

Long-term and Short-term Dynamics of the Economic System According to Method of Systems Potential.

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I. The General Structure of MSP-Systems.

This Report develops the item of two preceding papers [15; 16] devoted to applications of Method of Systems Potential (MSP) in economic theory. Designations and definitions in this paper are same as in preceding papers.

Method of Systems Potential (MSP) is the method for description of the Systems that arise spontaneously in course of evolution. All such Systems have the common property of identity of its origin since all these Systems arose in course of evolution process. Identity of origin (identical way of emergence) of these Systems leads to appearance of some identical structural properties in such Systems. These common structural properties determine the ability of such Systems to accumulate the useful experience and shake of useless properties. These Systems can be identified as the Complex Adaptive Systems since accumulation of useful properties and deliverance from useless properties is the adaptive search. However we do not use here this term since some different definitions of this term exists in the modern system thinking. We call these Systems the MSP-Systems since they have structure that can be described by tools of MSP. This structure fixes in the inner properties of a System the ability of such Systems to sustain its steady state on account of matter-, energy- and information exchange with environment.

MSP describes the fundamental tendencies in systems development. These are very slow changes in the structure of a System which give the noticeable effect only after the long time intervals (in long-term). The basic statements of MSP, derivation of the evolutionary equations and its solution were described in the papers [13; 14; 15].

The common MSP-structure can be represented as some scheme (**Figure 1**) consisting from 'levels' and 'flows'¹. MSP introduces three 'levels': (1) 'realized potential'; (2) 'unrealized potential' and (3) 'conditions of realization'. These 'levels' are regulated by the following 'flows':

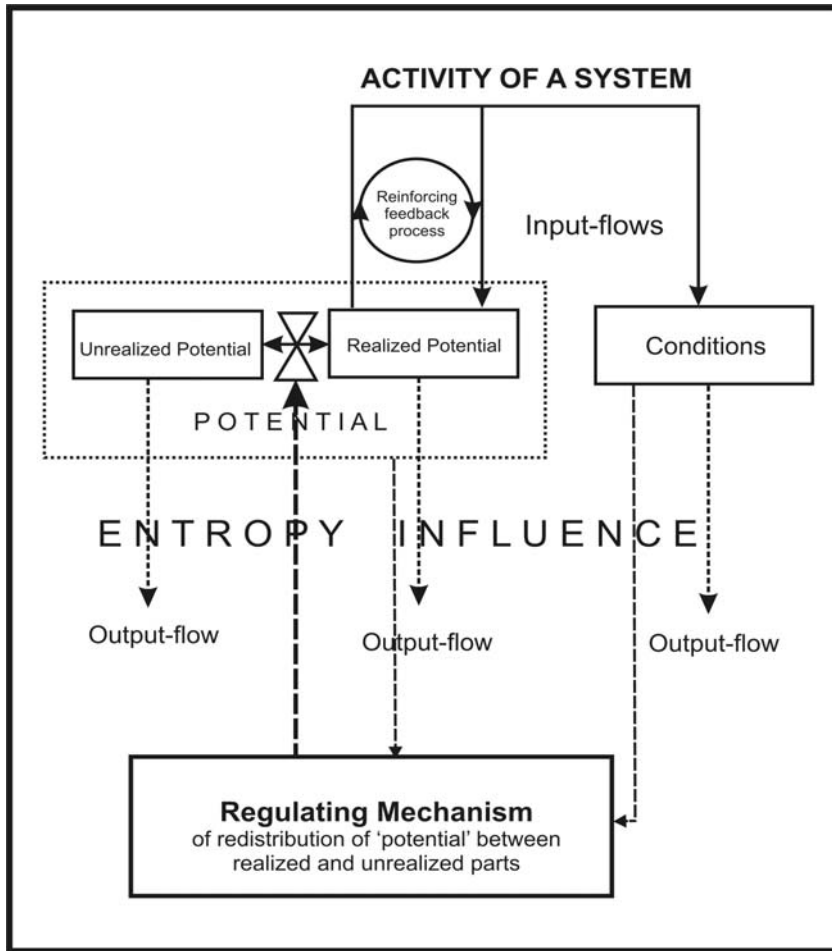
(1) 'Input-flows' on account of adaptive activity of a system and 'output-flows' on account of entropy influence;

(2) Re-distributive 'flows' of accumulated 'potential' between its 'realized' and 'unrealized' parts.

The first-type 'flows' determine the long-term dynamics of a system. 'Adaptive activity' of a system and influence of 'entropy principle' are only sources of long-term increment (decrement) in 'potential' and 'conditions of realization' of a System. MSP states that steady state can be represented as the point in the space 'wealth-density', z , - 'efficiency', R of a system. 'Wealth-density' is 'conditions' per 'potential' ratio. 'Efficiency' is 'realized potential' per entire 'potential' ratio.

¹ We can interpret this structure as the general expression of the most fundamental properties of those Systems which able to adaptive search. This is the utmost abstract representation of deep structure of the Complex Adaptive System.

