Dynamics of the Development of Societies

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Abstract
The dynamics of the development of socio-economic systems is one of the most essential factors determining the quality of the function of societies, and the knowledge of dynamic patterns of the development and its conditions is crucial for the successful application of anticipatory steering of a society. A novel approach to this dynamics is based on the disclosure of logical relations between socio-political processes and the mathematical structures derived from the Linguistic Theory of Growth. The paper outlines the simple dynamic model of the most encountered trends in the development of societies, which determine the most appropriate procedures for steering of societies.
Keywords: autocracy, development, liberalism, steering, dynamic equilibrium

1 Introduction

The current development of the socio-economic sciences is linked to the introduction of methods based on mathematics and physics. This is a very essential direction in their development, which aims at elaboration of increasingly more effective methods of steering of socio-economic systems. The ultimate objective of this development is to achieve the efficacy of these sciences comparable to those of the exact sciences. However, despite great progress in the development of socio-economics, there are still many groundless and misleading ideas that continue to receive positive response.

This paper attempts to present a novel logical approach to the most important issues of the function of societies. Their proper understanding is the fundamental key for the achievement of advanced steering of socio-economic systems especially in the anticipatory way.

2 Processes of Growth

According to The Linguistic Theory of Systems Growth (Turkiewicz K. and Turkiewicz D.B., 2006), an elementary growth can be represented in the quantitative form of $x=x_0\pm\Delta x$, where 'x' is the quantity of a parameter of an element expressed by a number, 'x_0' is the initial quantity and Δx is the quantitative increment of growth. This increment (Δx) is the quantitative and elementary model of activity of growth or briefly the model of activity (ΔA).

Depending on the general dynamic properties of intensity of growth or changes we can distinguish the following three most important types of elementary processes in nature: 1) Fixed and independent processes characterized by zero intensity $dA_s/dx=0$ ($dA_s/dt=0$) and constant activity $A_s=C$; 2) Non-progressive and changeable processes with the

characteristics $dA_s/dx=\pm\beta$ ($dA_s/dt=\pm\beta$) and $A_s(x)=\pm\beta x+C$ [$A_s(t)=\pm\beta(t)+C$], where 'β' is a constant coefficient and 'C' is a constant value; 3) Progressive independent and dependent processes characterized by the intensity $dA_s/dx=\pm\alpha_{xy}y$ and activities $A_s=\pm\alpha_{xy}xy+C$, $dA_s/dx=\pm\alpha_x x$ and $A_s=\pm\alpha_x x^2/2+C$ [$A_s(t)=\pm\alpha_t t^2/2+C$], where x,y are relatively independent elements, $\alpha_x,\alpha_y,\alpha_{xy},\alpha_t$ are constant coefficients and 'C' is a constant value.

If we assume that a system 'S' has a finite quantity 'n' of elements 'x_i', its total activity is expressed by the following equations:

$$A_s=\sum_k\sum_i[\sum_j(\pm\alpha_{kij}x_{ki}x_{kj})\pm\beta_{ki}x_{ki}]+C_k \quad \text{and} \quad A_s(t)=(\sum_k\sum_i\alpha_{ki})t^2\pm(\sum_k\sum_i\beta_{ki})t+C,$$

where 'x_i' represents a quantitative social and/or economic dimension of people and their organizations, $\alpha_{kij},\alpha_{ki},\beta_{ki}$ are constant coefficients of progressive and non-progressive activities respectively, the index k=1,2,…,r determines various agents (factors) of growth (material and informational resources), C_k and C is a constant value, indexes $i,j\in\{1,2,\ldots,n\}$, 't' is time, and for i=j, $\alpha_{kij}x_{ki}x_{kj}=\alpha_{ki}x^2_{ki}$. In economics, the processes of change of factors of growth are called innovative processes.

