

Economic Dualism, Systems Approach and Regulation of Market Economies

YURI YEVDOKIMOV ⁱ

Market economy is a system that consists of inter-related individual elements such as private economic agents, private-public partnerships, state corporations and state institutions. Such a system possesses individual features of each element as well as systemic features. This is what is called economic dualism in this paper. This interpretation of economic dualism is compared to its traditional interpretation. Basic characteristics of the systems view on market economy are discussed. Some illustrations of a system organization of economy, specifically network organization, are presented. Major conclusion that comes out of this approach is: Systems view on market economy requires its regulation on the basis of a systems approach to correct for market failures and systemic risk. The paper explains what it means from an economic standpoint.

Keywords: dualism, market economy, regulation, risk, system.

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Introduction. Traditional interpretation of economic dualism refers to co-existence of two or more economic systems in a country at the same time. More specifically, the concept of economic dualism differentiates between two sectors of economy:

- The traditional subsistence sector consists of small-scale agriculture, handicraft and petty trade; it has a high degree of labour intensity but low capital intensity and little division of labour;
- The modern sector of capital-intensive industry and plantation agriculture produces for the world market with a capital-intensive mode of production with a high division of labour.

Originally the term was used to describe countries in early stages of their development since those countries possessed both primitive agricultural subsistence-like economic relations with emerging industrialization at the same time. This interpretation mostly has grown out of work of W. Arthur Lewis (1954).

Later the term economic dualism was applied to countries with co-existence of pre-industrialized and industrialized societies at the same time or combination of traditions with new productive processes. History of economic thought has shown this co-existence over time and space as well as changing relative importance of pre-industrial and industrial institutions at any given point in time.

Finally the concept of economic dualism was applied to the so-called economies in transition. In this framework, dualism implied co-existence of private firms with state-owned firms competing in the same market. Private firms were regarded as profit maximizing while state-owned firms were being subsidized by the state. While in some former socialist countries the period in which the two coexisted was rather brief, in some others, including Russia and Ukraine, this pattern still exists although it took some other forms. According to economic

ⁱⁱ Yuri Yevdokimov, PhD, Professor of Department of Economics, University of New Brunswick, Fredericton, Canada.

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literature (see, for example, Bonatti and Haiduk, 2010), the larger is the initial fraction of the workforce employed in the state-owned firms and the stronger is the degree of ideological hostility towards market forces, the lower is the speed at which an economy in question will converge to the income level of the most advanced countries.

Those are simple stylized facts with respect to economic dualism described in mainstream economic literature. Dualism discussed in this paper is of different nature. It arises as a result of re-thinking the role of the state in modern economies. Latest economic and financial crisis of 2007–2009 once again raised the question about efficiency of various economic systems and put under serious critique the supremacy of capitalism as the best economic system. The relationship between free market and the state again came under radar of all schools of economic thought. Therefore, in this paper we will address some of those issues in the framework of a systems approach which led us to new interpretation of economic dualism.

Individualism versus collectivism in the framework of a systems approach

Discussion of individualism versus collectivism in general is not about their philosophical, economic or political interpretations. These ideas live in any society regardless of our attitude towards them. Each of us is an individual with specific individual characteristics that distinguish us from any other individual. In turn, each of us is a part of social group – professional, religious, or any other. It appears to be that we, as human beings, are both individuals and a part of a group at the same time.

From a standpoint of a systems approach, any society is a system that consists of individual elements organized in a system. Therefore, co-existence of individual characteristics along with system's characteristics is natural and organic. Moreover, it is a well-known fact within the framework of systems analysis that a set of optimal individual elements in a system does not necessarily imply optimal system. In other words, there are individual characteristics and there are systemic characteristics and there is some relationship between them.

For many years individualism has been seen as fundamental philosophy of a capitalist society. Allan Myers (2012), for example, writes: *"Individualism as an ideology arose with the beginnings of capitalism. The idea that each of us is unique and should be free to do as we like (as long as we don't injure another individual) corresponded to a society of market relations, in which people are connected with one another only through buying and selling. In the market, everyone is free to make their own decision about what to buy and sell, without any outside input"*.

With passage of time this reasoning became the backbone of a free market capitalist economy. It has been studied by economists and has been taught at schools, colleges and universities. Eventually it became the mainstream of economic thought. This philosophy in economics became known as "invisible hand of the market" first introduced by Adam Smith in 1759 in *The Theory of Moral Sentiments*. However, it is necessary to note that while majority of economists advocate this concept in their academic writings, at the same time they see themselves as a part of a team or a group or society as a whole in their professional and everyday life.

