

Institute for  
Fiscal Studies

---

## Issues in tax competition: setting differential rates

Helen Miller

Conference on International Business Taxation, July 2012

# Concerns over tax competition

- Long running concerns that competition will drive down corporate taxes
- Evidence of strategic interactions in tax setting & competition in rates
  - Devereux, Lockwood and Redoano (2008); Wilson (1999) and Fuest, Huber, and Mintz (2005)
- Competition at different levels (countries, regions within countries), using different instruments (rates, bases), for different types of income
- Creating a competitive tax system is often an explicit policy goal
  - aim to retain and attract activity , balanced against desire for revenue
  - broad questions over how to design corporation tax

# Role of rate differentiation (preferential rates)

- Plenty of examples of different rates within jurisdictions
  - Small companies' rates
  - North Sea oil profits taxed at higher rate
  - Ireland – lower rate on manufacturing & financial services (foreign investors)
  - Sub-national corporate tax rates (US, Germany, Switzerland)
  - Patent Boxes (reduced rates for patent income)

# Why deviate from a single statutory rate?

- Accustomed to different rates across countries
  - different preferences, services, attractiveness
- Attractiveness (location specific rents)
  - account for differences in responsiveness to tax
- Some income more mobile
  - Mirrlees et. al. (2011) – *“In principle, it would be efficient to tax rents from relatively immobile activities at a higher rate than rents from more mobile activities”*
  - reduce the distortions on the location of mobile activities while allowing a higher rate to be supported on less mobile activities

# Effect on tax competition?

- Increase tax competition and distort markets or create a more efficient tax system?
- International agreements explicitly discourage preferential tax rates
  - EU Code of Conduct; OECD 'harmful tax competition' initiatives
  - premise: (at least some degree of) coordination produces better outcomes
  - activities appearing mobile from individual country perspective may be much less mobile between a group of countries and rest of world
- EU state aid rules prevent certain kinds of preferential regime
  - e.g. no to different rates across regions and to preferential regimes for financial holding companies, but yes to Patent Boxes and some exemptions for small policies in assisted areas (reduced business rates in enterprise zones)
  - prevent national policies distorting competition within EU

# Recent examples

- Devolution of corporation tax
  - possible devolution of corporate tax rate setting within the UK
- Patent Boxes
  - introduction of substantially reduced rates of corporate tax for the income derived from patent

# Devolution of corporation tax within the UK

- Commissions on possible devolution of corporate tax
  - Varney Review (2007; Northern Ireland); Calman Commission (2009; Scotland); Holtham Commission (2010; Wales)
  - under EU State aid rules, government cannot set a rate that varies across the four nations – need to devolve tax rate setting power
- Proposal for Northern Ireland
  - *Rebalancing the Northern Ireland Economy* (March 2011) – discusses possible devolution of the power to set the corporation tax rate (not base)
  - full responsibility for the revenue consequences
- SNP proposals
  - SNP (June 2011) proposed amendments to Scotland Bill
  - other options aside from rate (SCR, R&D tax credit, tax base) discussed
- Efficient differentiation or tax competition within the UK?

# Differences across the nations

- Do differences across the nations suggest different corporate tax rates?
  - differ in attractiveness?
- Key aim: boost private sector investment
  - particular concerns with respect to Northern Ireland (small private sector and border with Republic of Ireland)
  - lower productivity outside England