The first expression of the total activity of a system is represented by hyper-surface in multidimensional space determined by the elements 'x_i' of a system. It can be a closed surface in the form of a hyper-sphere or hyper-ellipsoid or an open surface in a form a hyper-hyperboloid, hyper-paraboloid and hyper-plane. Because all material systems are finite objects and hence they are limited in various ways, therefore the systems which are characterized by the functions of activity of growth (trajectory of growth) included in open hyper-surface, encounter many limits during their growth and create conflicts with them. On the other hand, the system whose growth is included in closed hyper-layer with no crossing of any limits can function without conflicts and violent processes. The second expression $A_s(t)$ is the transformation of the multivariable function of the total activity $A_s=f(x_1,x_2,\ldots,x_i,\ldots,x_n)$ into the function depending on time and distinguishing of progressive, non-progressive and non-variable activities. As the result of this transformation the function $A_s(t)$ is reduced to a parabolic function.

Cooperation and competition are the fundamental dynamic elements of social systems. They are modelled in the equation of activity by appropriate combinations of signs 'plus' and 'minus' of the elementary activities. Two elementary activities that are marked with the same sings as (−,−) or (+,+) form the relations of cooperation and those that are marked with opposite sings as (−,+) or (+,−) form the relations of competition. In this context, competition relies on weakening of one activity and strengthening of another. In extreme cases, competition leads to the destruction of one or all of the systems engaging in the relation of competition. When the total activity of a system is smaller than zero ($A_s<0$) then the system is in competition with its surroundings.

In nature, cooperation and competition are the two crucial active ways for the realization of any kind of processes of integration and disintegration. In any stage of the development of a system, they form a different kind of equilibrium, which depends on the following characteristic: cooperation tends to stiffening of a system and competition tends towards its disintegration. Hence, the development and/or intensification of cooperation in one place of

a system cause corresponding development and/or intensification of competition in another place of this system. As the result, when cooperation is dominant in a certain system, then competition has to dominate between the system and its surroundings and vice versa. For example, as cooperation has dominated human activity from the middle of the twentieth century, this has resulted in competition between the human beings and the natural environment and in this relation humans have gained great domination. Consequently, the natural environment has become progressively more vandalized and according to various forecasts, as the result the Earth may face serious catastrophes in the near future; be it climactic, ecological, social, economical and others (Stern N., 2006). However, the endeavour to fix some of these pressing problems of the environment and climate may become a new agent of growth that may trigger another great development of societies on Earth. On the other hand extreme competition among societies, such as a war, also devastates the natural environment.

The issue of cooperation and competition is strictly related to the market, which in the context of the theory of growth is simply a complex process of growth. In such a process, currently agents of growth are commodities among which money is the most important commodity or agent of growth. The most important trait of contemporary money is that it is information, the quantity of which must be adequately limited from top and bottom. The more quantity of money is limited from the top, the stronger it is, but only to a certain limit above which money loses its force. Depending on the organization of growth processes in a society, the market may determine a self-adjusting or not self-adjusting economy

3 Limitations, Efficacy and Efficiency of Systems

The magnitude of growth activity is one of the most basic and universal limitations of the existence of any system. This is, because the presented relation between cooperation and competition in every process of growth of any element and system triggers off an opposite process, the process of its disintegration. This occurs at the moment when the activity crosses the limit of functional endurance of the element and system in relation to increased activity. Hence, for example the natural systems, such as living organisms, during their initial development increase the parameters of their body together with increasing of their activities and after approaching their mature age, in order to limit the process of disintegration, decrease their activity together with decreasing the parameters of their body. On the other hand, the consequence of the unlimited decrease in the activity of a system below a certain level of minimal activity is also destruction of the system by more active surroundings. As the result, the existence of the systems whose activity is below this minimal limit has to be appropriately isolated and/or protected from its surroundings. The limitation of the magnitude of growth activity corresponds with the physical law of conservation of energy. According to the presented analysis of limitations, the activity of any real system has to fulfil the following conditions: $|l_{kt}| > |A_{sk}| > |l_{kb}| > 0$, for every agent of growth $k=1,2,\ldots,r$, where 'l_{kt}' is the top limit and 'l_{kb}' is the bottom limit.

