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## The taming of Leviathan: Competition among governments

Kiel Working Paper, No. 433

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*Suggested Citation:* Sinn, Stefan (1990) : The taming of Leviathan: Competition among governments, Kiel Working Paper, No. 433, Kiel Institute of World Economics (IfW), Kiel

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# Kieler Arbeitspapiere Kiel Working Papers

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The Taming of Leviathan:  
Competition among Governments

by  
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20/11/14  
Weltwirtschaft  
Kiel

Institut für Weltwirtschaft an der Universität Kiel  
The Kiel Institute of World Economics

ISSN 0342-0787

The Kiel Institute of World Economics  
D-2300 Kiel, Düsternbrooker Weg 120

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AG 2776 / 90  
Weltwirtschaft  
Kiel

# The Taming of Leviathan: Competition among Governments

by Stefan Sinn

1. This paper develops a model of governments in competition. With its help I hope to throw some light on the question of whether economists should advocate coordination or competition among governments. My conclusion will be a plea for less harmonization and more competition, a conclusion that I derive from the model presented. For the main part my analysis is a positive one: I present a model that I believe captures the situation of governments, voters and firms acting within a global economy characterized by a high mobility of capital.

2. The main building blocks of the model are as follows:

a) Competition among governments is seen as the competition of immobile factors of production for internationally mobile capital (Giersch (1981)).

b) The entrepreneur in this competitive process is the government. Governments produce goods that owners of capital can use if they invest within the policy domain of the government. Economic policies and the institutional framework are seen as factors of production.

c) Goods produced by the government have the following characteristics:

- They are immobile in the sense that they can only be used if capitalists move within the policy domain. In a sense there is competition among hosts for paying guests.
- To a large extent, goods useful to the mobile factors can be used non-rivalrously by them.

- Non-payers can be excluded: Those firms that want to avail themselves of the goods offered by a certain government have to move to that country and can, once they have sunk their capital, be taxed.

Taking all three characteristics together - immobility, non-rivalry in use and the possibility of exclusion - I conclude that a country can usefully be described as a club whereby the government is the club management that organizes the production of club goods.

3. These characteristics of the competitive process are very similar to Tiebout's (1956) model of choice among local communities. I argue that the allocation of capital among different countries is similar to the voting by feet mechanism of Tiebout's footloose residents.

4. Firms are profit maximizers. Politicians are seen as self-interested individuals that have less than perfect knowledge of the economy. They try to extract a rent from their principals, the voting public, by trying to raise tax revenues in excess of what would be needed in order to finance the provision of club goods. These Leviathan tendencies of the government face a restraint in democracies: Governments have to produce just enough support at the ballot box so that they are reelected.<sup>1</sup>

5. Support of the government is seen as a function of two final outputs: The level of favours granted to influential interest groups and relative economic success, measured e. g. by the growth performance compared to other countries (Salmon (1989)).

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1

The Leviathan model of government behaviour is developed in Brennan and Buchanan (1980).

6. Finally, I distinguish three stages of the competitive process:

During stage 1, governments decide on what club goods to offer. This can be seen as the constitutional stage where the club decides on its purpose. Just like with clubs, I assume that decisions by the government at this stage display a certain degree of irreversibility: At later stages they cannot easily be changed.

During stage 2, firms make their move and allocate investment projects to their profit-maximizing location depending on the decisions of the government during stage 1. Stage 2 might be called the Tiebout stage where investors flock to their favorite locations while shunning those countries where suboptimal policy packages are on offer.

During stage 3, governments learn about the success or failure of their stage 1 plans by noting the amount of investment they managed to attract. This is the stage of tax competition: The club goods that were produced at stage 1 and which did not attract the expected amount of capital can be rendered more attractive by lowering taxes on the mobile factor.

In the long run one may imagine a fourth stage of economic reform when the quality of the club goods is changed if lower taxes turn out to be insufficient for attracting capital.