Figure 1. Structure of MSP-System and scheme of its work.



Long-term dynamics is the process of change of steady state of a system. Steady state, $(z; R)$, lie on the 'upper' or 'lower' evolution branch of a system:

The 'upper' evolution branch:

$$z = z_0 \cdot R - C^{(-)} \cdot R^{-\chi} \cdot (1 - R)^{1+\chi}; \quad (1)$$

The 'lower' evolution branch:

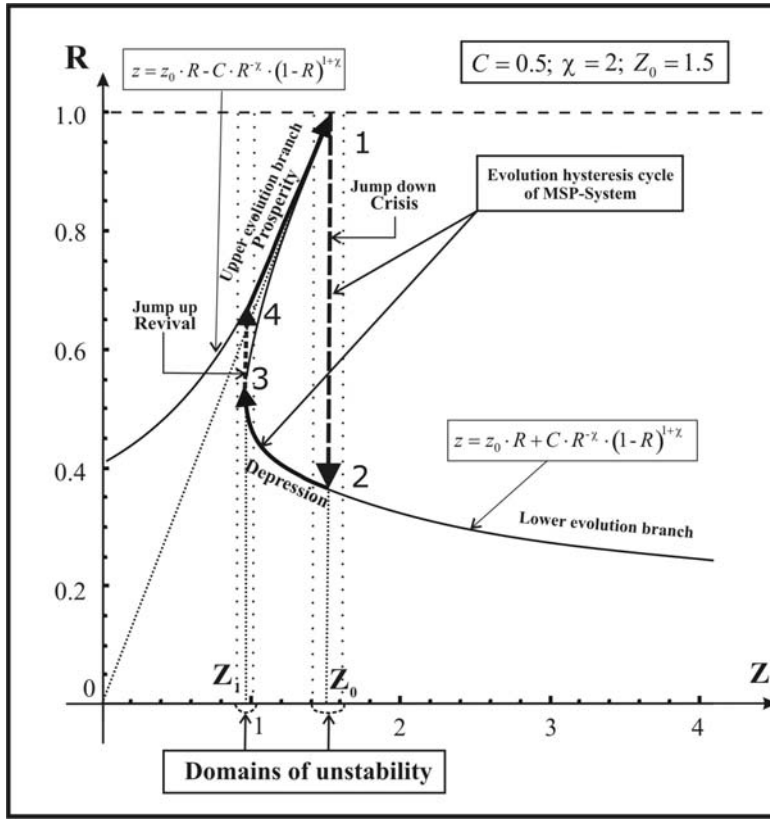
$$z = z_0 \cdot R + C^{(+)} \cdot R^{-\chi} \cdot (1 - R)^{1+\chi}. \quad (2)$$

$$z_0 = \frac{\nu}{a + \Lambda}; \quad \chi = \frac{\Lambda - d}{a + d}; \quad C^{(-)} > 0; \quad C^{(+)} > 0; \quad (3)$$

$$z = \frac{U}{\Phi}; \quad R = \frac{\Phi_R}{\Phi}.$$

Let's remind that a ; d ; ν ; Λ are the evolution parameters of a System; U - the 'conditions of realization' in a System; Φ - the 'potential' of a System and Φ_R - the 'realized part of potential' of a System. 'Efficiency' of a System, R , characterizes the degree of utilization of accumulated 'potential' in the activity of a system.

Figure 3. Evolution cycle of MSP-System; $\chi > 0$.



II. Cyclical and Non-cyclical Dynamics in MSP-Systems.

Re-distributive flows of accumulated ‘potential’ between ‘realized’ and ‘unrealized’ parts tend to turn the system into its steady state. In other words, *MSP-systems can control the value of ‘realized’ part of ‘potential’*. This control means that *re-distributive flows in a system between ‘realized’ and ‘unrealized’ parts of accumulated ‘potential’ tend diminish the deviation of ‘efficiency’ of a system from its steady state level*.

Dynamics of MSP-system is four-phases cycle as $\chi > 0$ (**Figure 3**) [15; 16]. The first-type flows determine the dynamics of a System in phases of prosperity and depression. The second-type flows predominate in revival and crisis phases. The first-type flows create the slow long-term constituent of dynamics (change in steady state) whereas the second-type flows ensure the stabilizing of steady state in short-run.