Such a metaphoric notion of the "limit" hides a variety of aspects of the function of systems. One of them is that increasing activity of a system and its elements strongly determines its behaviour. This is, because the increase in activity of the elements is

accompanied by their increase in the distance between themselves and their aim to invade the surrounding space. As such, the achievement of an appropriately great activity by a system causes the following most important possibilities of disintegration of the system through: 1) Increasing the distance between the elements and through this losing their interrelations, when the system has appropriately great space; 2) Changing the relation between the elements of the system and the elements of its surroundings because increased growth activity weakens the bonds inside the system; 3) Change and/or revaluation of agents of growth; 4) Conflict when the system crosses its space's limits.

In the context of social function, the most crucial elements are the aspirations of people and of their organizations to achieve efficacy and efficiency of their activities that stimulate and also limit the development of systems. This paper considers only a general issue of efficacy of socio-economic systems, which have a common and universal goal to exert their appropriately strong action or influence on to their surroundings or its individual elements. The stronger is this influence, the more effective is the function of a system. It is evident that the effect of a system on the elements of its surroundings is stronger when its magnitude and activity is greater and at the same time the magnitude and activity of the elements of the surroundings is smaller. This equates to rising disproportions between the elements of the system exerting the influence and the elements of the system being targeted. On the basis of this, it can be concluded that the rule of forming disproportions between systems and/or elements is the most important rule to achieve an increase in the efficacy of systems.

Nevertheless, as the increase in efficacy and disproportions utilises progressively more forces and resources to realize smaller goals, therefore there is a decrease in efficiency in the function of systems. However, it is possible to increase the efficiency of a system when the disproportions are also increasing, through the creation of quantitative disproportions involving increasing the number of mutually independent small and weak elements and a the same time decreasing the number of very strong elements.

4 Autocracy

It is evident that the motivation to effective activity functions exceptionally strongly for all human beings. As such, autocracy has been the most important direction in the development of socio-economic systems throughout the human history. This has been strengthened by creating progressively greater social disproportions between common people and the elites (authorities, strong organizations and institutions). These disproportions are created on the basis of various factors of growth, such as for example physical, economic, military, legal, religious and other forces. Every appropriately advanced development of disproportions is always associated with the socio-autocratic elite in the form of a strong leader, or absolute ruler, or a small group of people and organizations. The stronger this socio-autocratic elite is, the more it controls all social forces and the remaining majority of the society becomes appropriately obedient tools in the realization of the elite's goals. This process leads to simplification of the social structure through uniformalization of the society, especially in the form of rigid ideological thinking and behaviour.

Apart from the use of many types of progressive forces to form, maintain and increase autocracy in a society, many non-progressive activities are also used such as creation of strong and simple motivations for all members of a society, for example motivations of law, religious, nationalistic, class, political and other ideologies. These kinds of motivations are always connected to the appropriate psychological emotions and feelings. Such motivations cause uniformalization of thinking and behaviour of people, which results in a largely predictable function of the social system.

Because the development of autocracy in a society is associated with increasing social disproportions and at the same time increasing simplification of the function of the system, therefore the main social structure of such a system can be reduced to the following two examples. An absolute ruler dominates over a large society or a small group of very rich people dominates over a large remaining society, which is poor. If we consider that an absolute ruler and a small group of rich people in an autocratic society realize progressive activity and the large remaining society realizes non-progressive activity, we can denote the autocratic way of social function with the following very simple parabolic equation of activity $A_s(t)=\pm\alpha t^2\pm\beta t+C$, where 't' is time and α,β constant coefficients determining different influence of progressive and non-progressive activities on the total activity of the system. This function is a specific example of the function $A_s(t)=(\Sigma\Sigma\pm\alpha_{ki})t^2\pm(\Sigma\Sigma\beta_{ki})t+C_k$ shown in the above section "Processes of Growth".

