

## Blocking of creativity and the collapse of the communist system

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### ABSTRACT

The collapse of communism in the East European countries has been and will continue to be interpreted from various points of view: political, sociological, economic, military and psychological.

A very important, but not sufficiently investigated psychological factor is the blocking of creativity.

Communism prevailed in these countries which were underdeveloped in comparison to Western Europe. The exception was Czechoslovakia and partially also Hungary and Poland, where communism came in from outside. During the first period the economic growth in these countries except Czechoslovakia was significant. But later stagnation and afterwards a decline took place.

The progress was possible because the work was mostly manual and forced. Typical forms were working brigades building roads, bridges, plants and factories in all countries under communist rule. The forced labor of political prisoners was significant.

In the seventies the industrialization and electrification were finished and the character of work changed. Instead of simple manual labor more sophisticated intellectual work, like innovation, became necessary. The communist methods of organizing work were not suited to this change. At that time Western Europe and America witnessed a new scientific and technical revolution, resulting in the postindustrial or informational society based on innovation and creativity. The communist countries were unable to cope with it.

Human creativity is based on divergent thinking and personal autonomy. In the Eastern European countries thinking was convergent and directed by ideologists and party leaders. No deviations were desirable. Amann and Cooper (1982) describe many specific reasons for abortive innovatory activities in the former USSR, e.g. enormous bureaucracy, the gap between science, industry and market, inappropriate selection of research workers and lack of adequate feedback. Some psychological factors should be added, e.g. lack of initiative and motivation and fear because of possible consequences.

One of the aims of *Perestrojka* was to free creativity and to cope with the economic development of the "capitalist world". It triggered a chain-reaction in other fields and other East European countries.

### WHY COMMUNISM COLLAPSED

The collapse of communist system in the East European countries has been and will continue to be interpreted from various points of view:

1/1. **Political point**, e.g. as a consequence of opposing movements like *Solidarity* in Poland, *Ecoglasnost* in Bulgaria, *People's Fronts* in the Baltic countries and *Demos* in Slovenia, or reforming movements like *Perestrojka* and *Glasnost* in the Soviet Union.

12/. **Sociological point**, e.g. as a consequence of mass demonstrations and revolts taking place all over the East Europe and culminating as the collapse of Berlin wall.

13/. **Economical point**, e.g. as a consequence of a decline of gross domestic product and economic growth in eighties, which is shown in the Table 1 and 2.

	1981	1991
Eastern Europe	5938	5648
European Community	12761	15155

Table 1: GDP per capita by region, 1981-1991 (World Economic Survey, 1992)

	1981-1987	1989	1991	1992
World	2.7	3.2	1.8	-0.4
Eastern Europe	2.9	2.3	-5.0	-12.0
European Community	1.8	3.5	2.9	0.7

Table 2: Growth of GDP by region and periods (World Economic Survey 1992)

14/ **Military point**. The military burden has always been extremely big for all Eastern European countries. The table 3 shows the military expenditure of Soviet Union and some Western countries in 1989. At the end of the communist period the Eastern European countries enlarged the expenditure because they attempted to cope the new military technology of the West, especially USA (e.g. Reagan's Star War Project). But the attempt was in vain, because the expenses and the technological ability of the East were not sufficient.

	Military expenditure (millions of dollars)	Military expenditure as % of GNP
Soviet Union	311000	11.7
United States	304100	5.8
France	35260	3.7
United Kingdom	34630	4.2
Norway	2925	3.3

Table 3: The military burden in some countries, 1989 (World Economic Survey 1992).

15/. **Psychological point**. It includes some important factors, e.g. the personality of opposing leaders (Walensa, Havel etc.). Many psychological factors influence also the economical, sociological and military ones, which has been already discussed. They function in interaction, e.g. the inability to cope the new technology was partially caused by lack of invention, which is a typical psychological factor; the mass revolts were roused by such psychological states as strong emotions.

#### BLOCKING THE CREATIVITY

A very important, but not sufficiently investigated and discussed psychological factor was the blocking of creativity.

The essence of human creativity is production of new and unusual responses

(ideas), which cannot be predicted, led and controlled by a any party or other power group and its ideology. Therefore various strange deviations are always possible. This possibility is perceived by leading oligarchy as potentially dangerous.