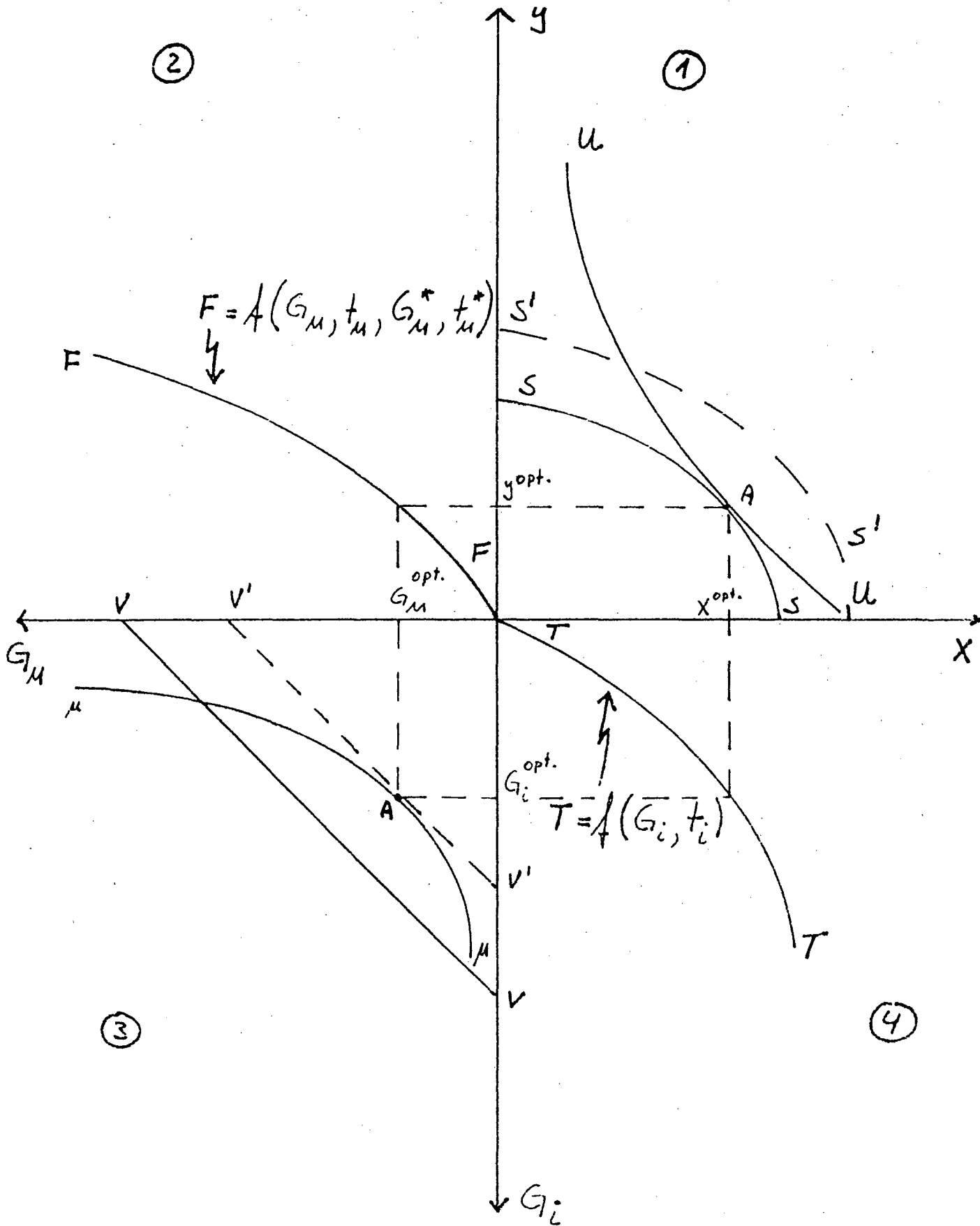
7. In Figure 1, the decision calculus of the government in stage 1 is sketched out. Let's first look at quadrant 1.<sup>2</sup> UU denotes a locus of equal support for the politician. Support is assumed to depend on two goods produced by the government: X are favours granted to influential interest groups and Y is macroeconomic

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Figure 1 is due to Salmon (1989).

Figure 1 - Competition among Governments: The Constitutional Stage



performance relative to comparable economies. The slope of UU at various points indicates that it becomes increasingly more difficult to trade favours to interest groups against macroeconomic success. I assume that the level of support indicated by UU is just sufficient to ensure reelection for the present government. SS represents that production possibility frontier of the government that is just tangent to UU. Given the resources of the government, it may be possible to produce  $S'S'$  where more output of both club goods is generated. However, since SS is sufficient to ensure success, a self-interested government has no incentive to provide  $S'S'$ .

