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DESIRABLE ECONOMIC CONDITIONS FOR RESEARCH & DEVELOPMENT, INNOVATION AND COMPETITIVENESS

The most important prerequisites for the level of Research & Development are in the economic fields. Two variables are of special importance: the percentage of the Gross Domestic Product (GDP of a country) dedicated to Research & Development (R & D) and the level and growth of the GDP. For the second variable – the high level and growth of the GDP – a competitive economy and an adequate development economic policy are needed. For the first variable – the percentage of the GDP dedicated to R & D – suitable decisions by governments and companies are needed.

Those decisions depend on the awareness of the society and its government, on the one hand, and companies, on the other, that the investments in education and science – made by states and companies – produce the best possible results in the field of the economic and overall social development.

One of the prerequisites is the highest possible social status and public appreciation of education and science, of the educational, scientific and R & D achievements and the people working in these fields – the best students, teachers, professors, scholars, researchers.

1. The main desirable economic condition for an adequate level and, to a large extent, the quality of the Research & Development, Innovation and Competitiveness is the largest and most dynamic economic growth possible, that is, positive and increasing rates of the overall economic activity, the greatest possible level and dynamics of the national income per capita, in a word, a richer society.

The economic history between the 1920s and the end of the 1980s, both in Europe and elsewhere, clearly showed that the dynamics of a country's economic growth depends primarily on the economic system, i. e. the character of the economy. The system of the administrative (centralized, planned, controlled, command, non-market) economy, with state ownership, has proven to be inferior to the market economy system, with private (and shareholding) ownership.

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This, in addition to other, non-economic factors, led to a comprehensive transition and privatization of the administrative (non-market) economies of the Eastern European countries to market private enterprise economies.¹

Now, it is desirable and necessary to finish the process of transition of the nonmarket – and not enough market economies into as complete market economies as possible. It is now desirable and necessary to complete the privatization and corporatization of the rest of the state-owned and the so-called socially-owned enterprises, having in mind that a part of the so-called public companies in utilities and infrastructure, or controlling shares in these enterprises will remain in the state ownership.

2. In market economies, the economic entities (firms, companies) are – or should be – independent in making basic business decisions: what, how much and how to produce or engage in economic activities, as well as decisions regarding organization, operations, prices, employment etc. However, in market economies, as their name suggests, the role of the market is crucial. The amount and structure of production or economic activity and, consequently, employment, depends on the amount and structure of the market demand. And in free-market, prices (of goods and services) depend on the relationship between supply and demand.

What is desirable is the market to be as free as possible, the functioning of the invisible hand (of Adam Smith), as complete the market competition as possible, the market competition. Therefore, the anti-monopolistic policy and the anti-monopolistic legislation (which in the United States dates back to the late nineteenth century), which would prevent agreements in terms of prices (prices increase accompanied by reduced production) and undesirable fusion in the domestic market, prove to be necessary.

A free market at the international level is also desirable, with only temporary and declining customs and similar protection of domestic production of underdeveloped countries. (Such a free market without import-export restrictions was advocated for as far back as the time of David Ricardo by his theory of comparative costs in international trade).

Domestic and international markets, as free as possible, and competition lead to dynamic economic growth, to the Gross Domestic Product increase and a larger national income per capita, which is favourable for the development of Research and Development, innovations and, consequently, the overall competitiveness.

3. Nevertheless, economic history also showed, particularly in the 1930s and over the past two or three years that the market and its functioning are not omnipotent. The market is not always sufficient to ensure continually high economic growth, therefore, instead of recording positive and dynamic economic growth, it comes to a halt, and a recession, depression, an economic (and financial) crisis oc-

¹ Self-management system of the economy in former Yugoslavia, unlike the systems in East European countries, was essentially a market – better to say: a market oriented – economy, but with the dominant role of the so-called social ownership.

cur. An indirect government intervention, therefore, proves to be necessary in order to dynamize the slowing down economic activity, to raise rates of economic growth and, consequently, employment.

The intervention of the state should not mean abandoning the market character of the economy or nationalization of the economy. It should be in the form of a (temporary) active macro-economic policy – monetary-credit policy, tax policy and public expenditure policy (mainly investment). Measures of the expansive monetary-credit policy – primarily through low interest rates on loans to businesses and individuals, – mild tax policy – by reducing the taxation of the economy and populations – and measures of the expansive policy of public investment (primarily in infrastructure) would affect the increase of the (amount of) aggregate effective (solvent) market demand, which would stimulate the increase (volume) of the total economic activity, i. e. economic growth and, consequently, employment.

The highest possible total employment is a very important and desirable economic prerequisite. It, among other things, means increasing the total income of the economy and population and, consequently, state tax revenues and aggregate effective market demand, which stimulates Research and Development, Innovation and Competitiveness.

4. The current global economic crisis is so serious that – in addition to the indirect measures mentioned previously – it also requires some degree of direct intervention of the state. First, it could be a direct financial help from the state to – especially larger – commercial banks, that is, the state could buy the bad debt of banks, or the state could temporarily take (partial) ownership of banks in order to make their restructuration and subsequent privatization, or the state committing to paying part of the interest owed to the banks instead of the borrower.

Second, it could also be a direct financial help from the state to – particularly large – companies, with large numbers of employees, which could be given as a grant or a loan, or through temporarily taking (part of) the ownership (with subsequent privatization). Third, it could be a direct state assistance to customers for the purchase of certain products of specific companies.

5. It is desirable that in market economies there be no inflation at all or with very law inflation rates, in which case we speak of inflation caused by the excessive total effective solvent demand ("demand-pull inflation"). This kind of inflation should be suppressed by the same, previously mentioned ways of economic policy but in the reverse direction: the restrictive monetary – credit policy (primarily through an increase in interest rates on loans to businesses and population), a severe taxation policy (by reducing taxation of the population and economy) and the restrictive policy of public expenditure, all with the aim of reducing (the amount of) the effective aggregate market demand (which is, actually, the cause of that kind of inflation). A state without inflation, without general rise in prices is favourable for R & D.

6. It is desirable to have an export-oriented economy, the exchange rate that encourages exports, balanced foreign trade and balance of payments and the economy without a large external debt, but the loans (taken from abroad) should be directed specifically to the construction (and maintenance) of the infrastructure (not to consumption or to covering the budget deficit).

It is desirable to encourage direct foreign – primarily "green field" – investment, through appropriate institutional solutions, economic and other legislation – targeted against corruption and crime, and through building democracy and the rule of law.

It is desirable, through tax and other legislation, to encourage wealthier strata of the population and larger businesses to establish foundations and to pay into funds for Research and Development, and Education (scholarships for top students and graduates, publishing the best diploma works, master theses and doctoral dissertations and the like).

It is desirable to do everything to improve and raise to the highest level possible, not only the social but also the economic status of institutions in the field of R & D and education, as well as R & D and education personnel. It also proves to be necessary in order to slow down, if not to stop completely, the "brain-drain" of young college-educated people from less developed to more developed and richer countries.²

² The "brain-drain" process is natural, though, basically, economically unfair, because less developed countries allocate significant financial resources from their budgets for education (primary, secondary, university) of their youth, who upon completion of education, leave for developed countries, without any financial obligations to the home country. Yet, this process ("brain-drain") should not by any administrative means be prohibited or complicated. What could possibly be done in the countries with a huge "brain-drain" is to introduce a comprehensive budget-financed loan system for education, so that all students (and their parents), university students and postgraduates are committed by contracts with the state to financially compensate the state for the full cost of their education (with interest) if they do not spend a certain number of years, as employees, in their country.