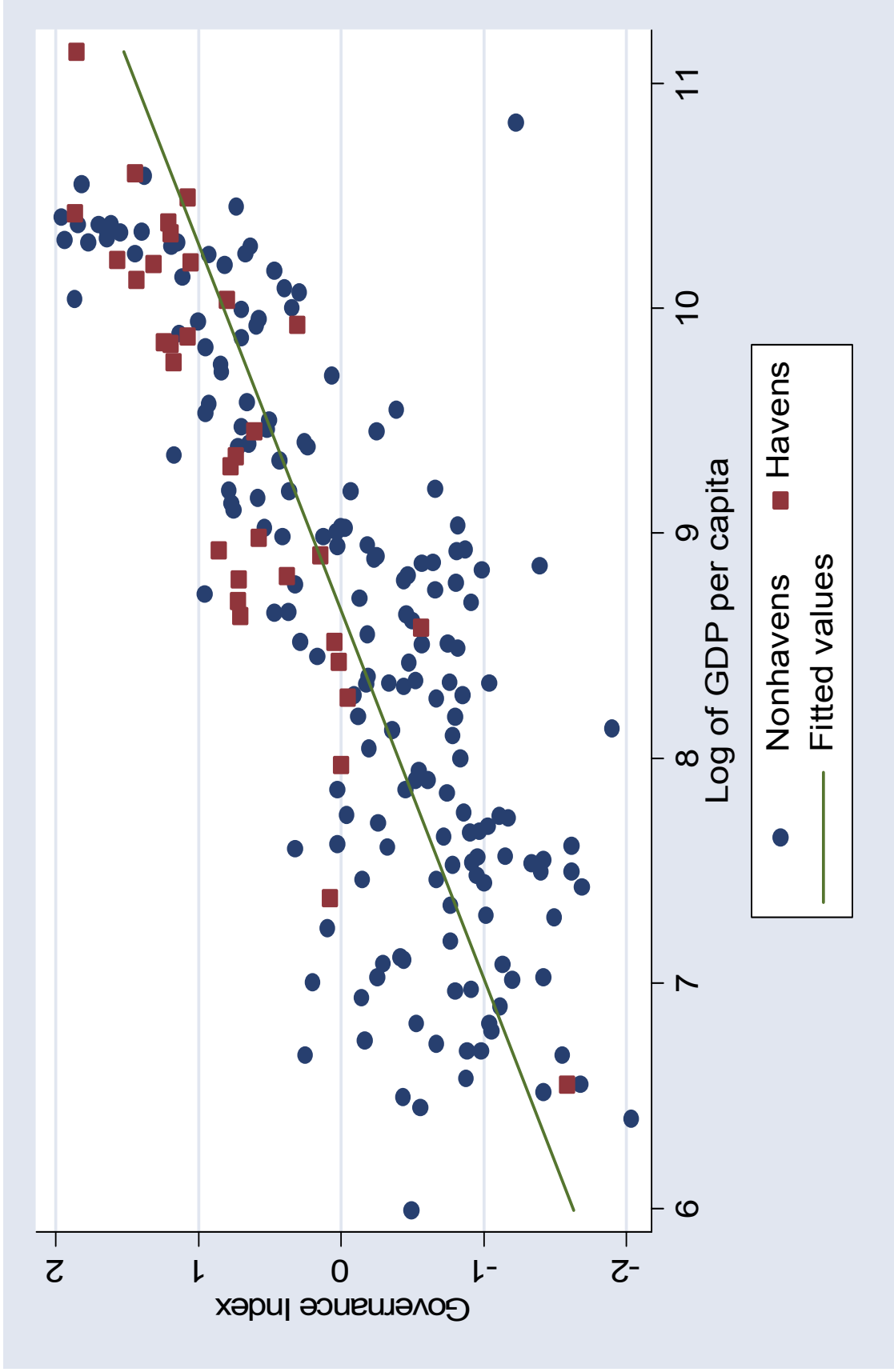
Who becomes a tax haven?

- ❑ The Dharmapala and Hines study uses a variety of statistical approaches to identify observable country characteristics that are associated with being a tax haven.
- ❑ Some patterns are well known. Small countries, and rich countries, are more likely than others to be tax havens. In addition...
- ❑ There is a strong correlation between tax haven status and the quality of a country's governance, even after controlling for other observable variables. Now, why should that be?
- ❑ The tax elasticity of foreign direct investment appears to be greater for better-governed countries, suggesting that it may not pay for poorly governed countries to attempt to become tax havens, whereas it pays for others.