Long-term growth of efficiency of a System can be represented by logistic function². This conclusion from the general MSP-evolutionary equations as applied to

² ‘Efficiency’ of the Economic System is actual output, Y , per potential output, Y_m , ratio: $R = \frac{Y}{Y_m}$. This index can be

identified with the index of “capacity utilization” subject to inclusion of the so-called ‘technological factor’ in this index. Let’s remind that MSP-approach as applied to the Economic System postulates the following interpretations for the basic variables and parameters: 1) ‘potential’, Φ , is the ‘potential output’, Y_m , 2) ‘realized part of potential’, Φ_R , is the ‘actual output, Y , 3) ‘conditions of realization’, U , are the ‘fixed capital’, K , 4) a - rate of growth of output, 5)

the Economic MSP-System requires some explanations. We propose to consider logistic dependence as mathematical model of radical innovations diffusion in the Economic System. Many investigators of ‘long waves’ were indicating that process of diffusion of innovations leads to logistic-like form of growth in efficiency of a System [2; 7; 12]. Each phase of crisis activate the search of new methods and organizational improvements. Crisis and depression after the long prosperous period stimulate innovative processes in economy³. First, in early stages of business cycle, only small part of entrepreneurs introduces innovation since innovation is the risk. As positive effect from innovation became evident the avalanche-like process of innovation diffusion begins. As the most part of economic agents introduced innovation diffusion slow down. Thus the logistic form of growth of ‘efficiency’ can be explained as reflection of dynamics of diffusion of innovations. Maximal level of ‘efficiency’ corresponds to upper long-term equilibrium point 1 (**Figure 3**) but this is unstable point. Therefore exogenous shocks (such as crash on stock exchange for example) near this point can generate the catastrophe downward jump from the upper evolution branch on the lower evolution branch (crisis phase). Economic System falls on the lower branch (point 2) and cycle recurs. New search of innovations begins again.

We can ignore the change in stationary state in short-run. The definite level of ‘efficiency’, R , corresponds to each level of ‘wealth-density’, z . The points of evolution branches are the possible steady states of a System. Perturbations of a System lead to deviation of current state of a System from its steady state. Consequently the point of current state of a System on the plane $(z; R)$ deviates from the steady state position on account of perturbations of a System. If the current value of ‘efficiency’ is more than steady state level then System generate re-distributive flows which diminish the current ‘efficiency’ level and on the contrary if the current value of ‘efficiency’ is lesser than steady state level then a System tend to increase the ‘realized part of potential’ on account of re-distributive flows between ‘realized’ and ‘unrealized’ parts of ‘potential’. Consequently a System sustains its steady state on account of control over distribution of accumulated ‘potential’ between ‘realized’ and ‘unrealized’ parts. The processes of expansion and contraction in volumes of production of the Economy according to aggregate demand conditions correspond to re-distributive processes of the Economic MSP-System.

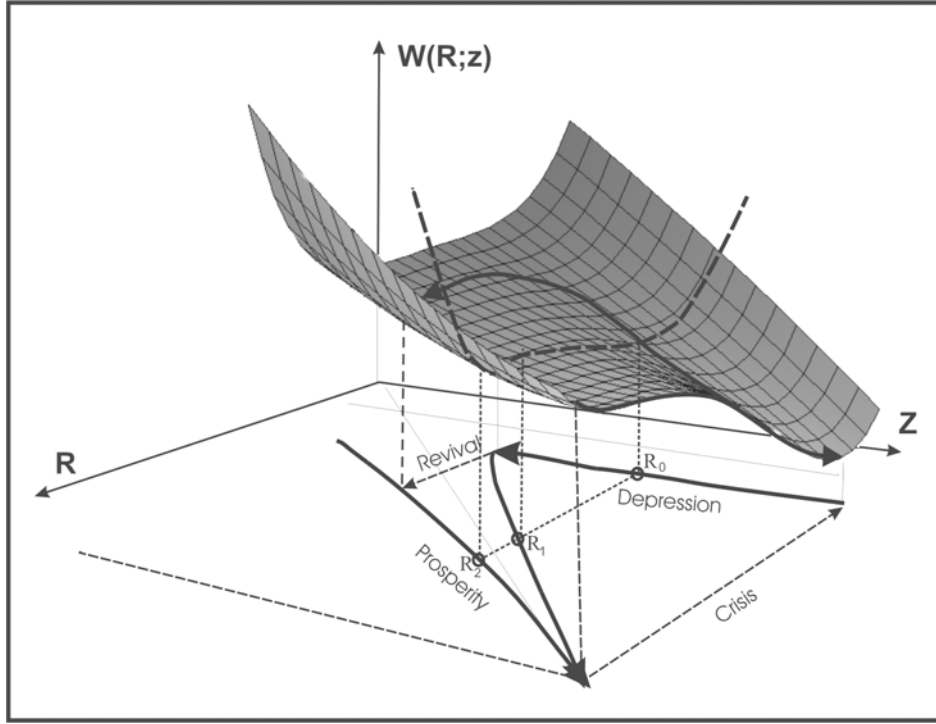
ν - rate of gross investment, 6) Λ - depreciation rate, 7) d - adjustment coefficient in the equation which describes the process of attraction of the actual output to its potential output, 8) ‘wealth-density’, $z = \frac{U}{\Phi}$, is the ‘capital’ per ‘potential

output’ ratio: $z = \frac{K}{Y_m}$ (details in [15; 16]). Many scientists were proposing the logistic approximation for the long-term

dynamics of ‘efficiency’ of a System [2; 7; 12] since just such function corresponds to process of increment in efficiency on account of diffusion of innovations in economy.

