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## Crises within communism and temporary aid

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CRISES WITHIN COMMUNISM  
AND TEMPORARY AID

by  
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Kiel, Mai 1990

Institut für Weltwirtschaft an der Universität Kiel  
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## Abstract

An explanation is given why communist economies usually react smoothly but sometimes very dramatically to seemingly minor changes in the political and economic environment. In this paper such dramatic reactions materialize in a sudden clamp-down on individual freedom and sudden economic prosperity or in quick political liberalization and a quick demise of economic success. Furthermore, the consequences of temporary economic aid in the face of these potential crises are analysed.

### 1. Introduction

Communist countries sometimes are shattered by fierce crises in which economic success or individual freedom enjoyed by citizens changes dramatically within a very short length of time. The demise of the Prague Spring, Tiananmen Square 1989, or Perestroika in the U.S.S.R. are, perhaps, points in case. These crises erupted seemingly without equally dramatic changes in the political or economic conditions under which these countries operate. Furthermore, there is historical evidence that different communist countries operating under rather similar conditions can feature significant differences in terms of both individual freedom and economic success. In one country citizens live in relative prosperity but are deprived of individual freedom. In another country citizens enjoy freedom but suffer from relative poverty. Czechoslovakia and Poland in the early and mid 1980's may serve as an example.

This paper presents a simple model of a communist society in which a ruling oligarchy always maximizes its utility. This is done by a suitable choice from the set of feasible overall economic success and feasible individual freedom citizens enjoy. This model features some of the forementioned phenomena. A crisis is interpreted as a catastrophe (in the sense of THOM [1976]) in which local maxima for the oligarchy suddenly disappear due to marginal changes in political or economic parameters. Further-

more, different communist societies may be in markedly different equilibria under identical conditions.

## 2. The Model

Perhaps the most basic difference between a market economy and a command and control economy is the incentive effect of individual freedom. Under the incentives set by a market economy there exists a positive relation between individual freedom to act egoistically and the overall economic success of a country. This is depicted in Diagram 1 by a movement from E to G, where Y denotes national output and F individual freedom of citizens.

Communist economies are different. This paper entertains the view that increasing individual freedom within a command and control economy, i.e. under the preservation of the communist incentive system, is like throwing sand into the wheels of the economy. Negligence or sabotage increases and citizens engage in rent-seeking rather than in entrepreneurial or otherwise productive activities. This is depicted in Diagram 1 by the declining function of the form  $Y = r - b \cdot F$ . Under complete control of individuals, national output is given by the resource endowment  $r$ . If individual freedom increases output declines. This trade-off between economic success and individual freedom of citizens poses a restriction for the ruling oligarchy.<sup>1</sup>

The parameter  $b$  in this restriction may be interpreted as an index of the work morale of citizens or more generally of their affinity for the communist economic system. If  $b$  increases this affinity declines. As a consequence negligence and rent-seeking increase for any given level of individual freedom. This decreases national output for a given level of freedom as is indicated by the clockwise turn of this restriction around  $r$ .

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<sup>1</sup> Conceivably, there is a positive trade-off for small levels of individual freedom. This, however, is not a critical assumption. What matters for the results obtained is the assumption that for large enough levels of individual freedom the trade-off is negative.

The ordinal system of indifference curves  $I_1$ - $I_5$  represents the preferences of both citizens and the oligarchy. This harmony of interests is at variance with viewing the activities of the oligarchy as theft at the costs of citizens (GROSSMAN and NOH 1988], SCHUKNECHT [1990]). It is not denied here that the oligarchy may engage in theft. Rather it is presumed that the size of the oligarchy is small relative to the size of the population so that the consequences of theft are not felt by citizens.<sup>2</sup> Then, utility of the oligarchy is positively related to utility of citizens if the luxury or the activities of the oligarchy is less likely to catch the jealous interest of citizens the more well off the latter are.

Utility of citizens increase in both national output and individual freedom. This is represented by the system of indifference curves  $I_1$ - $I_5$  where utility improves from movements such as that from E to G.

Indifference curves of citizens feature a pathological region in an area where utility is low but where the deprivation from either commodities or freedom or both is not extreme.<sup>3</sup> In this region of "mild" deprivation indifference curves are concave. Under "mild" deprivation people are assumed to become politically apathetic and turn to their personal affairs. The oligarchy can exploit this as it needs to compensate citizens for successive decreases in national output only with increases in freedom at decreasing rates in order to stay equally well off. If deprivation of either commodities or freedom or both becomes extreme, citizens turn radical and compensation must take place at increasing rates. Similarly, at sufficiently high utility levels

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<sup>2</sup> The insignificance of theft relates only to activities within a communist system. Preserving the system by preventing the conversion into a market economy, to take advantage of a motion in the direction from E to G, may, however, be viewed as a significant theft indeed.