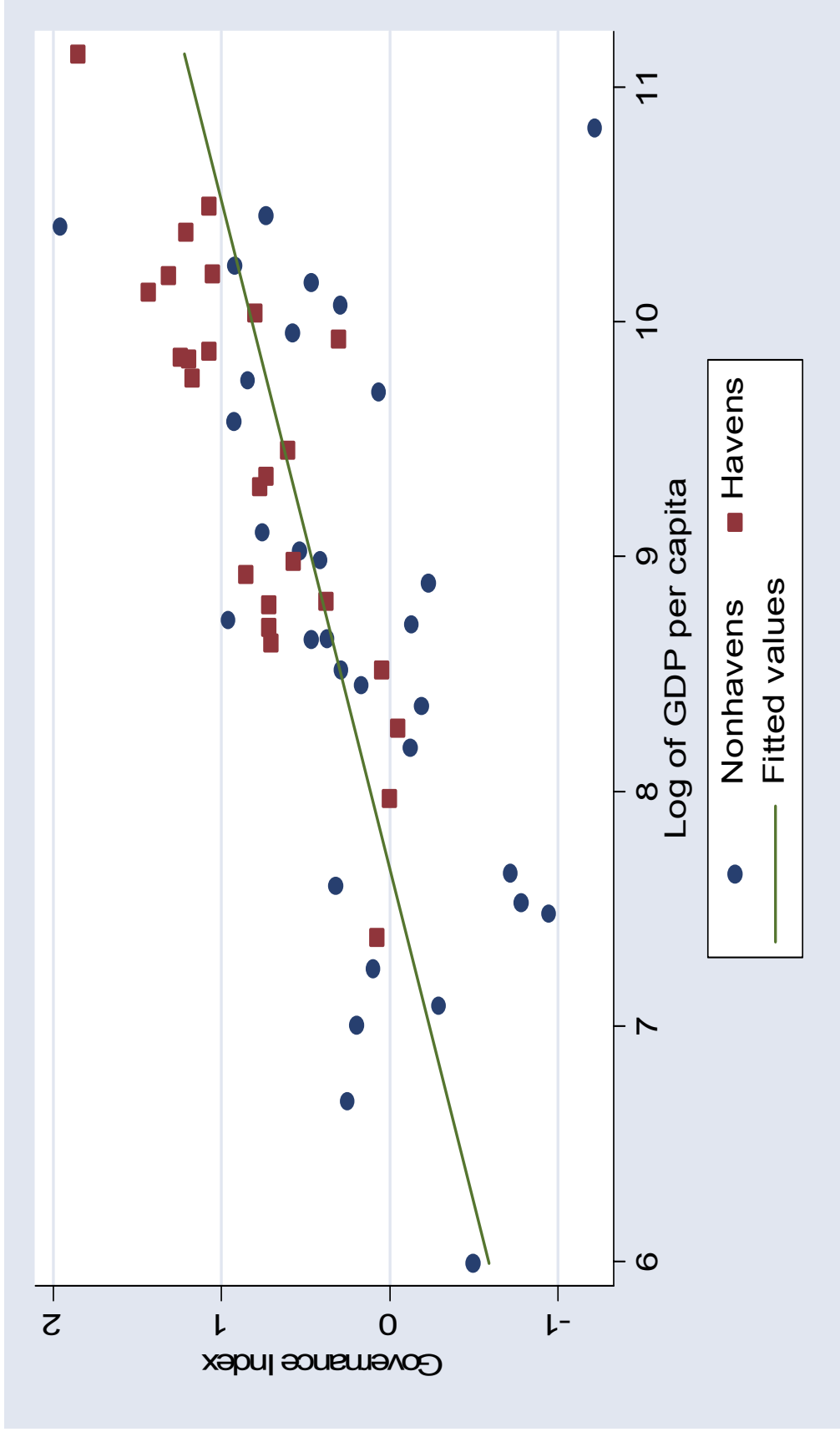
Summary Statistics: All Countries and Territories