8. Quadrant 2 describes one of the government's production activities. Macroeconomic performance relative to other countries is modelled as an increasing function of expenditures on club good  $G_m$ .  $G_m$  is combined by entrepreneurs with capital and labour.  $G_m$  indicates the supply of club goods useful to the mobile factor. The positive slope of FF assumes that a higher amount of  $G_m$  attracts capital to the country which in turn will result in a better relative growth performance. The function FF depends on a number of parameters which the government does not vary in the first period ( $t_m$ , the tax levied on the mobile factor) or takes as given ( $G_m^*$  and  $t_m^*$ , the corresponding variables abroad).

9. Quadrant 4 describes the production of favours granted to interest groups. X is assumed to be an increasing function of expenditures on club good  $G_i$ .  $G_i$  may be thought of as direct subsidies, social security transfers or a set of rules and regulations favoring one particular group.  $G_i$  is of no use to the mobile factor of production. Function TT also depends on  $t_i$ , the taxes levied on immobile factors, which is constant at this stage.

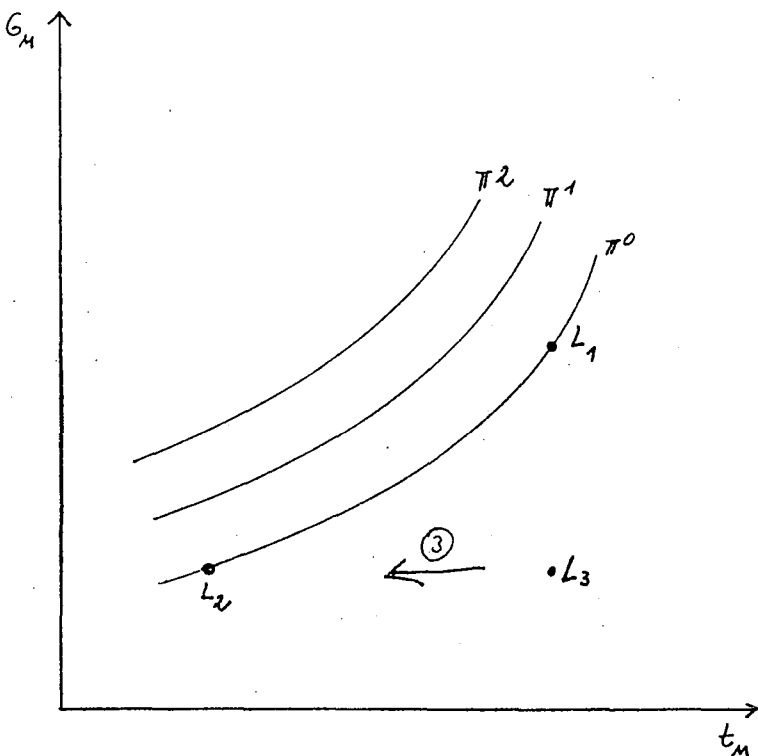
10. Finally, in quadrant 3 the optimal expenditure on  $G_m$  and  $G_i$  is determined. Let VV be the government's budget constraint. It presents planned income by the government which is equal to expected tax revenue. If all tax revenues would be spent on pro-



ducing  $X$  and  $Y$ , the production possibility curve  $S'S'$  would be realized which is more than enough for ensuring reelection. The government will therefore devote only  $V'V'$  to the production of club goods and spend the amount  $VV'$  on other goods that are not useful to either the mobile or the immobile factor. The locus  $uu$  can be derived from curve  $UU$ , it represents combinations of  $G_i$  and  $G_m$  that just ensure reelection.

11. This stage 1 calculation is carried out by governments all over the world. At the end of stage 1 investors face a menu of choice among different locations every one of which promises to offer a certain amount of  $G_m$  at price  $t_m$ . For various reasons, different governments may offer different amounts of  $G_m$ . One reason might be that the price of  $G_m$  relative to  $G_i$  differs among nations: Because the institutional and legal framework is in many ways a stock of past decisions, countries with a longer tradition of commerce may find it relatively cheaper to produce a given amount of  $G_m$  because they merely have to maintain the present level by regulating, for instance, the execution of rules via the legal system whereas other countries might still be in the pro-

Figure 2 - Competition among Governments: The Tiebout Stage



cess of building up such institutions. In any case, shifts in the relative price of  $G_m$  and  $G_i$  would shift the budget constraint and lead to a different amount of  $G_m$  and therefore  $Y$ .