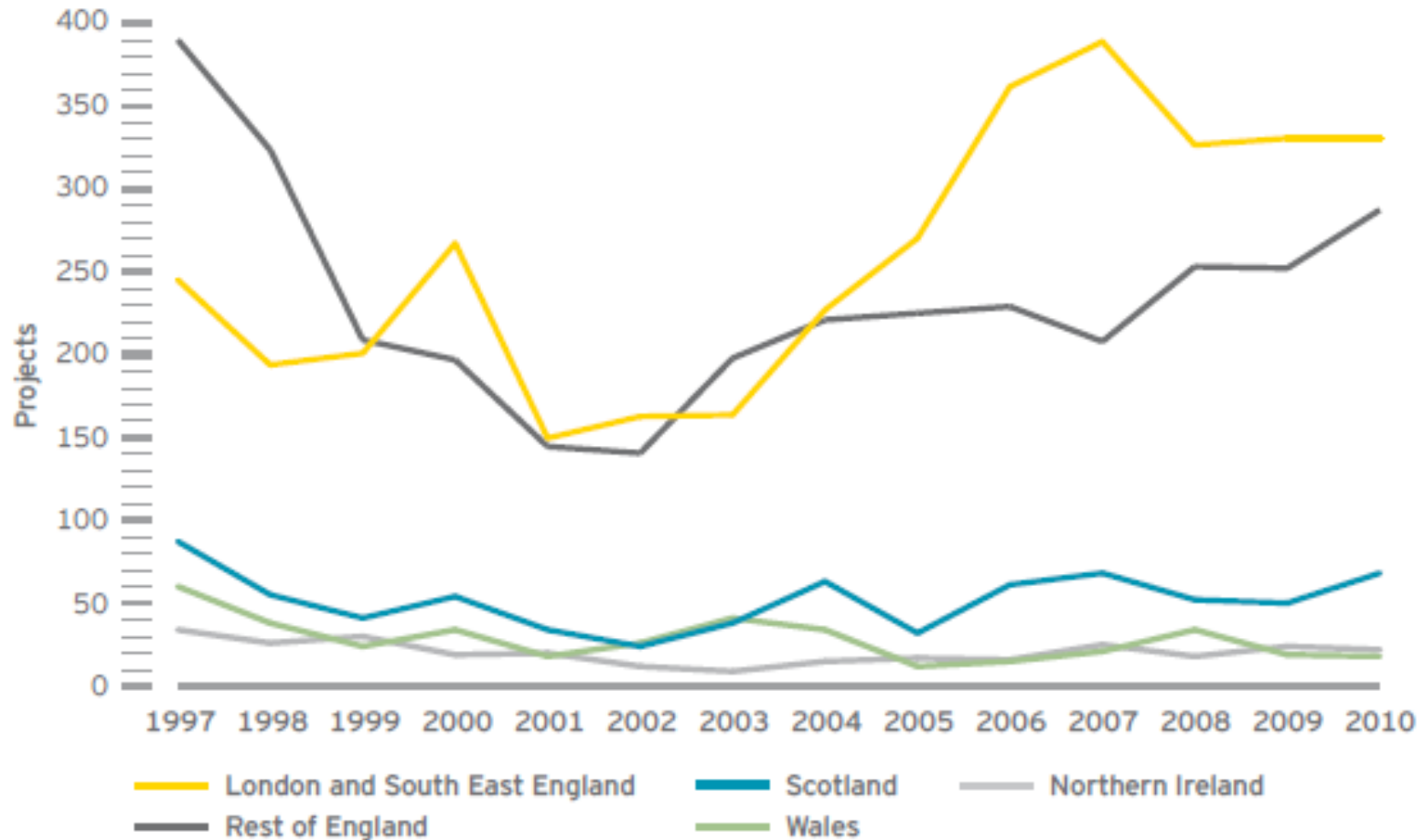


## Comparisons between nations

	<i>UK</i>	England	Northern Ireland	Scotland	Wales
<b>Public spending per head (£)</b>	8,766	8,531	<b>10,564</b>	<b>9,940</b>	<b>9,709</b>
<b>Output – GVA per head (£)</b>	20,849	20,974	<b>15,651</b>	20,220	<b>15,145</b>
<b>Total employment (% of 16–64)</b>	70%	71%	<b>66%</b>	71%	68%
<b>Private sector employment<sup>d</sup> (% of 16–64)</b>	58%	61%	<b>45%</b>	<b>47%</b>	<b>40%</b>
<b>Productivity – GVA per hour worked<sup>e</sup> (index)</b>	100.0	101.5	<b>81.0</b>	99.3	<b>83.9</b>