	Tax Havens			Nonhavens		
	Mean	St. dev.	N	Mean	St. dev.	N
Governance Index	0.7284	0.7152	33	-0.1338	0.8984	176
GDP per capita (PPP; in thousands of US\$)	18.51	14.68	39	9.55	10.22	188
Population (thousands)	1145.69	2043.9	39	33354.08	126475.9	189
UN Member (=1)	0.6667	0.4776	39	0.8730	0.3338	189
Distance by air (km)	2965.00	1899.1	39	4424.00	2652.59	189
Landlocked (=1)	0.1026	0.3074	39	0.1958	0.3978	189
Area (sq. km)	83395	365478	35	721188	1955140	185
Island (=1)	0.6667	0.4776	39	0.2751	0.4478	189

Governance and GDP (All Countries)



Governance and GDP (Small Countries)





Statistical analysis.

- In an equation explaining whether or not a country is a tax haven, the effect of governance quality persists when incorporating the following considerations:
 - Population, per capita income, distance from major trading centers, whether landlocked; others.
 - Excluding African countries, very poor countries (below \$1K per capita income), non-UN members, countries with populations over one million; the common support.
- The effect is large: the governance difference between Brazil and Portugal is associated with a 39% greater likelihood of being a tax haven (if pop < 1m).

Determinants of Tax Haven Status – Probit Estimates

(1)

All Countries
and
Territories

Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)

Gov. Index	0.814 (0.284)***
GDP per capita	0.008 (0.015)
Population	-0.0002 (0.00005)***

Other
Controls,
Regional
Dummies? Y

Obs 208

Determinants of Tax Haven Status – Probit Estimates

(1)

All Countries
and
Territories

Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)

Gov. Index	0.814 (0.284)***
GDP per capita	0.008 (0.015)
Population	-0.0002 (0.00005)***

Governance Index
is +ive, significant

Other Controls, Regional Dummies?	Y
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UN member (= 1)
Landlocked (= 1)

Distance by air from NYC, Rotterdam or Tokyo

Obs	208
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Determinants of Tax Haven Status – Probit Estimates

(1)

All Countries
and
Territories

(2)

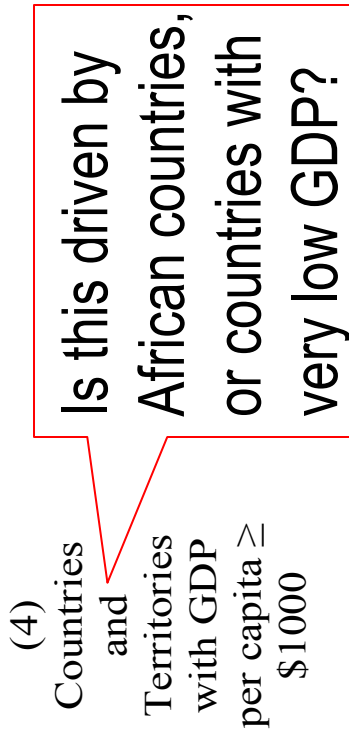
UN Members

Is this because many tax havens
are not independent countries?

Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)

Gov. Index	0.814 (0.284)**	0.924 (0.344)***
GDP per capita	0.008 (0.015)	0.009 (0.017)
Population	-0.0002 (0.00005)**	-0.0002 (0.00006)***
Other Controls, Regional Dummies?	Y	Y
Obs	208	190

Determinants of Tax Haven Status – Probit Estimates



	(1) All Countries and Territories	(2) UN Members	(3) Non-African Countries and Territories	(4) Countries and Territories with GDP per capita \geq \$1000
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Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)

Gov. Index	0.814 (0.284)***	0.924 (0.344)***	0.824 (0.366)**	0.796 (0.290)***
GDP per capita	0.008 (0.015)	0.009 (0.017)	0.004 (0.020)	0.006 (0.015)
Population	-0.0002 (0.00005)***	-0.0002 (0.00006)***	-0.0002 (0.00006)***	-0.0002 (0.00005)***
Other Controls, Regional Dummies?	Y	Y	Y	Y
Obs	208	190	163	191

Determinants of Tax Haven Status – Probit Estimates

	(1) All Countries and Territories	(2) UN Members	(3) Non-African Countries and Territories	(4) Countries and Territories with GDP per capita \geq \$1000	(5) Small Countries and Territories
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Dependent Variable: Indicator for Tax Haven Status (= 1 Tax Havens)