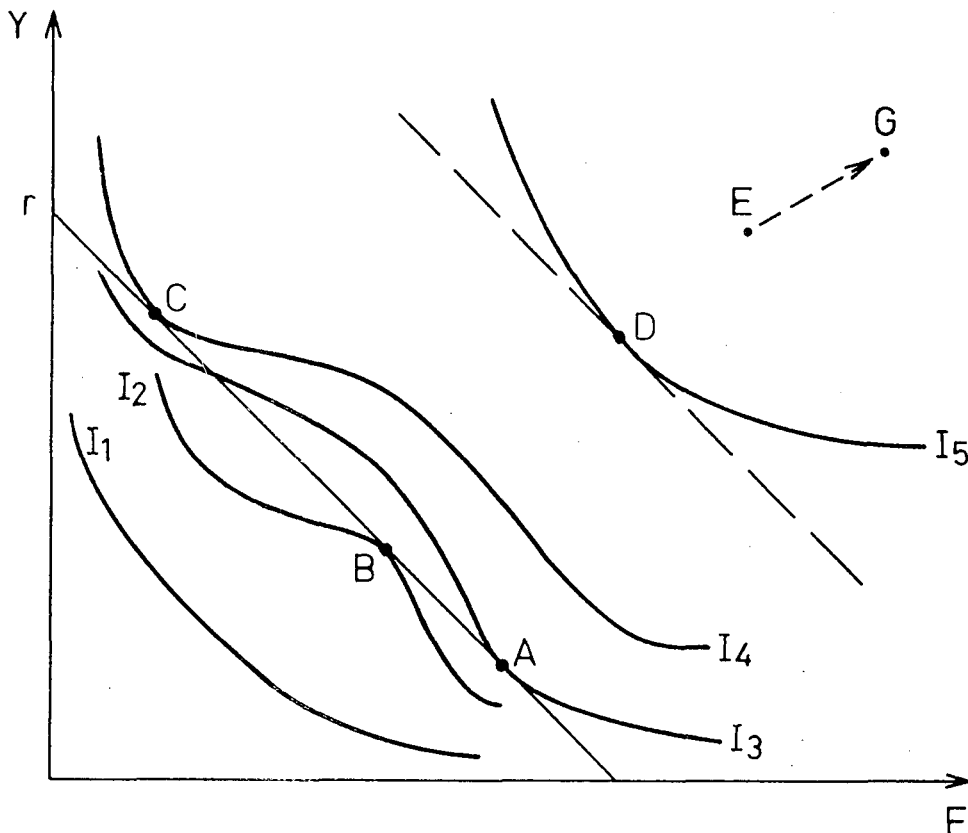
<sup>3</sup> "Unconventional" behavior of humans in situations of relative deprivation is frequently observed. For a psychological interpretation of some of these phenomena see e.g. SCITOVSKY [1976].

the deprivation effect vanishes. The model is completed by assuming that the oligarchy is a local utility maximizer.<sup>4</sup>

### 3. The Occurrence of Crises

Depending on the values of the parameters  $r$  and  $b$  there exist unique equilibria outside the pathological area, for example in  $D$ , and multiple equilibria if the restriction intersects the pathological area. Given the restriction depicted in Diagram 1 there exist two maxima in  $A$  and  $C$  and a minimum in  $B$ .

Diagram 1



<sup>4</sup> This assumption can be motivated by the idea that the oligarchy has a distaste for major changes and thus tries to avoid a jump from a local to a global maximum whenever possible.

Multiple maxima can be classified according to their relative abundance of individual freedom  $F$ . If the work-morale index  $b$  decreases sufficiently then the maxima of class C vanishes. In this situation, if the oligarchy has been at an optimum of class C it cannot attain optimality anymore by marginal adaptations. It has to switch to the maximum of class A. This is a crisis. There is rapid liberalization and a rapid demise of economic success.

On the contrary, if  $b$  increases sufficiently then the maximum of class A vanishes. An oligarchy being in a class A equilibrium has to switch to one of class C. The crisis materializes in a crackdown on citizens' freedom and sudden economic success.

For further analysis note that the maximizing behavior of the oligarchy for any given constraint can be sufficiently characterised by an equilibrium value of freedom,  $F^*$ , as  $Y$  and  $F$  are uniquely related. The three-dimensional graph, relating equilibrium values of  $F$  to values of  $r$  and  $b$  is equivalent to the graph of the cusp catastrophe (see e.g. WOODCOCK and DAVIS [1978]). This graph is illustrated in Diagram 2.

For low or high values of  $b$  there is a unique  $F^*$  such as in  $H'$  and  $K'$ . For moderate values of  $r$  and  $b$ , representing the region of mild deprivation in Diagram 1, there are two maxima. For example, for parameter values given by  $T''$  in the  $b$ - $r$  plane  $A'$  corresponds to a maximum of class A whereas  $C'$  corresponds to a maximum of class C. The shaded area is inadmissible as it represents utility minima for the oligarchy.