³ Some scientists discovered impulses of innovations independently from one another in 1970-80 years [6; 8; 10; 11].

Figure 4. Evolution Cycle of MSP-System as motion along the surface $W(R; z)$



The simplest mathematical model for short-run stabilizing of steady state is well-known anti-gradient system:

$$\frac{dR}{dt} = -\tilde{K} \cdot \frac{\partial W(R; z; \chi)}{\partial R}; \quad \tilde{K} \gg 0. \quad (4)$$

Auxiliary function $W(R; z; \chi)$ depends on values z and χ as parameters. Therefore we can consider z and χ as constants in short-run. One or two or three values of steady state ‘efficiency’, R , correspond to each value z . Steady state points, $(z; R)$, lie on evolution curves.

Turning points of minimum of function $W(R; z; \chi)$ correspond to stable steady states and turning points of maximum (or inflection points) of this function correspond to unstable steady states.

Let's consider the case $\chi > 0$.

When $\chi > 0$ the basic system variables change cyclically. Figure 3 shows the position of evolution branches for the positive χ . Only one steady state corresponds to each value of ‘wealth-density’ in the range $z < z_1$ and $z > z_0$. Three values of steady state ‘efficiency’ correspond to each value z in the range $z_1 < z < z_0$.

It is evident that the simplest mathematical form of the function $W(R; z; \chi)$ is four-degree polynomial of variable R . Turning points of minimum correspond to points on the upper evolution branch (range 4-1, Fig. 3) and lower part of the lower

evolution branch (range 2-3, **Fig. 3**). The upper part of lower evolution branch corresponds to unstable turning points of maximum of this function. Points z_0 and z_1 are points where stable and unstable turning points coincide (i.e. bifurcation points). These are inflection points of function $W(R; z; \chi)$. In these points catastrophe jumps take place. This is mathematical ‘cusp’ catastrophe. Catastrophe surface is described by equation $\frac{\partial W(R; z; \chi)}{\partial R} = 0$, which gives the dependence $R(z; \chi)$. Evolution curves are projections on the plane $(z; R)$ of trajectory of a System in the space $(z; R; W)^4$ (**Figure 4**).

Let's consider the second possibility, $\chi < 0$.

When $\chi < 0$, the cyclical dynamics is absent. Figures 5-6 illustrate this case. The simplest mathematical form of the function $W(R; z; \chi)$ is four-degree polynomial with one turning point of minimum and one inflection point. Therefore the equation $W'_R(R; z; \chi) = 0$ for stationary points gives only two roots for each $0 \leq z < z_1$.

⁴ In the Keynesian model short-run dynamics of output depends on investment and saving functions.

$\dot{Y} = \alpha \cdot (I(Y) - S(Y)); (\alpha > 0)$ [*], where $I(Y)$, $S(Y)$ are ex ante investment and saving functions [1]. Nicholas Kaldor (1940) [9] have demonstrated that the cyclical dynamics can arise in this model on account of S-shape form of investment and saving functions and long-term shift of these functions. Kaldor' cycles consist of two phases of gradual change of steady state ($I = S$) and two catastrophe jumps. Three equilibrium points ($I(Y) = S(Y)$) (two stable points and one unstable point) exist on account of opposite S-shape form of investment and saving functions. Slow drift of these functions lead to change in interposition of these equilibrium points. As two equilibrium points (stable and unstable) coincide the unstable inflection point of the function $W(Y) \equiv \int [I(Y) - S(Y)] \cdot dY$ arise and catastrophe jump into the new stable point takes place. These jumps can be interpreted as ‘crisis’ and ‘revival’ phases of the business cycle. Kaldor' cycles like to evolution cycles of the Economic MSP-System. Representation of Kaldor' cycle in the plane $(Y; K)$ is identical to representation of evolution cycle of the Economic System in the plane $\left(\frac{Y}{Y_m}; \frac{K}{Y_m}\right)$.

Therefore we can interpret MSP-business cycle model as some quantitative version of Kaldor' model. Short-run dynamics equation (4) as applied to the Economic System is identical to equation [*] of the Keynesian model. Since