Human creativity is based on divergent thinking (Guilford 1967), individuality (MacKinnon 1963), nonconformity, strong Ego (Barron 1969), spontaneity and autonomy (Maslow 1959). In the Eastern European countries all these characteristics were not desirable. Prevalent thinking was convergent and directed by ideologists and party leaders. The deviations were often punished.

Amann and Cooper (1982) describe many specific reasons for abortive innovatory activities in the former USSR, e.g. enormous bureaucracy, the gap between science, industry and market, insufficient criteria for acceptance of innovations, lack of adequate feedback, low motivation because of fear of possible consequences and inappropriate selection of cadre. The same happened in other Eastern European countries.

One of the most valid criteria of creativity in a country is the number of registered patents. The Table 4 shows the registered patents in some Eastern European countries with the registered patents in 17 Western European countries in the years 1979-1990. Yet the data can hardly be compared since the Eastern European countries used different categories of patents. They included among them also ordinary innovations (called inventor's certificates) and even some useful proposals (called rationalizations).

	West Europe	Rumania	Yugoslavia	Poland
1979	14.3	20.5	19.0	255.0
1980	37.2	38.2	17.5	257.0
1981	50.8	73.9	28.0	179.0
1982	53.4	74.0	150.3	149.0
1983	55.1	35.1	87.8	155.7
1984	57.4	50.0	80.8	179.4
1985	54.2	112.2	138.0	163.4
1986	65.7	115.1	117.7	163.4
1987	69.9	130.0	222.5	140.7
1988	71.0	70.4	68.0	128.9
1989	80.0	36.0	68.5	214.8

Table 4: The number of registered patents (in million of people) in Western Europe and some Eastern European countries, 1979-1990 (Source: Espace - Access CD-ROM).

If we take into consideration also the quality and applicable value of patents, then the numbers of patent in East Europe should be divided at least by four to be comparable with the data in Western countries. In the East the patents were accepted with almost no feedback from the market. They were evaluated on the basis of questionable self reports and political criteria. The patent bureaus were flooded with too many patents of no or little practical value. This situation is well described by Russian writer Dodintsev in his novel *Not by bread alone*.

Yet we can compare the data inside the particular countries. Western Europeans countries show constant increase, whereas Eastern European countries display big oscillations. A typical trend is initial increase, then decrease, then increase and at the end of eighties a decrease again.

The same was true for the scientific work. The political criteria (e.g. how many times Marx and Engels and some local ideologists like Elena Ceausescu were quoted)

were prevalent. For many scholars it was not a hard task. No wonder that at the end of eighties the small Slovenia had about the same number of full professors as four times bigger Holland.

Yet the Eastern European scientists were less cited in the international scientific journals and Science Citation Indexes. There are also many other indicators of their lagging behind. Only in some selected fields which were considered exceedingly important (like war industry) or in some abstract fields which were not considered to dangerous (like mathematics) the results are comparable to that in the West.

Let us consider one example from the former Yugoslavia. To be elected or re-elected as an university professor is was necessary to prove his or her "moral and political relevance". A special committee wrote a report describing candidate's faithfulness to Marxist ideology, Union of Communists, self management etc. A candidate who did not pass these criteria was not elected. Some already elected professors lost their position (e.g. Mihajlo Marković, Svetozar Stojanović and Ljubomir Tadić from University of Belgrade and Veljko Rus, Janez Jerovšek and Tine Hribar from University of Ljubljana). The situation was the same or even worse in other communist countries.

Political selection of experts was typical also for other fields, especially for economy. Most directors of factories were members of the Communist Party and obedient to it. At the end of sixties Slovenia got a liberal communist government (led by Stane Kavčič) which tried to introduce some reforms, e.g. stocks and some elements of market economy. The national income grew and almost caught that of Austria and Italy. But then the orthodox communists carried out a purge and about 40% of all directors of factories were replaced by more obedient ones. In two years the national income declined from about \$ 10000 to \$ 6700 per capita.

As a consequence most leading positions in academic life, economy, politics and other important fields (except sport and partially culture) were fulfilled by convergent thinking, conforming and dependent people, what is just the opposite from a profile of creative personality. In 1969 in Yugoslavia about 80% of university professors and 95% of directors of middle and big factories were members of the Union of Communists.