12. Stage 2 has the locational choice of the investor at its center stage. The investor's choice involves three steps:

- Calculate profit-maximizing amounts of capital and labour in country  $i$ , given local wages, local taxes  $t_m$  and local supply of club good  $G_m$ .
- Calculate maximum profit for investing in country  $i$ .
- Repeat these calculations for each country and invest in that country where profit is highest.

Fig. 2 plots the decisions of both governments and firms in  $G_m$ - $t_m$ -space. Points  $L_1$  to  $L_3$  denote the decisions of three countries as determined at stage 1. Curves  $\pi^0$  to  $\pi^2$  are iso-profit-curves of firms which are positively sloped because higher levels of taxation require a higher level of club good  $G_m$  provision if profits are to remain constant. Higher levels of profits are situated toward the north-west of figure 2. Note that both country 1 and country 2 are situated on the same iso-profit-curve which in turn is the highest one touching any of the decision points of countries. Country 1 and 2 are therefore expected to receive approximately equal amounts of investment: Country 2 with a low level of club goods  $G_m$  needs a low level of taxes whereas in country 1 a high tax rate and a high level of club goods  $G_m$  prevail.

Country 3 receives no investment. Compared to country 1 it does not offer enough club goods and compared to country 2 it charges too high a price. Whereas the expectations of governments 1 and 2 are fulfilled and reelection is ensured, government 3 is in trouble. What can it do?

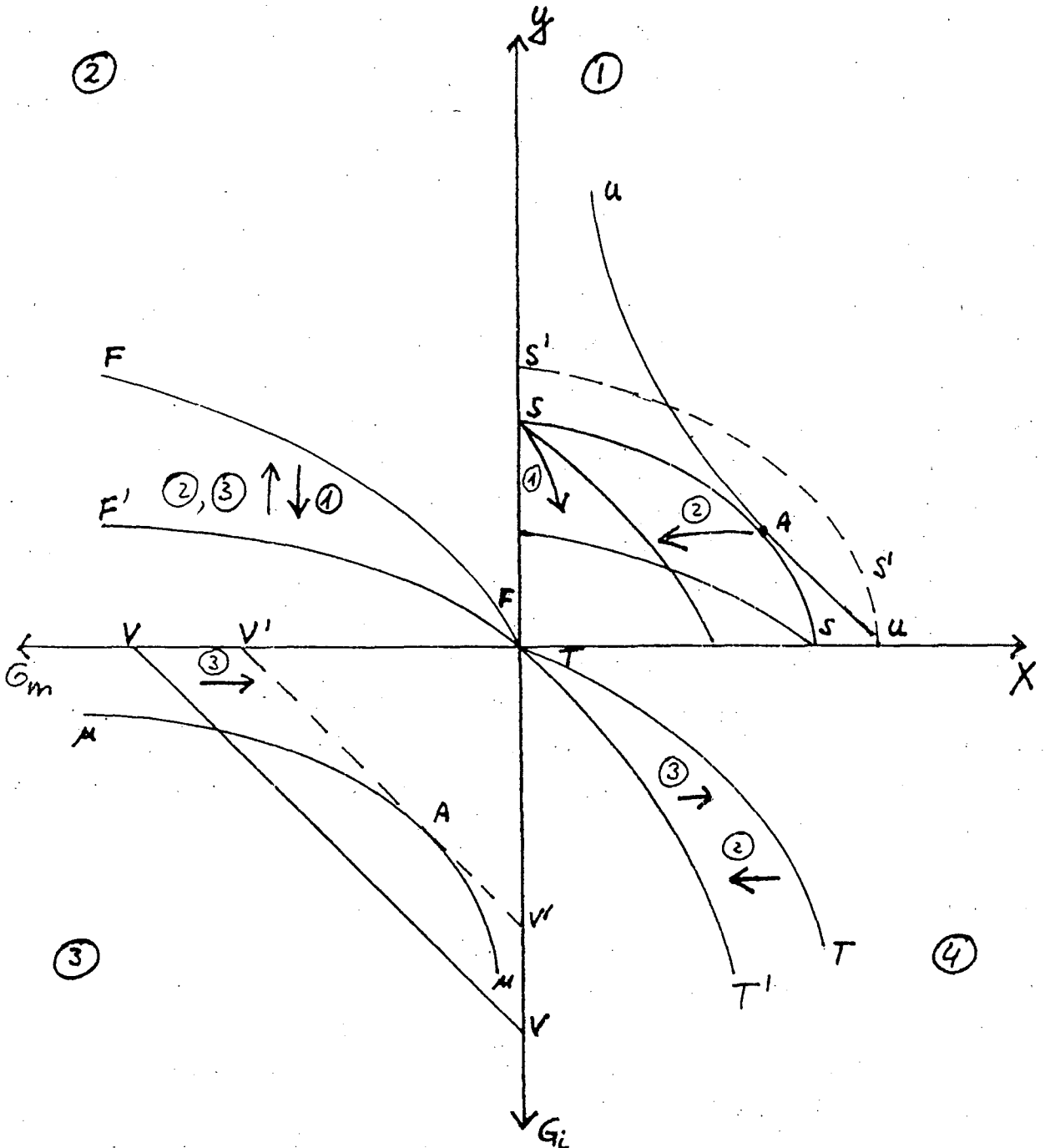
13. Turn to fig. 3 to consider some of the options open to government 3. Note first of all that the government was to optimistic about the slope of the FF function in quadrant 2. Other governments did better and thus the true (as opposed to the expected) position of the FF-function is below the original one. This shift from expected to actual is indicated by arrow 1, the new function being  $FF'$ . This in turn implies an inward shift of the production possibility frontier in quadrant 1, again indicated by arrow 1. Since the new, lower production possibility frontier is not tangent to UU at any point, reelection of country 3's government is in jeopardy.