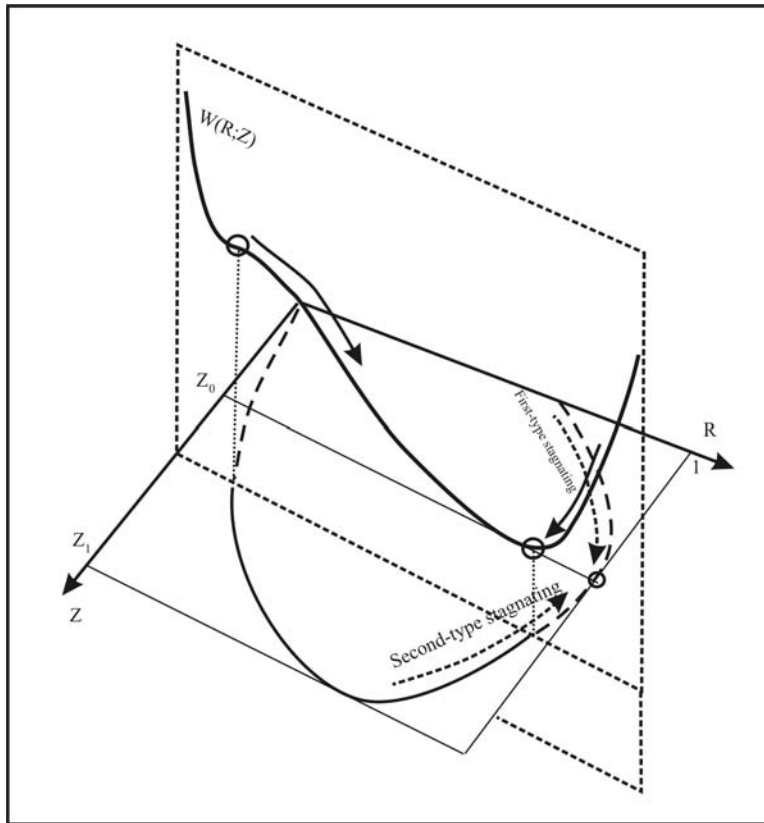
$Y_m = Const$ in short-run the following dependence between $R = \frac{Y}{Y_m}$ and $z = \frac{K}{Y_m}$ follows from equation (4):

$\dot{Y} = -\tilde{K} \cdot Y_m \cdot (R - R_1(z)) \cdot (R - R_2(z)) \cdot (R - R_3(z))$. This equation allows finding the saving function as the investment function is given: $S(Y) = I(Y) + \left(\frac{\tilde{K} \cdot Y_m}{\alpha}\right) \cdot (R - R_0(z)) \cdot (R - R_1(z)) \cdot (R - R_2(z))$.

Values $R_0(z)$, $R_1(z)$ and $R_2(z)$ correspond to three possible equilibrium steady states of a System. Function $S(Y)$ has S-shape form if the investment function $I(Y)$ has the same form. Investment function $I = \dot{K}$ can be derived from equation of capital accumulation: $\dot{K} = I(Y; K) = \nu \cdot Y - \Lambda \cdot K = Y \cdot \left(\nu - \frac{\Lambda \cdot K}{Y}\right)$. As it follows from this formula the

growth in productivity of capital, $\frac{Y}{K}$, during the depression phase of evolution cycle corresponds to upward drift of investment function and on the contrary the slow decrement in productivity of capital during the prosperous phase leads to downward drift of investment function (just such drifts take place in Kaldor' model). Consequently MSP-model and short-run dynamics (4) correspond to Keynesian-Kaldor short-run dynamics of the economy.

Figure 4. The first-type and second-type stagnations in MSP-Systems.



Three regimes of non-cyclical dynamics are possible in this case:

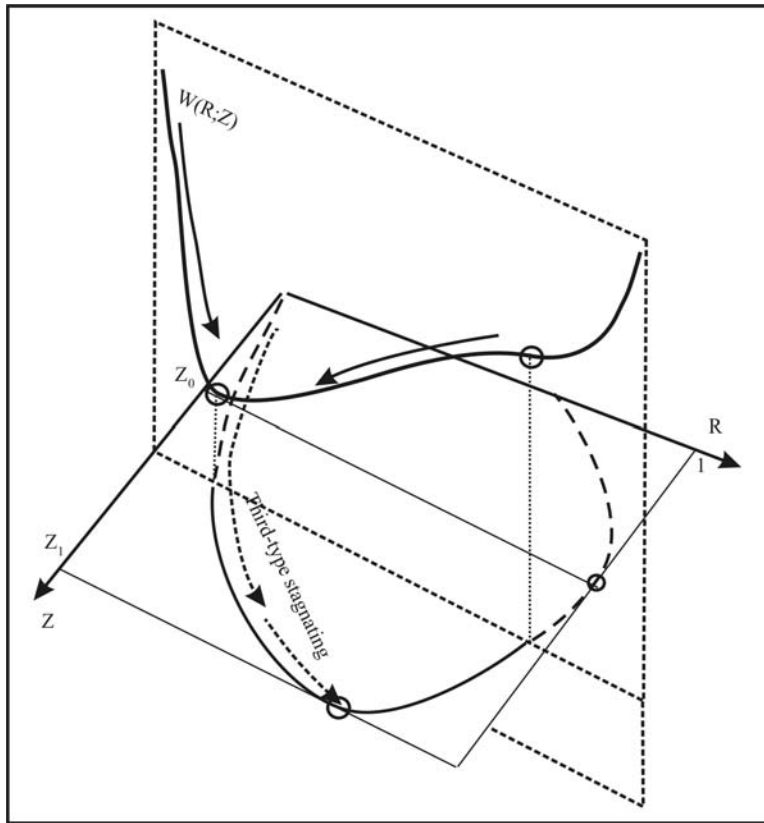
- (1) Asymptotical approach to the point $(z_0; R = 1)$ along the upper evolution branch (**Figure 5**) – the first-type stagnation,
- (2) Asymptotical approach to the point $(z_0; R = 1)$ along the upper part of the lower evolution branch (**Figure 5**) – the second-type stagnation,
- (3) Asymptotical approach to the point $(z_1; R(z_1))$ along the lower part of the lower evolution branch – the third-type stagnation (**Figure 6**).