Due to lack of important statistical data (e.g. how many Ph.D. dissertations were scientifically valid and how many just unworthy political praises) no tables and graphs could be shown. Therefore only some illustrations could be presented (although the anecdotal method is not highly thought-of in science).

The most known is so-called Lysenko's affair (Vucinich, 1984). Trofim Lysenko was the leading Russian biologist in 1940-1955. He was doing experiments on cross-breeding and on impact of changing environment on plants. His team was trying to produce many new agricultural species, among them a gigantic tomato and an orange growing in Siberia. At that time genetics was quite developed in Soviet Union and geneticists were doing experiments with drosophila. In 1948 Lysenko accused all geneticists to be "the traitors of the fatherland" because of spending their time with drosophila instead of attempting to fulfill the Five years economic plan (pjatoletka). At some convention Lysenko was asked for arguments and he answered: "My thesis is supported by the Central Committee of Communist Party. It is my argument!". Nobody opposed and most geneticists were put in prison. Later a British newsman stole the gigantic tomato shown in some exhibition and discovered that it was artificial.

Many other scientists followed Lysenko's career. The attacks were led by Soviet ideologist Zhdanov who claimed that in the future Soviet science as "socialist science" based on teaching of Marxism - Leninism would differ qualitatively from "bourgeois science" in substance, theory, and method.

## CREATIVITY AND ECONOMIC PROGRESS

Marx and Engels anticipated the victory of communism in the most developed countries, above all England. But communism actually prevailed in the countries, which were underdeveloped in comparison to Western Europe. The exception was Czechoslovakia and partially Hungary and Poland, where communism came from outside.

During the first period of communist rule the economic growth in these countries was high; e.g. in fifties 12% in the former Yugoslavia. Table 5 shows increase of GDP of in some European countries from 1961 to 1967. Increase of East European countries is among the highest.

Austria	4.0
Belgium	3.9
Bulgaria	7.3
Czechoslovakia	4.1
Denmark	3.7
Finland	3.6
France	3.9
Greece	5.8
Holland	3.1
Italy	4.4
Yugoslavia	5.4
Hungary	5.2
E. German	3.8
W. German	3.0
Norway	4.4
Poland	5.2
Rumania	6.1
Soviet Union	5.2
Switzerland	2.8
Sweden	3.9
United Kingdom	2.4

Table 5: The increase of GDP for most European countries, 1961-1967.

Table 1 shows that in spite of this initial growth the East European countries never caught the West European ones. Table 2 shows that in the East Europe the growth was positive till 1989, yet constantly decreasing. In 1989 it was only 2.3, whereas in European Community 3.5. At the end of the communist regimes the decline equals -5.0%.

In East Europe various economic sectors did not develop equally. There was much emphasize on heavy industry, electricity, and war industry, whereas agriculture, manufacturing and serviced were underdeveloped. Table 6 shows the data for Hungary and some comparable countries.

	Agriculture		Industry		Manufactur.		Services	
	1970	1992	1970	1992	1970	1992	1970	1992
Hungary	18	7	45	30	12	24	37	63
Denmark	7	4	35	27	22	13	59	69
Norway	6	3	32	35	22	13	62	62

Table 6: Distribution of gross domestic product (%) in four small European countries.

In 1970 the investment was the biggest in Hungarian industry, it was actually one of the biggest in Europe, but it decreased significantly till 1992. The data for other Eastern European countries are similar.

The initial high rate of economic growth in these countries was possible because the work was done mostly manually and with primitive tools. Much of the labor was done by politically indoctrinated volunteers. Typical forms were working brigades building roads, bridges, tunnels, plants and factories in all countries under communist role. In former Yugoslavia the railways lines Brčko - Banovići and Šamac - Sarajevo, the "road of brotherhood and unity" Zagreb - Belgrade, the factory Železniki and the whole city Nova Gorica were built by at least a million of unpaid youth.

The forced labor of political prisoners was significant. Dnjeprstroj, before the World War 2 the highest dam on the world, was build by hundred thousands of prisoners. Solders worked too. The road along Adriatic coast in the former Yugoslavia was built mostly by the Yugoslav Army.

In the seventies the electrification and building the heavy industry were over and the character of work changed. Instead of simple manual labor more sophisticated intellectual work, based on creativity and insight, became more important. The communist methods of organizing work were not suited to this change.