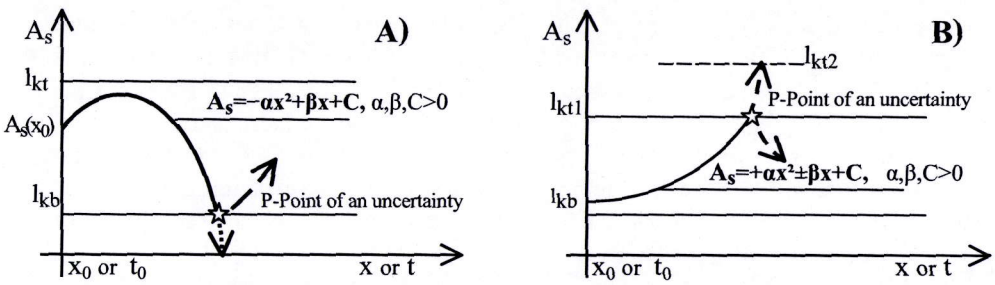

Figure 1: Trends of the activity of growth of a progressive autocratic social system

Figure 1 presents two possible trends in the development of an autocratic society. Trend 'A)' is characterized by the expression $A_s(t)=-\alpha t^2+\beta t+C$, where the conditions $\alpha, \beta, C>0$ create the situation in which the progressive activity of an autocratic ruler ($-\alpha t^2$) competes with (is in opposition to) the non-progressive activity of a majority of a society (βt) and the surroundings. An appropriately advanced type of this system is called dictatorial or a dictatorship. Depending on the initial condition $[t_0,A_s(t_0)]$, the trend of activity may reach maximum at the initial stage because a dictator usually destroys all opposite progressive activities in a society in the early stages of his/her function. However, this maximum cannot reach and exceed the top limit of activity (l_{kt}) because it radically and violently changes the trajectory of growth.

Trend 'B)' is characterized by the expression $A_s(t)=\alpha t^2\pm\beta t+C$, where the conditions $\alpha,C>0$ create the situation in which progressive activity of a social system is realized by an autocratic authority ($+\alpha t^2$) in cooperation with the system surroundings. However, the

progressive and non-progressive activities of a society may cooperate or compete with the autocratic authority, but only to certain limits. In the case when there is cooperation, the activity of growth is appropriately stronger, but when there is competition, the activity of growth is appropriately weaker. If we assume that progressive activity (αt^2) is a sum of many various progressive activities in a society [$\alpha t^2=(\Sigma\pm\alpha_i)t^2$] then we can clearly observe the presented simple parabolic model of autocracy in the function of all real social systems we call democracy, socialism, monarchy, dictatorship or others depending on the stage of the development of autocracy.

Because the presented trajectories of activity of an autocratic system are open, then these types of development encounter many limits. In the case of trend 'A)', the limit is a certain minimal activity (l_{kb}), the achievement of which leads to the destruction of the system by more active surroundings. In order to avoid this type of destruction of systems, the nature has established defence mechanisms, which trigger strong progressive and non-progressive activities directed against the source of the threat (Turkiewicz K. and Turkiewicz D.B., 2006). In the above-analysed case, the threat is constituted by the absolute authority (a dictator) striving to maintain a single phasic state of a system by forcing rigid organization of the society. Such rigid society decreases its activity and consequently triggers violent activities, which begin at the point of formation of discrete (violent) processes marked as 'P' on Figure 1.

In case of trend 'B)', for an autocratic system, its activity increases and causes progressively greater and faster changes. In order for this activity to not change the autocratic manner of steering of the social system, the system reaching the limit 'l_{kt1}' at the point 'P' [Figure 1B)] has to expand into its surroundings. Similarly to the first example, there are two main possibilities: firstly – the maintenance of the existence of a system through the expansion into and/or invasion of the surroundings (decreasing or destroying some of the elements of the surroundings) and secondly – destruction of the expanding system by the surroundings. A particular process of expansion is the change in the agents of growth that in economics is called innovation processes.