Oscillations are absent in each regime.

III. ‘East’ and ‘West’ Ways of Evolution of MSP-Systems.

Let’s discuss the difference of Systems with cyclical and non-cyclical dynamics. Since the cyclical regime of dynamics stimulates the innovative processes in a System (this statement can be identified as one from Hegel’ dialectics laws) such Systems ($\chi > 0$) are able to spontaneous renewal. But this mechanism of spontaneous renewal is not working in Systems with negative values χ . Consequently the qualitative difference of these types of Systems ($\chi > 0$ and $\chi < 0$) must increase in course of time. J. Schumpeter’ [17] ‘innovation theory’ is the good illustration of how laws of dialectics work in the Economic System.

Figure 5. The third-type stagnation in MSP-Systems.



Each phase of crisis after the long prosperous period stimulates the active application of innovations. Statistical data justify that impulses of innovations take place during the crisis and depression phases of the business cycle [6; 8; 10; 11]. It is evident that this fact has not only economical but psychological meaning: loss after the long period of ‘good’ life acts as ‘blow of whip’ compelling to extreme acts for status quo preservation. This law acts when we consider the individual man but this is right when we consider the firms and any other economic agents and the country as a whole. Crisis after the long prosperous period activate the search and adaptation of innovations.

But this stimulus for search and application of innovations is absent in MSP-Systems when $\chi < 0$! It means that innovative activity in these Systems is much lesser than in Systems with $\chi > 0$. If the Systems with positive and negative values of χ exist simultaneously then the difference between the levels of organization of these two types of Systems will grow in course of time. Systems having the positive values χ , will renew in each new depression phase of evolution cycle whereas the Systems with negative values χ can have the invariable structure during the long periods. Only competition of these Systems with Systems where $\chi > 0$ acts as instigative stimulus for innovations. Systems with negative χ recurs the basic successful innovations of Systems with positive χ . This innovative process induced by competition with other Systems alike to evolution cycle but this process differs in

essence from evolution cycle. Systems with negative χ make the same innovations as the Systems with positive χ but some time lag takes place.

Three conditions are necessary in order to adapt innovation in MSP-System with negative χ : (1) this innovation must be adapted in some other Systems (2) results from this adaptation must ensure the definite advantages in competition with other Systems, (3) some power structure (force) must exist for realization of necessary steps in direction of adaptation of this innovation.

Consequently some force-structure must be created in Systems with negative χ in course of evolution in order to ensure the adaptation of innovations. Spontaneous innovative processes in such Systems are low power and permanent pressure from the side of some force-structure is necessary for sustain the innovative processes. The survival of such Systems subject to competition with other Systems depends on the creation of effective force-structure for adaptation of innovations. Thus the Systems with negative χ form the special force-structure as instrument for realization of adaptation of necessary innovations in a System. It is evident that such force-structure in the Economic System is the state power⁵. Radical innovations in economy with negative χ realize the state power. It is evident that the state power is stronger the global innovative process in a System as a whole is more successful. But from other hand just very strong state power make difficult the local innovative processes. Therefore some optimal correlation between force of state power and relative independence of local powers is necessary condition for successful innovative policy both on global and local levels of a System⁶. Very strong state power such as monarchy or despotism is possible in the Systems with negative χ .

Thus according to MSP-approach two forms of innovative processes are possible in MSP-Systems: 1) spontaneous innovative processes on account of stimulating of adaptation of innovations in crisis and depression phases of evolution cycle ($\chi > 0$), 2) adaptation of innovations through the special force-structure induced by competition with other Systems ($\chi < 0$).

This conclusion of MSP-analysis can be used for explanation why the history demonstrates the existence of two different types of dynamics of socio-economic systems: so-called 'East' and 'West' ways of evolution⁷. Innovative process develops faster in 'western' countries where cyclical dynamics stimulates the regular renewal

⁵ Innovative function can be realized by any administrative-command structure. History shows two basic types of such structure: (1) the strong state power alike to Ancient Egypt or China and (2) the set communes alike to Ancient India.

⁶ Search of this the best middle position is the permanent struggle between state and local powers. Emergence and destruction of empires can be understood as the result of this struggle. History of countries and civilizations can be understood as adaptive search of optimal correlations between the different levels of power in a System.