As already stated, economic system is a social system that consists of elements and as such it possesses some individual features as well as systemic features. It turns out that philosophy of individualism is unable to describe and analyze systemic features in principle, and therefore, it should be reconsidered all together. In fact, financial crisis of 2007–2009 was a good illustration of individual behavior versus systemic behavior. At the beginning of the

crisis, majority of business professionals in financial markets were able to see their own risk but they did not see systemic risk. They acted according to individual rationalism, which is another backbone of a capitalist economy. Eventually this rationalism was lost and replaced by crowd behavior during crisis which negatively affected financial markets and, as result, all developed economies. In our opinion, it would never happen if systems rationalism was employed instead of individual rationalism. Then we saw that all developed economies applied pragmatic approach of government intervention into economies to correct the newly appeared market failures. On the other hand, critical situation would never happen if the whole economic system was subject to monitoring on the basis of a systems approach or rather systemic rationalism at the very beginning.

The systems approach is a powerful paradigm for understanding interrelationships. The systems approach simply states that all functions or activities need to be understood in terms of how they affect, and are affected, by other elements and activities with which they interact. The idea is that if we look at actions in isolation, we will not understand how such actions affect or are affected by other activities. In an economic sense, total economic value of a system is greater than the sum of values of its individual elements.

Economic dualism as coexistence of individual and systemic features

Here comes our first interpretation of dualism as coexistence of individual and system's characteristics at the same time that are taken into account simultaneously. It is useful to start with discovery made by Noble Prize Winner microbiologist Werner Arber. He argued with respect to genetic variation of bacteria that

A philosophical conceptual aspect of the actual scientific knowledge on genetic variation is the rather unexpected conclusion of a duality of the genome. Besides a majority of genes serving to each individual organism to fulfill its own life, the genome also carries genes enabling populations of organisms to undergo biological evolution. This can be seen as the basis for the expansion of forms of life, that is, for biodiversity (Arber, 2011)

In other words, genetics underlies not just existence and development of individual biological organism but also evolution of the whole population in which this organism belongs. It can be applied to economic systems as well. However, dualism described by Arber, once again emphasizes coexistence of individual and social characteristics in a system at the same time. Both are needed for the development of the system. More importantly, presence of the social element is necessary for the system's evolution.

For many years, ideological dispute between capitalism and socialism has been around relationship between individualism and collectivism. Capitalism was associated with individualism while socialism was associated with collectivism. However, as usual the truth is somewhere in between: Individualism and collectivism are both needed for the development and evolution of economic systems. Therefore, philosophy of capitalism should be reconsidered to take into account the systems approach while preserving its individualistic features.

Economic dualism and network organization

The dual wave-particle nature of light is fundamental part of the modern theory of light. It states that light exhibits the behaviors of both waves and particles, depending upon the circumstances of the experiment. Economic systems are also subject to similar dualism: On the one hand, there are discrete and well defined economic agents – producers, consumers, government and others, but on the other hand, they all are combined in time and space as some

specific distinguished entity. Once again, this interpretation of economic dualism points to the systems organization of economy. As stated above, a system in economic sense is associated with higher value than the sum of values of its elements. In systems analysis this phenomenon is known as synergy. In economic theory, it can be also explained by increasing returns to scale arising in an economic system that combines various factors of production or various economic agents. Among other possibilities, increasing returns to scale can arise because of positive externalities that appear in a system or systemic externalities.

In this regard, network view on organization of production and consumption in economics is an example of the systems approach. It can also provide some explanation for the existence of positive or negative systemic externalities. Taking a systems approach to networks implies thinking about the network across its total life cycle. Evaluators of network elements need to understand how their choice of one element affects the total costs of the network and the value of the entire network. Why is this so important? Because it can create the security, scale and performance that is needed while keeping overall costs minimized or in economic terms it increases the overall efficiency.

For example, if we treat economic system as a network, then there exist the so-called network externalities. Network externalities are the effects on a user of a product or service of others using the same or compatible products or services. Positive network externalities exist if the benefits are an increasing function of the number of other users. Negative network externalities exist if the benefits are a decreasing function of the number of other users (see economics.about.com)

For example, Metcalfe's law (see Shapiro and Varian, 1999) states that total value of a network to its users grows as the square of the total number of its users. Even mainstream economics claims that in the presence of externalities individual behaviour does not lead to socially optimal outcome or "invisible hand of the market" breaks down. In such a case, as explained in all economic textbooks, government intervention can improve overall efficiency of the entire system. Of course, there are some negative externalities as well that can increase the so-called systemic risk which is not recognized by individuals as well. As in the case with positive externalities, government intervention can improve upon efficiency of the entire system.