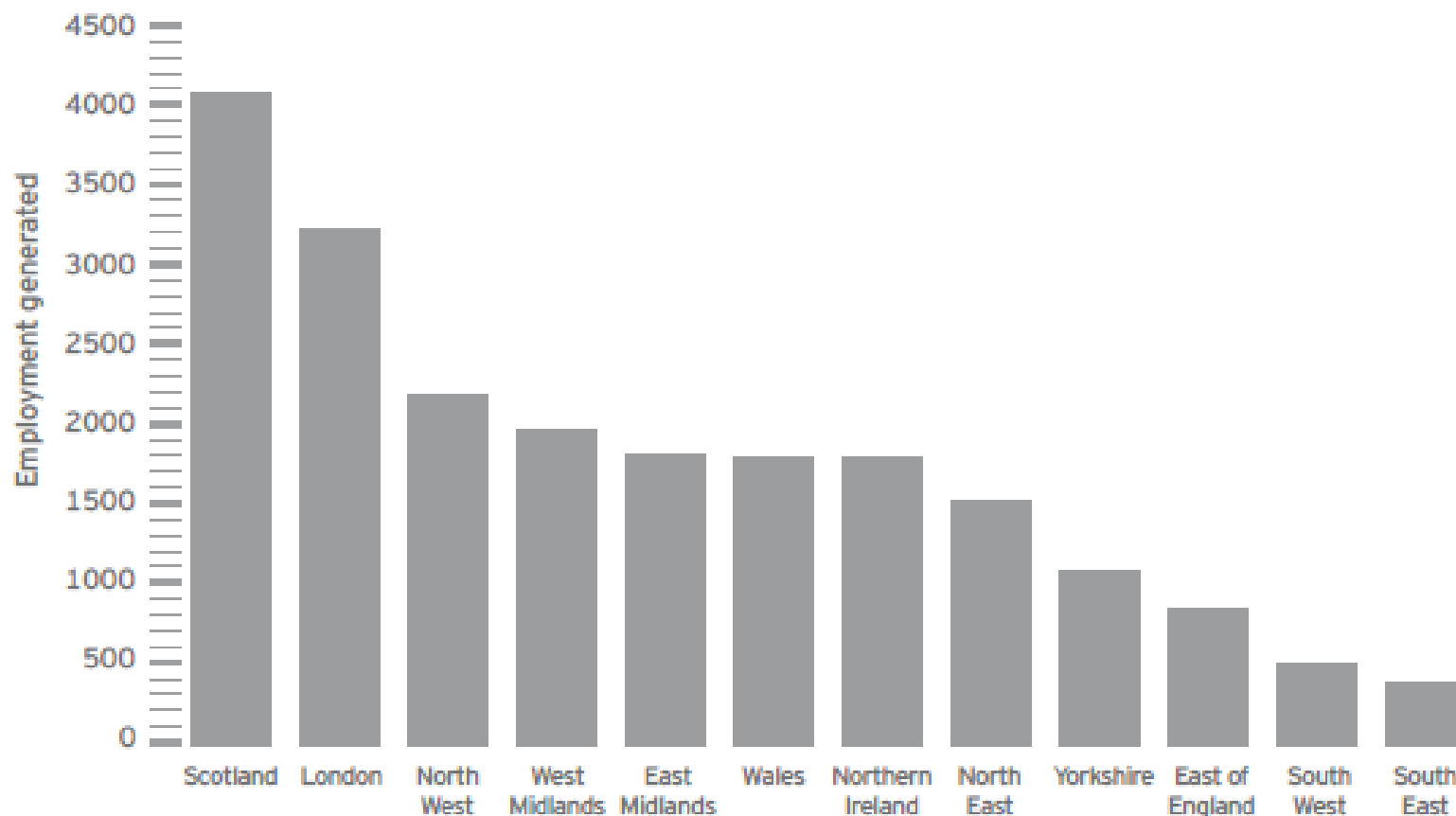
Source: H. Miller, 'Corporate tax setting', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: 2012*

## Regional distribution of FDI projects: England gets more



Source: Ernst & Young European Investment Monitor 2011

# Employment creation from FDI: regions do better



Source: *Ernst & Young European Investment Monitor 2011*

# More competitive locations

- Lower rates
  - increase investment by existing firms and attract FDI
  - how responsive is activity in each nation to tax?
  - and how much of the response comes from elsewhere in the UK
- Estimates for Northern Ireland (of 12.5% rate)
  - domestic investment: £50–65m increase in year 1 (~2% of total investment in Northern Ireland)
  - FDI: £120–200m increase (£15–25m from rest of the UK; net 50% increase)
  - in longer run - investment in NI 6% higher each year
  - direct revenue loss £270m in year 5 (2.3% 2010-11 departmental spending)