⁷ Russian historian Leonid Vasiliev [18] describes the difference between 'west' and 'east' types of systems as "the difference between ... market-private-ownership and east administrative-distributive ... structures" (p.78). He states that these are two basic structures which arose in course of evolution. He considers the properties of the 'east' structure and concludes that this is very stable structure which exist during many centuries in the different forms. Moreover the 'west' structure which lie in the base of the modern European and other advanced countries arose in ancient Greece as remarkable mutation of traditional 'east' structure.

of the economy whereas the adaptation of innovations in other countries needs the permanent pressing of some force-structure.

Perhaps western democratic countries can be interpreted as MSP-Systems with positive values χ , whereas the ancient east despotic states can be identified as MSP-Systems with negative χ . Russia during the many centuries (and perhaps even at present!) had negative value χ . This is hypothesis of course but this hypothesis explains many facts of Russian history. In particularly this hypothesis explains why reforms prepared on the basis of the most advanced western economic theories have led the country to degradation and very deep depression. Why entrepreneurs in Russian refrain from active long-term investments and only power state realizes the large investment projects? Many particular causes exist in each case of abstention of entrepreneurs from long-term investment. Perhaps many causes are the consequences of the evolution properties of Russian Economic System which as the System with negative χ , unable to spontaneous long-term investment and needs in pressing of strong force-structure.

Frames of this Report do not allow discussing this point in details. Let's indicate only that the difference between MSP-Systems with positive and negative values χ do not consists only in the difference of its dynamical properties (cyclical dynamics for the Systems with $\chi > 0$ and non-cyclical dynamics for the Systems with $\chi < 0$). Other fundamental difference can be established when we consider the ensembles of identical MSP-Systems with positive or negative values χ . Unification of ensemble within some new MSP-System allows obtaining the additional increment in 'potential' of united MSP-System if only the members of ensemble have the negative value χ . And on the contrary unification of ensemble gives decrement in full 'potential' of united MSP-System as compare with sum of 'potential' of isolated Systems if members of this ensemble have the positive values χ ⁸.

When $\chi < 0$ the increment in 'potential' of united System created on account of unification of some MSP-System is positive. Consequently unification in a unit wholeness is favorably. Mathematically this favor depends on convex-concave

⁸ This statement is based on Theorem which states that MSP-System composed from some MSP-Systems with identical evolution parameters have the same evolution parameters. Evidence of this Theorem was given in paper [14]. Let U_1, U_2, U ; Φ_1, Φ_2, Φ - "conditions" and "potential" of two Systems from ensemble and united System. Let $\Phi = \Phi_1 + \Phi_2 + \Phi_{12}$, $U = U_1 + U_2 + U_{12}$ and since $\Phi_{12} = 0$, $U_{12} = 0$ in initial moment of origin of new united System:

$$\dot{\Phi} = \dot{\Phi}_1 + \dot{\Phi}_2 + \dot{\Phi}_{12} = (a+d) \cdot (\Phi_1 \cdot R(z_1) + \Phi_2 \cdot R(z_2)) - d \cdot \Phi + \dot{\Phi}_{12}.$$

From evolution equation $\dot{\Phi} = (a+d) \cdot R(z) - d \cdot \Phi$ follows $\dot{\Phi}_{12} = (a+d) \cdot (R(z) - (\Phi_1 \cdot R(z_1) + \Phi_2 \cdot R(z_2)))$. Let's

introduce designation $\gamma \equiv \frac{\Phi_1}{\Phi_1 + \Phi_2}$. Since $z = \gamma \cdot z_1 + (1-\gamma) \cdot z_2$, we calculate the following formula for increment in

the 'potential' of united System on account of process of unification:

$\dot{\Phi}_{12} = (a+d) \cdot \Phi \cdot [R(\gamma \cdot z_1 + (1-\gamma) \cdot z_2) - (\gamma \cdot R(z_1) + (1-\gamma) \cdot R(z_2))]$. Consequently this increment will be positive if the function $R(z)$ is convex ($\chi < 0$ and $\dot{\Phi}_{12} > 0$) and negative if the function $R(z)$ is concave ($\chi > 0$ and $\dot{\Phi}_{12} < 0$).

properties of function $R(z)$ ⁹. We can assume that *Systems with $\chi < 0$ will develop through consolidation in a united wholeness and creation of some force-structure that must sustain the renewal of economy. Strong state power and tendency to consolidation are the typical properties of ‘east-type’ economic systems*¹⁰. ‘East’ systems (such as ancient China for example) were developing historically through strengthening of state regulation and growth of administrative management. We can identify this line of development as the typical evolution of MSP-Systems with negative χ . Despotism, dictatorship and monarchy are adequate political forms in such Systems.