5 Liberalism

An absence of any kind of organization among people represents the opposite direction of autocracy in a society or an abstract point from which the evolution of social systems begins. In such a situation, people create a set of independent elements and they are not a system. Events, which occur in such a set, are only predictable statistically and they are relatively insignificant as individual events. Such a society we call extreme liberal society, or anarchy, or local chaos. The equation of its total activity is the average value of activity of all of its elements 'n', that is $A_s=(1/n)\Sigma(\pm\alpha_{ki}x^2_{ki}\pm\beta x_{ki}+C)$, where for all $i,j\epsilon\{1,2,3,\ldots,n\}$, $|\alpha_{ki}x^2_{ki}+x_{ki}-\alpha_{kj}x^2_{kj}-\beta x_{kj}|<|\xi|>0$ (ξ is a relatively very small value).

The presented brief analysis of autocratic and extremely liberal social systems shows that in the function of societies there exist the most important natural motivations of aspiration for an increase in: 1) Efficacy of activity of individual people and organizations that leads to the development of autocracy; 2) Freedom of individual people that leads to the development of liberalism and decreasing in the efficacy of a system. Aspiration for

efficacy is a tendency dominating periods of time when a system functions in the continuous and smooth way, and aspiration for freedom dominates the time when the rigidity of social processes is appropriately close to the limit of functional and psychological endurance of the society. However, the types of motivations such as ideologies of nationalism, politics, religions, cultures and others are only specific tools used to gain appropriate numbers of people for the creation of an autocratic organization in order to realize the development of a society in an autocratic or liberal direction.

Such a realistic way of realization of the development of a society is the main reason that the banner of "liberalism" usually hides the idea of autocracy. The liberalisation of certain elements of a society and within an appropriate range always facilitates the development of certain autocratic organizations. For example, the current economical neo-liberalism together with globalisation that is very strongly propagated, aims at facilitating better and more rapid development of selected powerful international corporations. Therefore, this kind of liberalism is not liberalism because it leads to the development of a society in the direction of strengthening autocracy. In regard to these basic traits of liberalism, that the real liberalisation processes always lead to decreasing and weakening of the most powerful organizations in a society and creation of conditions for the development of a large number of new and smaller organizations, which are strictly associated with a growth of the middle classes. The most effective tool for the liberalisation of processes is appropriate changes in the agents of growth.

A particular misunderstanding occurs with the term of "political-economic conservatism" because it is impossible to conserve or maintain only one phasic state in the development of any system in nature. There is only a possibility to slow down the development processes and/or conserve an entire dynamic system through the maintenance of its revolving growth. In reality, contemporary conservative political-economic movements even do not slow down the changes of the system, but in contrary, they are radical movements accelerating all of the changes including violent processes, as for example the American Conservative Government has accelerated the development of global terrorism.

6 Dynamics of Domination of Activities

Because autocracy is always the fundamental way of the function of any social system, therefore we present the analysis of the dynamic development of the relation between progressive $[A_p(t)=\pm\alpha t^2+C_p]$ and non-progressive $[A_n(t)=\pm\beta t+C_n]$ activities in a society (Figure 2). The central point of this relation is point 'E', which reflects the equilibrium between these two activities and it divides the development of a society into two stages. In the case of trend 'A)' representing autocracy, where an autocratic ruler (progressive activity) is opposed to the majority of a society and its surroundings, in the first stage, the society is dominated by the ruler and in the second stage by the majority of the society. The consequence of this is the fall of the ruler.

However, in the case of trend 'B)' representing autocracy which has a support of the majority of a society, as for example elected democratic authority, in the first stage, there is domination of a society (non-progressive activity) and after crossing over point 'E' in the

second stage, there is domination of strong authorities of political, and/or economical, and/or religious, and/or other strong organizations. This also means that in the second stage, the activities based on the force created by these authorities play a more important role in the society than the legal, religious, cultural and other ideological rules and principles. Hence, these rules and principles are not appropriately respected especially by the elements, which are developing progressive activity. However, in such situations non-progressive social elements appeal to the legal, religious and cultural customs in order to defend themselves against negative progressive activities.

