Tax competition

Governments engage in tax competition to attract businesses (i.e. individuals or corporations) to the country or to prevent businesses from leaving the country.

The decisions of the economic agents can be modelled using concepts from game theory.

We will only consider corporate tax competition but governments also compete on individual income taxes as well as other taxes.

Assumptions

Governments prefer high taxes and businesses prefer low taxes.

Location has no effect on pre-tax profits.

Companies face a relocation cost c >= 0. It is possible for the relocation cost to be negative but we do not consider this case here.

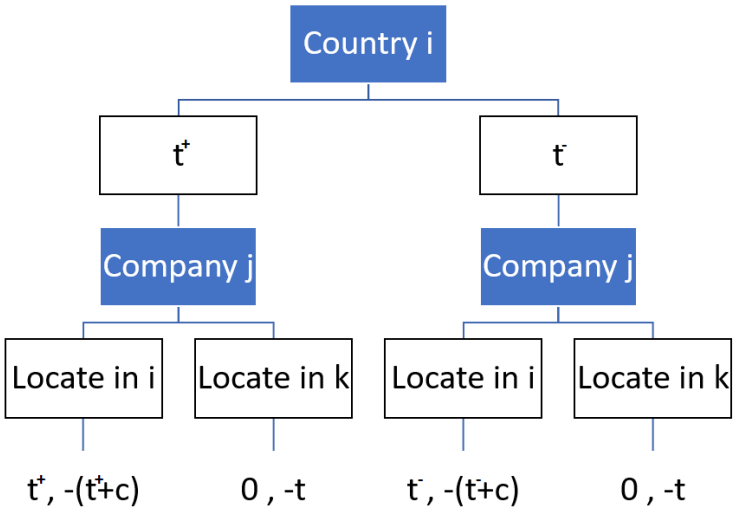
Governments compete by setting their tax rate. Having observed the tax rates, businesses choose the optimal location.

Country k is the country with the lowest tax rate t.
Country i sets a tax rate t- or t+ such that t- <= t <= t+.

Game theory

Company j starts in country k :

$-(t^{-} + c) \leq -t \;\; \rightarrow \;\; c \geq t - t^{-}$:



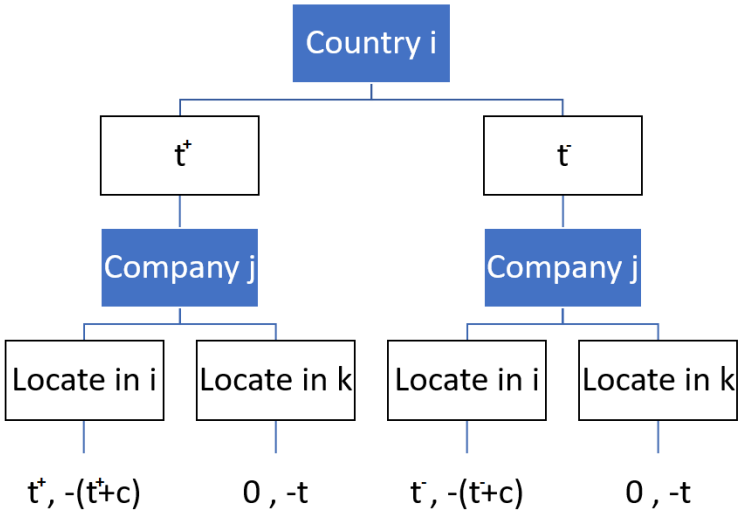
		Business j			
		i i	i k	k i	k k
Country i	t^+	t^+ , $-(t^+ + c)$	t^+ , $-(t^+ + c)$	0 , $-t$	0 , $-t$
	t^-	t^- , $-(t^- + c)$	0 , $-t$	t^- , $-(t^- + c)$	0 , $-t$

➔ Subgame-perfect Nash equilibrium : $\{(t^+, kk), (t^-, kk)\}$ (1)

➔ Company j stays in country k regardless of the tax regime in country i because relocation costs are too high compared to tax savings under both regimes

Country i is indifferent between a low tax regime or a high tax regime because company j will never relocate from country k so both regimes generate no revenue

$-(t^- + c) > -t \;\rightarrow\; c < t - t^-$:



		Business j			
		i i	i k	k i	k k
Country i	t^+	t^+ , $-(t^+ + c)$	t^+ , $-(t^+ + c)$	0 , $-t$	0 , $-t$
	t^-	t^- , $-(t^- + c)$	0 , $-t$	t^- , $-(t^- + c)$	0 , $-t$