In the seventies Western Europe witnessed a new scientific and technological revolution, resulting in the postindustrial or informational society based on knowledge, creativity and innovation. The new trend entered the communist countries with a delay, but they were totally unable to cope with it.

Creativity is based on human autonomy and spontaneity, therefore it became blocked under repression, fear and feeling of dependency. It was possible to be highly effective on condition of primitive manual work or behind the running belt, when a mass of workers built roads, bridges and heavy industry, but not when the work became more sophisticated, intellectual and creative. It is one of the main reason for stagnation of economy which began in East European countries in seventies and continued in eighties.

	No. patents
1952-1956	752
1957-1961	1267
1962-1966	1165
1967-1971	770
1972-1976	493

Table 7: The number of registered patents in former Yugoslavia, 1951 - 1976.

Table 7 shows the number of patents in former Yugoslavia. At the beginning there was an increase of patents, then stagnation, and then decrease. The patents from 1952-

1966 were mostly simple changes of working tools, and the patents from 1967-1976 more sophisticated, often electronic devices. At the beginning of eighties Yugoslavia was able to register only 77 patents altogether.

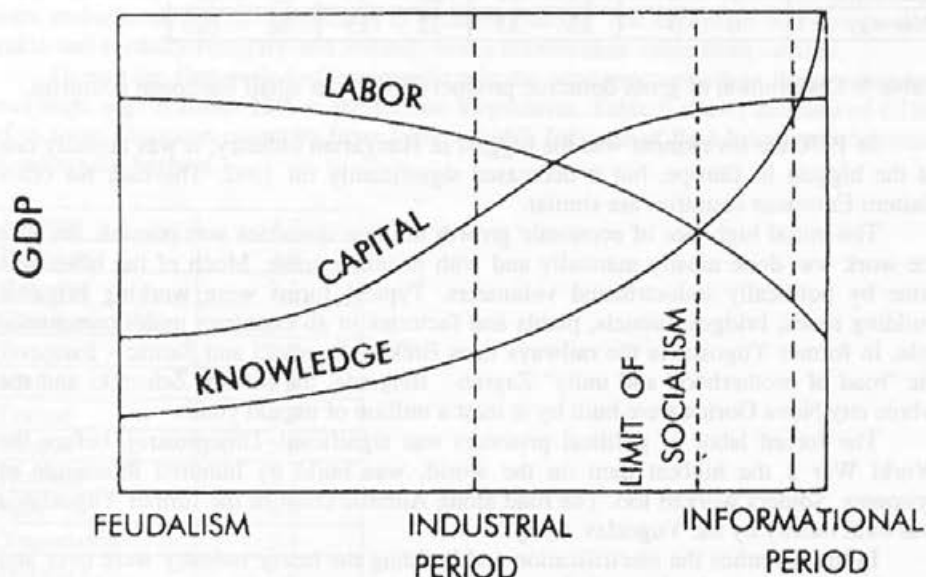


Figure 1: The influence of labor, capital and knowledge on Gross Domestic Product.

The figure shows the influence of three factors on Gross Domestic Product: manual labor, capital (investment) and knowledge (including creativity). In feudalism the GDP was dependent almost solely on labor. The share of capital and especially knowledge was small and of little importance. During the industrial period (capitalism) capital was almost as significant as labor. The influence of knowledge was still small. But during the informational period the share of the three factors significantly changed. The most important are knowledge, then capital, and then labor. The Eastern European countries were able to reach the point X where labor and knowledge were moderately significant. But they were unable to cross it. More developed countries, e.g. Czechoslovakia or Slovenia, approached the informational period more than less developed, e.g. Rumania or Macedonia. In 1980 as much as 36% of all patents in former Yugoslavia were registered in Slovenia having only 8% of its population.

	Number of patents
Serbia	13.2
Croatia	41.9
Slovenia	38.4
Bosnia	5.2
Montenegro	1.3
Macedonia	0.0

Table 8: Number of registered patents in former Yugoslavian republics in 1980.

Eastern European countries often attempted to reform the political and economical system with the aim to be more effective and creative (e.g. Khrushchev's reform in USSR or Kadar's "goulash socialism" in Hungary). But it was in vain because when the political oligarchy felt threatened, the reform was stopped. Only *Perestrojka* continued and led to the collapse of the system. Its aim too was to free creativity and to cope with economic development of the "capitalist world". But it triggered a chain-reaction in other fields and other East European countries.

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