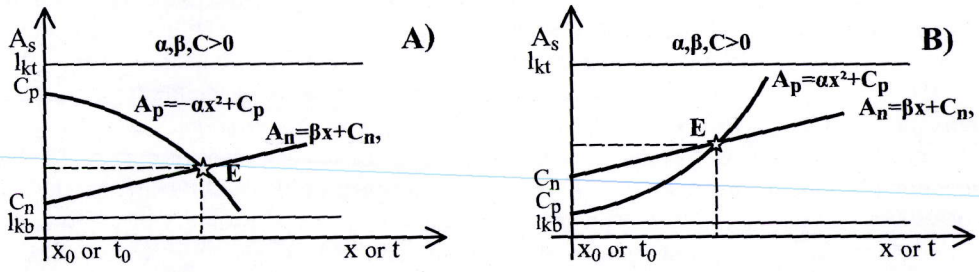

Figure 2: Dynamic relations between progressive and non-regressive activities in a society

The function of a society during the second stage of its dynamic development is intimately related to the social phenomenon commonly referred to as alienation of elites that means also alienation of individuals and organizations, which realize progressive activities. The essence of this phenomenon relies on the fact that in the first stage of the development of a society, organizations are created in order to satisfy the natural basic needs of people, and therefore they are service providers initially. However, in the second stage, when select individuals and organizations become appropriately powerful (progressive activity is high) their role changes such that the society becomes a service provider for these people and organizations. Currently, the experiences of alienation are far too numerous, as for example many important public organizations and institutions initially formed in order to realize specific functions in the social processes, have or are formally and informally transforming into pure economical organizations pursuing goals of financial profits. For example, significant alienation has been developing on a large scale with "virtual money" in mortgagee lending.

The presented two stages of the development of a society are the reason for two different ways of the function of economy. The first stage provides the conditions, which facilitate running of self-adjusting economy and spreading benefits for the entire society (Usher D., 2003). But in the second stage the situation is different: economy is very rigid and it needs to use very strong forces to control the market. This leads to progressive disobedience of law resulting in an increase in corruption and criminal activities. Currently, it is clearly obvious that our societies have already reached the second stage of their dynamic development, because there are numerous negative occurrences and syndromes resulting from the already thriving phenomenon of alienation.

Interestingly, the presented two stages of social development strictly correspond to the two stages in the development of organisms: periods of youth and ageing. The difference between the ageing period of organisms and the second stage of the development of societies involves the organism's sooner or later acceptance of its ageing and slowing down of its activity as the result of the changing DNA function. However, a society does not need to accept its ageing, and therefore it may allow its strong forces further increase activity leading to the appearance of alienation phenomena on a large scale or it may change factors of growth to revive its growth or start a new cycle of its development.

7 Steering of the Development of Autocracy

The graphic representation of the dynamics of domination (Figure 2B) shows that progressive activities accelerate the approach of a social system to the top limit 'l_{kt}' and whilst non-progressive activities also approach to the limit, their approach is slower than that of progressive activities. These properties are the reason for distinguishing the following two goals in steering of societies: 1) Do not cross over the top limit in order to avoid destructive violent processes; 2) slow down the processes of unbalancing of progressive and non-progressive activities in the second stage of the development of a society.

When the second stage of development of a system is not very advanced, these two goals may be easily achieved with discrete steering of the system through the appropriate: 1) increase of competition between progressive $A_P(t)$ and non-progressive $A_N(t)$ activities by getting the activity function in the form $A_S(t)=\alpha t^2 \pm \beta t+C$; 2) change coefficients of progressive ($\alpha=\Sigma\Sigma\pm\alpha_{kj}$) and/or non-progressive ($\beta=\Sigma\Sigma\pm\beta_{ki}$) activities. The second procedure shifts appropriately the functions $A_P(t)$ and $A_N(t)$ and the equilibrium point E. Moreover, it is also crucial not to permit an increase of any organization beyond certain limits of size and force. These limits are determined by the fact that liquidation of any organization should not be a significant event in a society. For example, liquidation of one of the organizations in the form of bankruptcy should not lead to a widespread economic crisis.

At this point, it is significant to address the issue of "freedom of speech and flow of information", which is strictly associated with the lawful processes of formation of opposite progressive organizations (activities) without which the cooperative relations in a society cannot be balanced. The greatest problem with this issue usually appears in the second stage of the development of a society when progressive activities develop an appropriately intensive competition and cooperation. At this time, these activities very often breach the right of freedom of speech and flow of information.