# Tax competition between regions?

- Commissions have raised the possible concern of tax competition within the UK
  - lower rate in one likely to encourage lower rates in others
  - how responsive is activity within the UK?
  - effect may depend on adjustment of block grant (and extent to which negative effects on revenues in the rest of the UK are considered)
- Lessons from other countries?
  - tax competition is not the inevitable outcome
  - examples of countries with different rates at sub-national level without obvious tax competition
  - recent evidence US states not competing with capital taxes (Chirinko and Wilson (2011))
- Comparison to CCCTB?
  - same tax base – different rates

# Practicalities of devolution

- Benefits of increased activity from a more competitive tax system would need to outweigh the costs
- revenue loss and associated spending cuts & increased volatility (pro-cyclical public spending)
- Costs of administration
  - including policing avoidance
  - how to define where income earned (formula apportionment or separate accounting)
  - how to adjust the block grant?



# Patent Boxes

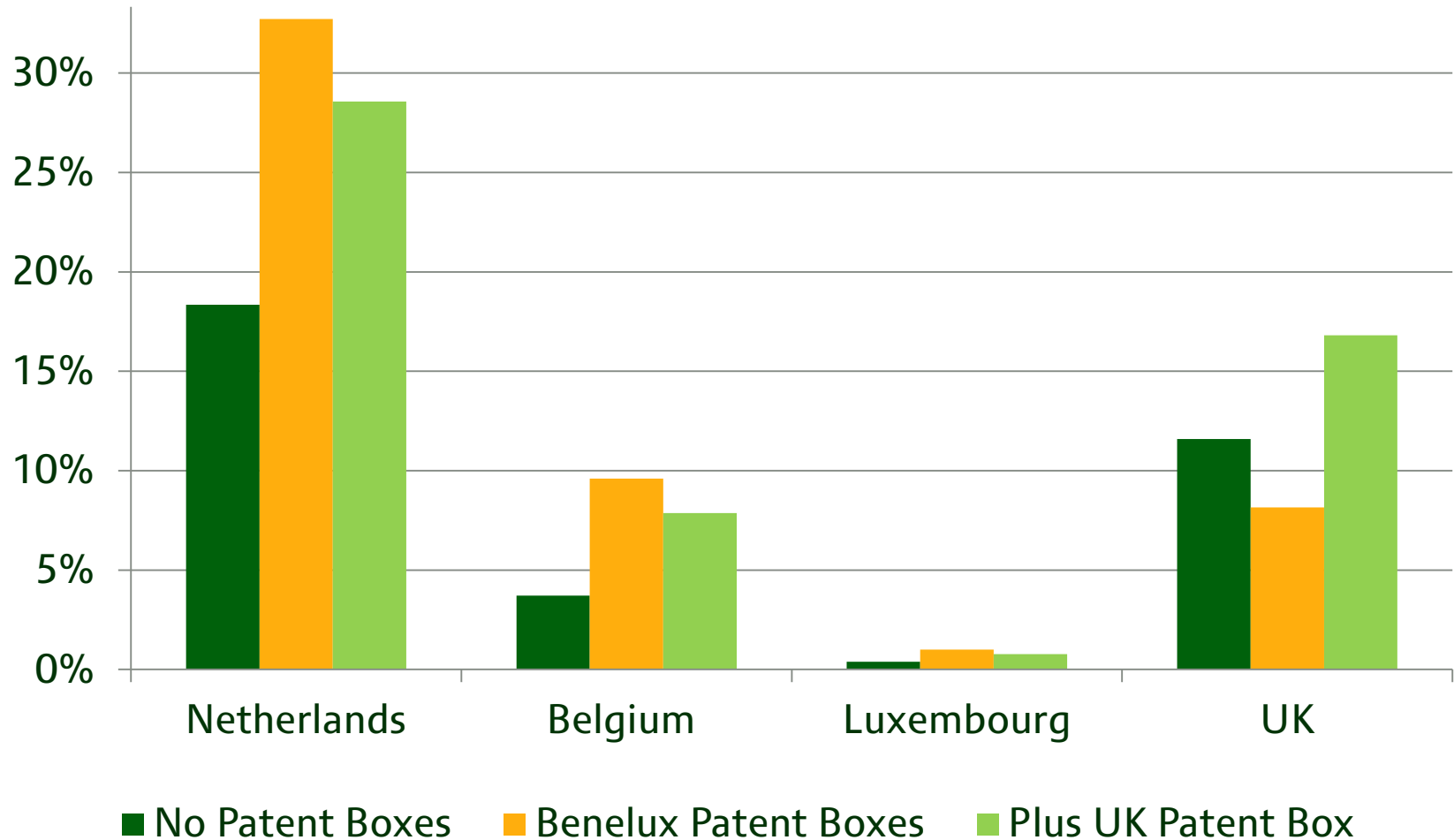
- Substantially reduced rate of corporation tax on income derived from patents (+ other IP in some cases)
- Recently introduced by a number of European countries
  - Belgium 6.8%; Netherlands 10% (now 5%); Luxembourg 5.9%
  - UK to introduce in 2013, 10%
  - Spain and Switzerland now have similar policies, others to follow?
- A way to tax mobile income at a lower rate?
  - intangible assets are increasingly important
  - income from intellectual property highly mobile
  - tax lawyer in NYT: : “...most of the assets that are going to be reallocated as part of a global repositioning are intellectual property...that is where most of the profit is.”
  - also possible desirable effects on real activities
- Efficient differentiation or tax competition within the EU?