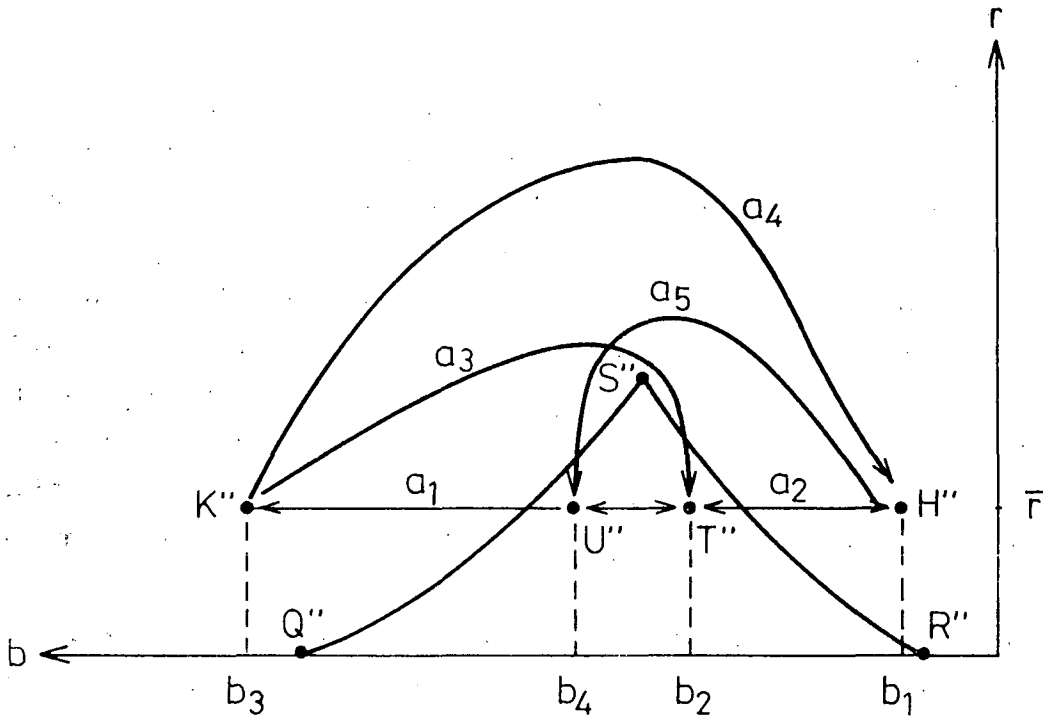
Hold the resource endowment of the country fixed at  $\bar{r}$ , say. Then a continuous decrease in  $b$  corresponds to a motion from  $K'$ , say, to  $L'$ . This motion represents a gradual liberalization as a reaction to citizens' growing affinity to the system. A further decrease in  $b$  triggers a jump from  $L'$  to  $M'$  associated with rapid political liberalization and a collapse of national output.

There exists hysteresis. A small decline in work-morale at  $M'$  does not trigger a large scale reversal of large scale liberalization as the local utility maximizing oligarchy moves in the direction of  $A'$ . After a crisis "nothing is as it used to be before".





Diagram 3



For example, a movement from  $K''$  to  $H''$  in Diagram 3 on the path  $a_1$  and  $a_2$  corresponds to a movement from  $K'$  to  $H'$  in Diagram 2, where the crisis, occurring at  $L'$ , is represented by the transition from within to outside the bifurcation set.

Temporary economic aid can be modelled as a temporary increase in the reserve endowment of the country,  $r$ . Temporary economic aid to a communist country can have important and quite surprising effects.

For example, if a gradual reduction from  $b_3$  to  $b_2$  is accompanied by temporary aid, then the path of transition  $a_1$  is replaced by  $a_3$ . Although under both trajectories the conditions under which the oligarchy operates are ultimately given by  $T''$ , the long-run equilibrium differs. Without aid the long-run equili-

brium is the "repressive" equilibrium C' whereas under temporary aid A' on the liberal upper tier in Diagram 2 is attained.

Thus communist countries operating under very similar conditions can differ substantially in terms of economic success and individual freedom.

However, aid can have the opposite effect. For example, if a rise of  $b$  from  $b_1$  to  $b_4$  is accompanied by temporary aid the trajectory  $a_5$  guides the oligarchy into a "repressive" equilibrium of class C, whereas a liberal equilibrium of class A would have been obtained had the country been left unaided.

Temporary economic aid need not necessarily have a lasting effect. For example, starting from  $b_3$ , if  $b_1$  represents citizens' long-run affinity to the economic system then trajectory  $a_4$  guides the oligarchy into the same equilibrium as trajectory  $a_1$  and  $a_2$ . However, temporary aid allows the oligarchy to sail clear of the cliffs of the cusp. The economic crisis associated with a jump from L' to M' is avoided.

These results seem to suggest that one ought to be very wary when considering economic aid for a communist country when it is in a state of transition. If reforms stay short of an abolition of the communist economic system then aid can have quite unintended effects indeed.

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