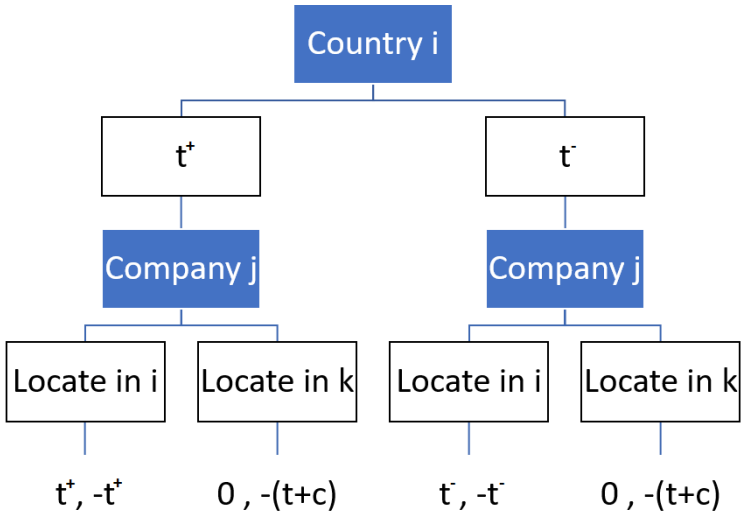
➔ Subgame-perfect Nash equilibrium : $\{(t^-, ki)\}$ (2)

➔ Company j stays in country k if country i chooses a high tax regime but relocates if country i chooses a low tax regime

Country i maximizes revenue by choosing a low tax regime which induces company j to relocate

Company j starts in country i :

$-(t + c) > -t^+ \rightarrow c < t^+ - t$:



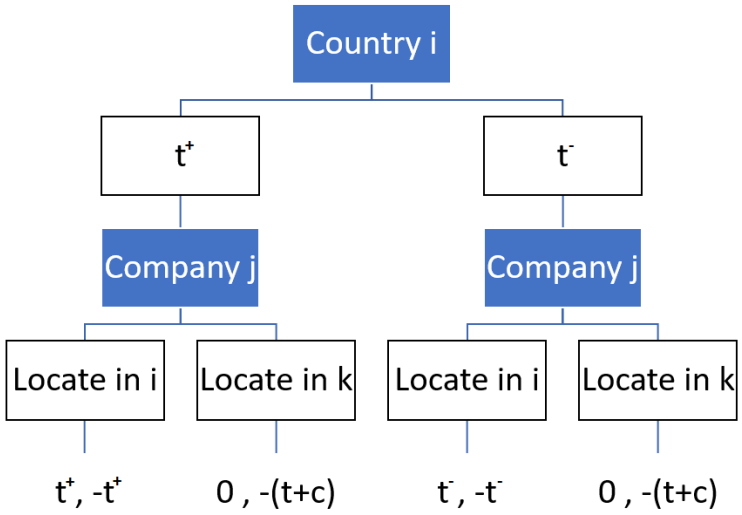
		Business j			
		i i	i k	k i	k k
Country i	t^+	t^+ , $-t^+$	t^+ , $-t^+$	0 , $-(t + c)$	0 , $-(t + c)$
	t^-	t^- , $-t^-$	0 , $-(t + c)$	t^- , $-t^-$	0 , $-(t + c)$

➔ Subgame-perfect Nash equilibrium : $\{(t^-, ki)\}$ (3)

➔ Company j stays in country i if country i chooses a low tax regime but relocates if country i chooses a high tax regime

Country i maximizes revenue by choosing a low tax regime which induces company j to stay

$-(t+c) \leq -t^{+} \;\rightarrow\; c \geq t^{+} - t$:



		Business j			
		i i	i k	k i	k k
Country i	t^{+}	$t^{+}, -t^{+}$	$t^{+}, -t^{+}$	$0, -(t+c)$	$0, -(t+c)$
	t^{-}	$t^{-}, -t^{-}$	$0, -(t+c)$	$t^{-}, -t^{-}$	$0, -(t+c)$

➔ Subgame-perfect Nash equilibrium : $\{(t^{+}, ii)\}$ (4)

➔ Company j stays in country i regardless of the tax regime in country i because relocation costs are too high compared to tax savings under both regimes

Country i maximizes revenue by choosing a high tax regime since company j will always stay