Unification of some identical Systems with $\chi > 0$ lead in prosperous phase to decrement in ‘potential’ of united System as compare with sum of ‘potentials’ of separate Systems. Consequently the unification is not favorable. On the contrary just separate existence is favorable in this phase of evolution cycle. *Private ownership system arises in ensemble of systems with $\chi > 0$ as institute that ensures the separate existence of economic agents and preserve ensemble from collapse. State power and administrative system in such ensemble ensure the observance of private ownership rights. Since institute of private ownership in MSP-Systems with $\chi > 0$ is the necessary tool of its effective functioning the legal fixation of all nuances of realization of private ownership rights became the necessary procedure in order to ensure the reliable work of a System. Such necessity is absent in the Systems with $\chi < 0$.*

IV. Conclusions.

MSP is very abstract method. But it allow to conclude that two types of MSP-Systems exist:

1) In the Systems with $\chi > 0$ first, the periodical renewal of economy take place, second, unification of economic agents into a united wholeness is not favorable, and third, private ownership preserve the separate existence of agents from the general collapse.

⁹ This simple dependence between convex-concave properties of function $R(z)$ and sign of additional increment of ‘potential’ obtained due to unification of some Systems in a united System exists only in the simplest above considered case. More exact consideration of this task about the increment of ‘potential’ on account of unification of some MSP-System in a united MSP-System gives analogous results but the simple connection between sign of increment and convex-concave properties of function $R(z)$ is not take place in the general case. Disintegrative forces act only in prosperous phase if we consider ensemble with positive χ . These forces lead to creation of system of private ownership institutes. Consolidating forces act in depression phase. These forces lead first to sharp growth of merges and acquisitions and second to increase of governmental influence in economy [3; 5; 13]. The most part of first-type and third-type stagnating Systems tend to consolidate in a united MSP-System but the disintegrating forces act in ensembles of the second-type stagnating Systems.

¹⁰ This conclusion from analysis of mathematical properties of ensemble of MSP-systems with identical parameters completely corresponds to Vasiliev’ [18] results derived on the basis of his analysis of historical facts.

2) In the Systems with $\chi < 0$ first, the process of spontaneous renewal of economy is very low-power, second, the consolidation of agents in a united wholeness is favorable and, third, the role of state power consists in consolidation of agents within a united System and realization of opportune innovations.

Stimulus for creation of effective private ownership system is absent in the Systems with $\chi < 0$. Just administrative-command (state and local) system realizes the global modifications in the economy. Very good description of the difference between ‘west’ and ‘east’ ways of evolution is given in [4; 18].

Thus according to MSP-approach the difference between ‘East’ and ‘West’ types of structures arise as consequence of difference of evolution properties of MSP-Systems. Sign χ determine the type of a System. MSP propose to consider MSP-Systems with $\chi > 0$ as ‘West-type’ Systems and on the contrary MSP-Systems with $\chi < 0$ as ‘East-type’ Systems. Value χ depends on difference between rates of entropic depreciation in ‘conditions’, Λ , and in ‘potential’, d since $\chi \equiv \frac{\Lambda - d}{a + d}$. If ‘conditions’ in a System degenerate faster than ‘potential’ ($\Lambda > d$) on account of entropy influence then parameter $\chi > 0$ and spontaneous periodical renewal of economy takes place. In the opposite case ($\Lambda < d$) parameter $\chi < 0$ and the spontaneous renewal is slack.

Can we control values of evolution parameters, Λ and d ? We think that it is possible since parameter d at least depends on the state policy. Since ‘potential’ of MSP-System depends on available resources i.e. stocks of accumulated physical and human capitals; technologies; organizational methods and etc., it is evident that policy of diminishing of parameter d (and consequently growth of parameter Λ) **consists in protection and preservation of accumulated ‘potential’**. It means the system of measures which ensure the tactful relation to each constituent of ‘potential’. Such policy in respect to the basic constituent, i.e. man, means the development of effective system of health services; education; the sustaining of the definite level of life and tendency to optimal application of human ‘potential’. The mortality index depends on such policy directly. Therefore mortality index demonstrate whether this policy successful or no. Unfortunately the reforms beginning after 1990 did not contribute to diminishing of value d . Visa versa reforms have led to sharp growth of mortality index¹¹.

¹¹ In the Report of Commission on problems of Women, Family and Demography at the President of Russia 04/02/97 “About the Modern state of mortality of population in Russian Federation” the following figures were given: “From 1989 to 1995 the number of dead man increased from 1,6 millions persons in 1989 by 2,2 millions persons in 1995 whereas the number of birthed man decreased from 2,2 millions persons by 1,4 millions persons...In 1995 as compare with 1960 ... mortality index of workable population increased in 2,1 times... From 1990 to 1995 mortality of workable men and women increased in 1,6 and 1,5 times respectively. Rate of growth of mortality was maximal in groups 30-39 and 40-49 ages”. Report contains many terrible facts which allow conclude that policy during 1990-95 have led the Russian Economic System to sharp growth of parameter d and consequently to diminishing of parameter χ . It means that policy, which declared the ‘private ownership freedom’, in actually worked as instrument of strengthening of administrative-command system. Creation of mafia-structure in scale of society and giant corrupted bureaucratic system is the direct consequence of 1990-1995 policies.

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