# Patent Boxes

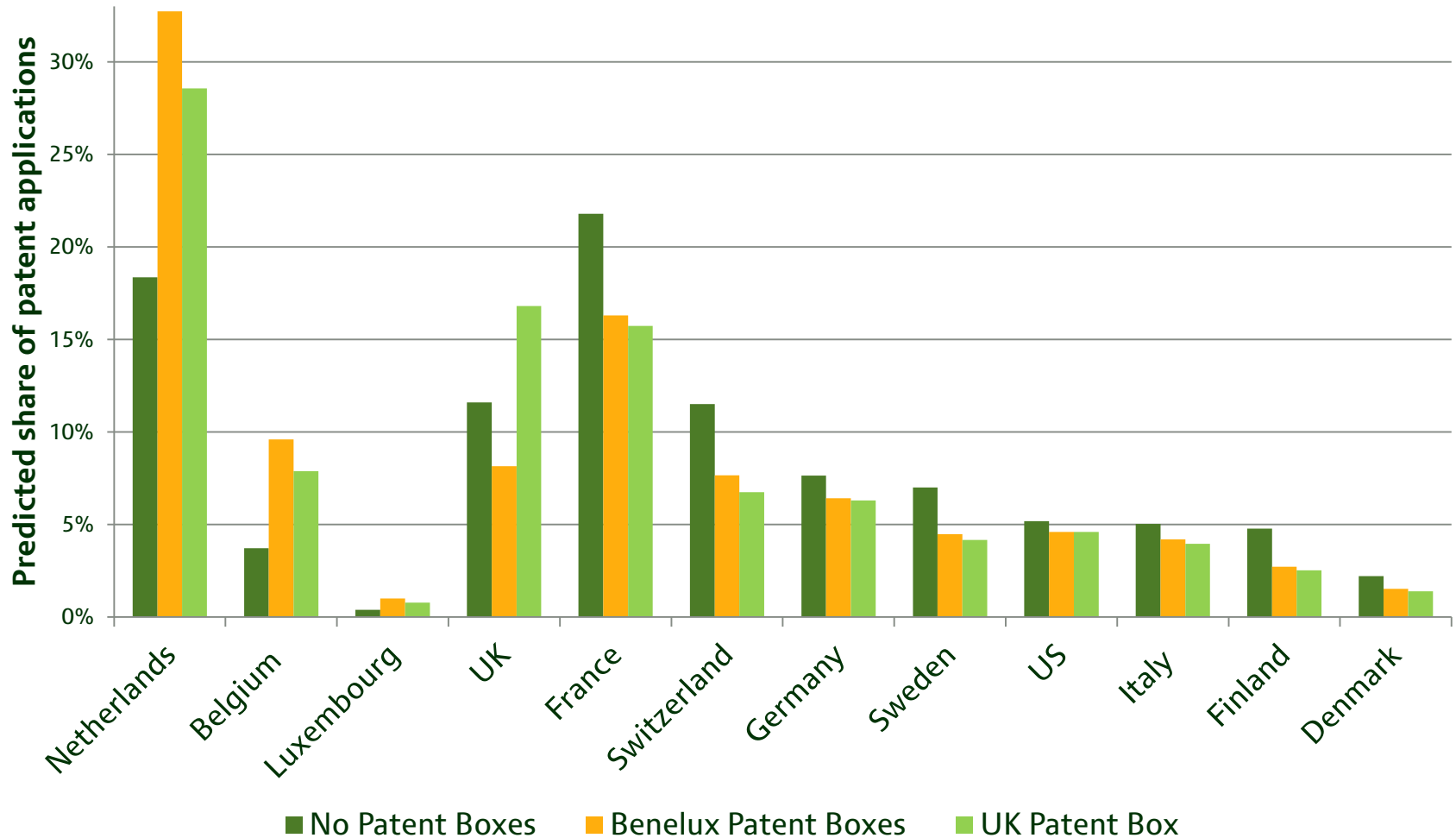
- Griffith, Miller and O'Connell (2011)
  - estimate responsiveness of patent location to corporate taxes
  - allow (observed and unobserved) heterogeneity in responsiveness to tax (important for predicted substitution patterns)
  - simulate the effects of Patent Boxes – predict share of patents in each location
  - substitution based on characteristics