In the case of non-progressive activities, the issue of the formation of the value of the intensity coefficient 'β' is a different problem in comparison to the intensity coefficient '$|\alpha|$'. In the first stage of the development of a society, in order to slow down the process of approaching to the equilibrium point, it is advantageous to increase this coefficient. In the second stage, this increase is also advantageous because it slows down the development of the alienation phenomenon. However, it should always be considered that any exaggerated increase tends to push the system towards its top limits.

Because there exist many various limitations in the processes of social steering, the changes in the analysed intensity coefficients most often occur in random ways. In contrast to this, purposeful changes in social system dynamics occur through discrete shifting in the functions of progressive and non-progressive activities. Generally, the possibility of the realization of all kinds of activities and changes in a society depends on the conditions changing along with the development of the society. Therefore at some stages of the development, they can be easily realized and at other stages their realization requires the use of more or less effort and for yet other stages, there is no possibility for their realization at all. The most advantageous time to make changes is the time when progressive and non-progressive activities create equilibrium or they are close to this point. In contrast to this, the further the distance between these activities and equilibrium, the more difficult it is to introduce changes directed against the trend of autocratic development of a society. Due to this property, all societies have experienced many periods in their histories during which there were no real possibilities to avoid very destructive wars, revolutions and other socio-economic crises.

Besides the equilibrium point, the reversal of the trend in the development of a society from the direction of autocracy into the direction of liberalism is most feasible after crossing over the top limitation 'l_{kt}' by the function of activity $A_s(t)$. With this crossing, there appear two most important possibilities of change. For the first possibility, the function of progressive activity achieves the following expression of $A_p=-\alpha t^2+C_p$, creating conditions for autocracy and dictatorship [Figure 1A)]. For the second possibility, on the basis of non-progressive activities, there may be new progressive activities that form and are directed against the existing dominating organizations and they start destructive hyperbolical competition. An example of such a way of development of systems is the current phenomenon of terrorism (very progressive activity) based on the Islamic Religion (non-progressive activity). The interesting trait of this type of competition is that a relatively small increase in terroristic activity triggers off the activities of the entire societies. In the context of this as well as the efficiency of the war with terrorism, it is more advantageous to prevent terrorism through gradual improvement in the social function rather than through on open war with the existing terrorism as this is demonstrated by the lengthy wars in Afghanistan and Iraq.

Besides the presented two very important directions in the trends in social developments, there exist many more, which are connected with various activities of the elements of the system surroundings or with the change and/or revaluation of growth agents. One such possibility is shifting of the top limit (l_{kt}). This kind of change is represented by the current process of globalisation of economy that has created more space for the development of the greatest economic-financial organizations. However, even this large space is becoming very rapidly occupied and this is already creating many negative tensions (Saul J.R., 2005).

Let us look very briefly at the function of real democratic and socialistic systems in the light of the presented analysis of social steering. A democratic system was created in order to protect individual people and society from the development of exaggerated autocracy in the form of an absolute monarchy. The first step in the realization of this protection was the abolition of monarchy and the hereditary system of social divisions. Then, the next step was separation of the religious from the civil authority and division of the civil authority into

many separate authorities such as for example legislative, judicial, executive and representative elected by general or indirect elections. But the democratic system's founders did not predict that besides autocratic authorities and religious organizations, there could be other types of organizations such as economical which would increase in power along with the development of a society and become the subject of an alienation phenomenon.

When democratic societies began to experience negative problems as the result of the exaggerated increase of economic organizations and their inappropriate connections with the authorities and religions, the democratic systems allowed the creation of independent trade unions (progressive activity) opposing the economic organizations and authorities. Moreover, antimonopoly laws were introduced and there was strong emphasis on the development of competition between economic organizations that decreases the value of the coefficient '$|\alpha|$'. In addition, the democratic systems introduced many mechanisms and institutions that protect weaker people and various minority social groups. Due to this, the function of non-progressive activities has shifted, and therefore the point of equilibrium moved to the right side (Figure 2B). The other key element maintaining socio-economic activities close to the equilibrium is the development of innovating processes that have changed many agents of growth and triggered the development of new and elimination of old progressive activities.