Gov. Index	0.814 (0.284)***	0.924 (0.344)***	0.824 (0.366)**	0.96 (0.30)***	1.039 (0.504)**
GDP per capita	0.008 (0.015)	0.009 (0.017)	0.004 (0.020)	0.006 (0.015)	-0.001 (0.017)
Population	-0.0002 (0.00005)***	-0.0002 (0.00006)***	-0.0002 (0.00007)***	-0.0002 (0.00005)***	-0.001 (0.001)

Population < 1 million

Other Controls, Regional Dummies?	Y			Y	Y
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Obs	208	190	163	191	56
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Determinants of Tax Haven Status – Probit Estimates

	(1) All Countries and Territories	(2) UN Members	(3) Non-African Countries and Territories	(4) Countries and Territories with GDP per capita \geq \$1000	(5) Small Countries and Territories	(6) Common Support
Gov. Index	0.814 (0.284)***					0.899 (0.313)***
GDP per capita	0.008 (0.015)					0.002 (0.016)
Population	-0.0002 (0.00005)***					-0.0002 (0.00006)***
Other Controls, Regional Dummies?	Y					Y
Obs	208	190	163	191	56	99

Dependent Variable: Indicator for Tax Haven Status (= 1 if Tax Haven Status = 1)

A propensity-score matching procedure is used to identify the best comparison group along all observable dimensions.

This “common support” consists of the havens and those countries that are most similar in terms of observables.

Determinants of Tax Haven Status – Probit Estimates

	(1) All Countries and Territories	(2) UN Members	(3) Non-African Countries and Territories	(4) Countries and Territories with GDP per capita \geq \$1000	(5) Small Countries and Territories	(6) Common Support
Dependent Variable: Indicator for Tax Haven Status (= 1 for Tax Havens)						
Gov. Index	0.814 (0.284)***	0.924 (0.344)***	0.824 (0.366)**	0.796 (0.290)***	1.039 (0.504)**	0.899 (0.313)***
GDP per capita	0.008 (0.015)	0.009 (0.017)	0.004 (0.020)	0.006 (0.015)	0.001 (0.017)	0.002 (0.016)
Population	-0.0002 (0.00005)***	-0.0002 (0.00006)***	-0.0002 (0.00006)***	-0.0002 (0.00006)***	-0.001 (0.001)	-0.0002 (0.00006)***
Other Controls, Regional Dummies?						Y
Obs						99

The magnitude of the effect of governance is substantial:
 For a small country, holding all other variables at their means, raising the governance measure from 0 to 1 (Brazil → Portugal) increases the probability of being a tax haven from 0.24 to 0.63