## Effect of Patent Boxes: share of new patent applications



# Effect of Patent Boxes: share of new patent applications



# Patent Boxes; effects

- Revenue loss from patent income
  - UK government estimate £1.1bn
  - lower rate outweighs gain in activity
- Effect on overall revenue?
  - allow higher rates to persist on less mobile activities?
- Effect on real activities?
  - poorly targeted at innovation
  - may increase commercialisation / production activities

# Tax competition; theoretical results

- Allowing discrimination improves revenue ...
  - isolate tax competition in one part of the system (Keen (2001))
  - can hold for asymmetric countries (Bucovetsky and Haufler (2007))
- ... or reduces overall revenues?
  - leads to no tax on mobile income and lower all revenues for all governments (Janeba and Peters (1999))
- Conditions under which one is better (Janeba and Smart (2003))
  - assumptions matter: how mobile bases are, if (and how) countries differ, nature of strategic interactions
  - there have been many extensions (Haupt and Peters (2005))
- Account for effects on the location of capital
  - preferential rates reduce revenue but improve the allocation of capital (Marceau, Mongrain and Wilson (2010))

# Preferential rates – remove distortions?

- In practice rates are already lower for certain firms / types of income
  - opportunities to shift profits mean lower effective tax rates for mobile income (Hong and Smart (2010); Peralta, Wauthy and van Ypersele (2006))
  - may be benefits from defacto differentiation (Desai (2006a,b), Hines (2007), Dharmapala (2008) , Hines (2010))
  - but also a well known costs associated with income shifting (Slemrod and Wilson (2009))
- An explicitly preferential rate may remove some of the distortions to firms' decisions and reduce some of the inefficiencies?
  - to what extent do patent boxes attract real activities, rather than just income?

# Preferential rates in practice

- difficulties in administering preferential rates
  - accurately identify mobile tax base
  - police opportunities to artificially shift profits to the lower taxed base
- Add significant complexity

# Summary

- Number of ways in which governments differentiate tax rates across locations / firms / types of income
- Consideration of devolution of rates within the UK
  - help make devolved nations more competition investment locations
  - benefits high enough to outweigh costs? Coordination better?
- Recent introduction of Patent Boxes
  - sequential introduction by a number of countries; others to follow?
  - jury out on role of preferential rates
  - much depends on how policy affects real activity and if it reduces competition elsewhere