The first strategy the government could adopt would be to shift the tax burden from the mobile factor to the immobile factor while keeping its own profits  $VV'$  constant. This would result in the following changes, all indicated by arrow 2:

- In quadrant 2, the production function shifts upwards to its original position.
- In quadrant 4, the production function is lowered. If taxes on the immobile factor increase, transfers or subsidies no longer result in the same amount of favours X granted to the immobile factor.
- Both shifts of production functions will reverse the shift in the production possibility frontier as indicated by arrow 2 in quadrant 1.

Once again, reelection is not ensured: The immobile factors' decline in favours cannot be matched by the increase in competitiveness. Burdening the immobile factor is not a viable policy option.

Figure 3 - Competition among Governments: The Taming of Leviathan



The final strategy considered is for the government to accept a decline in profits, lowering the tax for the mobile factor while keeping the tax on the immobile factor unchanged. The changes induced by this strategy are indicated by arrow 3. Note in par-

ticular the shift of the budget constraint in quadrant 3 indicating an absolute fall in tax revenues that goes along with unchanged expenditures on club goods useful to mobile and immobile factors of production. Note that in figure 2 of the handout the lowering of  $t_m$  implies that country 3 shifts to the left towards isoprofit curve  $\pi^0$ . The upshot of all this is that competition among governments for mobile capital need not hurt the immobile factor but could tend to tame Leviathan tendencies of governments.

14. Let me finally comment on the case for or against competition among governments. At a recent conference at the Kiel Institute it was argued that this question could not be decided on a rational basis but that it was a matter of ideology: Those who support a Leviathan-view of government would welcome competition as a means of taming the Leviathan whereas those who view governments as benevolent would support coordination or harmonization of policies. I think several caveats apply to this position:

- From a methodological point of view I do not see any alternative to an analysis of government based on self-interested individuals. While there may be altruistic behaviour, individuals will be on average self-interested, whether they are politicians, managers or workers.

- Even if this point is not conceded, I see a second reason to be in favour of competition which will, perhaps, be less controversial. If we accept that governments are not omniscient, the competitive process is a way of discovering better policies. The Hayekian theme of competition as a discovery process (Hayek (1968)) seems to me a powerful reason to support competition among governments. My analysis has tried to demonstrate that competition may also tend to tame Leviathan. Those who find such a view of government hard to swallow will perhaps agree more readily that governments are not omniscient and that this observation in itself provides a rationale for less coordination and more competition among governments.

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