On the other hand, the economically exploited society started to create an idea of socialism and the ways for its realization, which has mainly relied on a strong limitation of the development of progressive economic activities and on an increase in non-progressive activities. In extreme cases, limitation of progressive organizations was made through the elimination of private ownership in economy. With this limitation, the economic and technological development slowed down because the institution of private ownership in economy determines economical objects that facilitate the processes of growth, especially of progressive one. In contrary to this, the socialistic systems abolished most important limitations of authorities. According to this, in real socialistic countries of the Eastern Europe, the way of function of the authority of a political party can be compared in many ways to the function of an absolute monarchy or dictatorship. Such a solution to the function of a real socialistic authority was the reason for the socialistic societies to rapidly approach and cross over the equilibrium point. This opened the gate to the fast development of the alienation of the authorities and accelerated the approach of the systems to the top of the limits of their growth. These phenomena together with inadequate development of economy and technology were the main reasons for the failure of socialism in Eastern Europe.

On the basis of this briefly presented analysis it can be concluded that the fundamental goal of democracy and socialism is the limitation of the exaggerated development of any kind of autocracy. Therefore when in a society, the efficacy of this limitation is appropriately low then the social system becomes exaggeratedly autocratic. The transformation of democracy into exaggerated autocracy is a common process in the development of societies because independently of the use of any limitations of progressive activities and facilitations for the development of non-progressive activities, the trend in the development of every society tends towards more effective autocracy. This is the main reason for the threat to democracy and socialism.

Finally, to assist with efficient steering of the development of societies, it would be very useful to calculate on index reflecting the level of autocracy and/or liberalism in a system. Gini coefficient is one of such already existing indicators, which is calculated annually for many countries (Gini Coefficient, 2006). But what is also required is an appropriate method for comparison between the coefficients of different countries.

8 Conclusion

The presented dynamics of the development of societies show that the most fundamental direction in social development is an increase in any kind of autocracy and this corresponds strictly with an increase of appropriate social disproportions. This direction results from the common human aspiration for the increasing efficacy of our activities and the activities of our organizations. The extreme cases of autocracy are dictatorship, economic exploitations, criminal organizations and terrorism. Because in nature, it is impossible for parameters of any real system to increase in unlimited way, therefore there exist many various powerful limitations, which cause an appropriate sudden weakness and/or destruction of the system attempting to overcome these limitations. This is democracy and socialism, which aim to appropriately limit autocracy, but in reality both cannot manage to do so fully. This is because autocracy is more effective and the two dynamically different stages of the development of societies determined by the dynamic point of equilibrium of the activities of societies have not been clearly observed and taken into the consideration. Further significance of this point is that its surroundings facilitate introductions of any changes in the development of societies.

The break-through change in the development of societies can be realized only through elimination or limitation of violent processes as the result of the organization of the revolving growth of social systems. The cycle of the growth should be accomplished appropriately closely to the dynamic point of equilibrium. Such a way of steering of societies can be called democratic-conservative, because it conserves many cycles of the development and at the same time it maintains the functional parameters of the system in the interval that is the most advantageous for the majority of the society.

References:

Gini Coefficient. (2006) http://www.answer .com/topic/economics- gini-coefficient-png.

Saul J.R. (2005) The Collapse of Globalism and the Reinvention of the World: Australia, USA. Viking.

Stern N. (2006) 'Stern Review on the Economics of Climate Change': Available from: http://www.hm-tresaury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm, UK.

Turkiewicz K. and Turkiewicz D.B. (2006) Modelling of System Growth – An Insight into the Linguistic Theory of Growth: International Journal of Computing Anticipatory Systems. Volume 17, Edited by D.M. Dubois, CHAOS, Liege. pp. 354-365.

Usher D. (2003) Political Economy: USA. Blackwell Publishing.