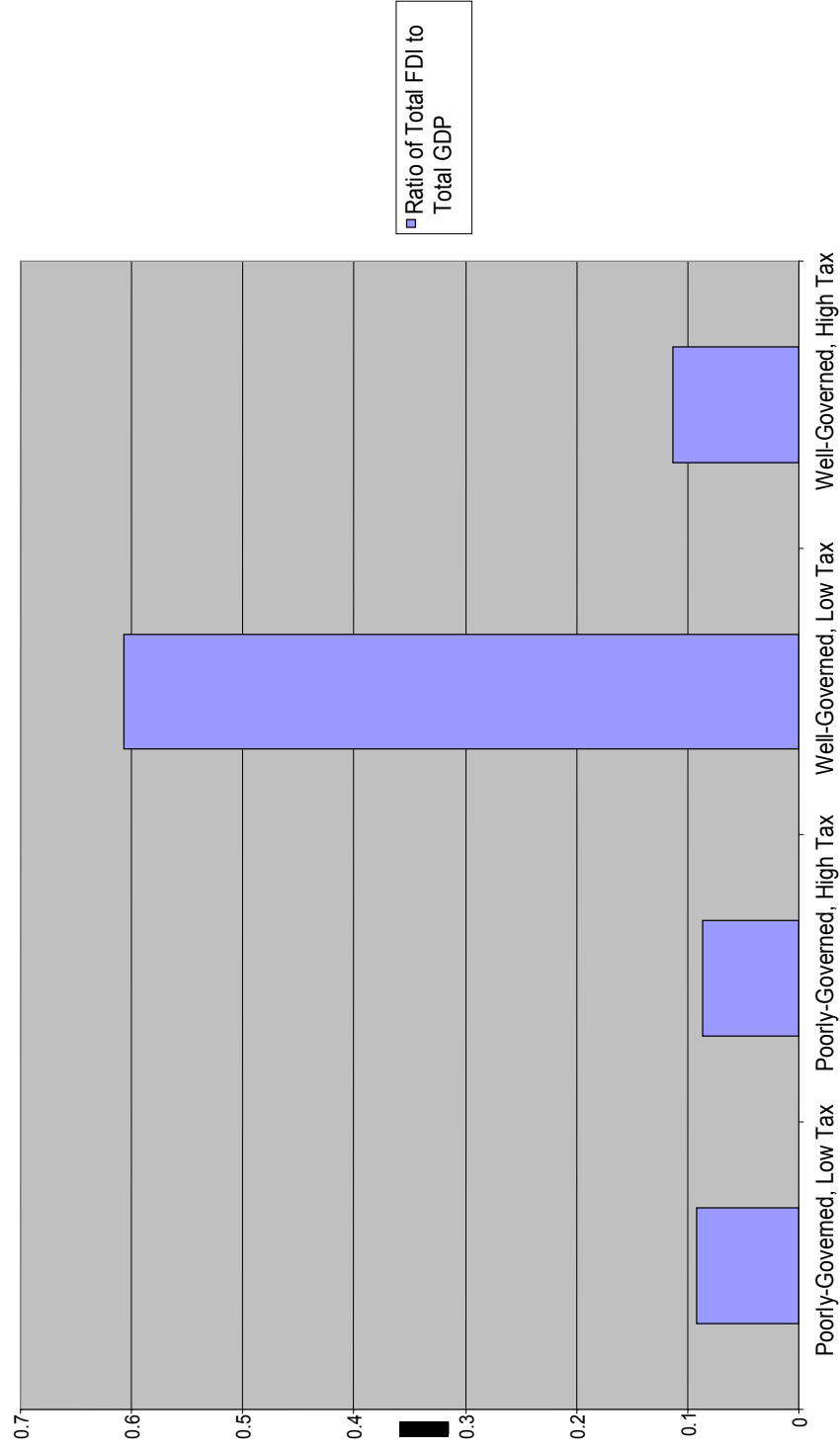


Why Are Tax Havens Well-Governed?

The paper analyzes the effect of tax rates on U.S. investment in countries with high and low quality governance.

- There is extensive prior evidence that countries with low tax rates attract greater foreign direct investment.
- Tax rate differences appear to have a much greater effect on investment in well-governed countries than they do in poorly governed countries.

Ratio of US FDI to GDP for 4 Groups of Countries





Why Are Tax Havens Well-Governed?

This evidence is consistent with an interpretation based on “limited commitment.”

- Only countries with stronger governance institutions can credibly commit to low future tax rates, noninterference with market institutions, and other actions that affect foreign investors.
- Poorly governed countries would have difficulty attracting foreign investment even if they significantly reduced their tax rates.



What has been the tax haven economic experience?

- The evidence indicates that tax havens have grown very rapidly during the period of globalization (3.3% annual real per capita income growth v. 1.4%).
- Despite their generally low tax rates, the public sectors of tax havens are about the same sizes as those of other countries.
- Assuming that tax haven affluence does not come at the expense of rich countries, then it probably contributes to economic welfare elsewhere, for the usual reason that to a certain degree having a more affluent neighbor makes you better off.



Tax havens as economic pressure valves

- Pressure valves are small, but nonetheless important.
- The pressure release provided by tax havens takes the form of disciplining local financial markets and permitting other countries to pursue their desired tax policies.
- This may be just another application of the concept that a policy that might be undesirable if all other policies were optimal becomes superior to the alternative in our fallen world.



Tax competition summary.

- National tax systems differ greatly.
- FDI responds to tax differences, reflecting shifting ownership and changes in the location of economic activity.
- Tax harmonization produces tiny welfare gains in the traditional analysis, which ignores ownership and is slanted toward finding welfare gains.
- There is little or no evidence of tax competition reducing average tax rates.
- Labor bears the burden of source-based capital taxes in open economies.
- Tax havens may contribute to economic activity elsewhere and the efficiency of other tax systems.
- There is no clear evidence that tax competition per se has reduced government spending.