Latest economic crisis resulted in market failures in financial sector which spilled over the world economic system. And again if it was recognized that financial markets possess features of networks it would be possible to detect these market failures including systemic risk and prevent it before the crisis hit. It would be possible, for example, if there was some analog of a system administrator as in computer networks. It means that more effective level of security is possible when all aspects of an economic system can work together, and timely information critical to deterring, preventing, or responding to a crisis event is available system-wide.

Relationship between markets and the state in modern market economy

The above discussion was introduced in order to propose our vision of the effective relationship between markets and the state in a market economy. First, it is necessary to recognize a systems organization of an economy. This system is a combination of private economic agents, private-public partnerships, state corporations and state institutions. There is no such a thing as pure market economy driven by invisible hand of the market. All economies are of the mixed type; however, the degree of such mix varies across countries.

Each element of such a system whether it is an individual entrepreneur or a state corporation plays its role and is associated with specific individual characteristics. However,

they all are combined in a system whether it is a hierarchical system with vertical and horizontal linkages or a network. We call this type of organization of economic system economic dualism and address it in the framework of the systems approach. Any system is associated with positive and negative externalities as well as systemic risk which are neither recognized nor observed by individual economic agents. If such a system is left totally unregulated, it would lead to inefficiencies and suboptimal decisions from a systems approach standpoint. Therefore, in our opinion, there should be some kind of system's regulation and oversight.

In general, regulation can be of two types: (i) command and control, and (ii) incentive based. Command and control regulation is based on centralized management and strict top-down enforcement of administrative commands. As mainstream economic theory states and practice shows this type of regulation leads to its own inefficiencies.

Incentive based regulation is associated with a set of well-defined economic rules to guide individual behaviour to a socially desired optimum. Therefore, major problem in such a case is the design of such set of rules. For example, the so-called inflation targeting is a monetary rule that defines some interval for inflation to move in. This is achieved by a variety of monetary transactions associated with the rule. Eventually it anchors inflationary expectations of individual economic agents and significantly reduces systemic risk and uncertainty in an economy. Some countries introduced fiscal rules that govern budget deficits and/or surpluses in their economies. In general, rules are transparent and well-understood by economic agents, which cause their predictable behaviour as well as predictable behaviour of the whole economic system.

Design of such rules is based on specific features of economy under question. Eventually it eliminates the so-called command and control, administrative or what is called "manual regime of economic management" or simply manual management popular in economies in transition. Manual management implies that government or any other authority makes decisions on critical points in economy every time these points arise, and the decisions made can be different in similar situations. Instead of the so-called automatic stabilizers and systemic view, in such a case economy becomes a subject to unpredictable voluntaristic subjective decisions. However, if we accept the statement that economy is a system, then we have to accept the statement that it cannot be a subject of manual management in principle.

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Экономический дуализм: системный подход и регулирование рыночных экономик

ЮРИЙ ВАЛЕНТИНОВИЧ ЄВДОКИМОВ*

** доктор економіки, професор кафедри економіки,
Університет Нью-Брансвік, Фредріктон, Канада
465 Singer Hall, Фредріктон, Канада,
тел.: 00-1-506-447-3221, e-mail: yuri@unb.ca*

Рыночная экономика представляет собой систему, которая состоит из взаимосвязанных отдельных элементов, таких как экономические агенты, государственно-частное партнерство, государственные корпорации и государственные учреждения. Такая система обладает как индивидуальными особенностями каждого элемента, так и системными свойствами. Это то, что в этой статье называется экономическим дуализмом. Такая интерпретация экономического дуализма в работе сравнивается с его традиционной интерпретацией. В работе рассматриваются основные характеристики системного подхода на рыночную экономику. Также анализируются примеры системной организации экономики, в частности, сетевые организации. Основным результатом работы является то, что системный взгляд на рыночную экономику требует ее регулирования на основе системного подхода к исправлению недостатков рыночной экономики и системных рисков. В исследовании также рассматривается системный подход к регулированию экономической системы.

Ключевые слова: дуализм, рыночная экономика, регулирование, риск, система.

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Економічний дуалізм: системний підхід і регулювання ринкових економік

ЮРІЙ ВАЛЕНТИНОВИЧ ЄВДОКИМОВ*

** доктор економіки, професор кафедри економіки,
Університет Нью-Брансвік, Фредріктон, Канада,
465 Singer Hall, Фредріктон, Канада,
тел.: 00-1-506-447-3221, e-mail: yuri@unb.ca*

Ринкова економіка являє собою систему, що складається із взаємопов'язаних окремих елементів, таких як економічні агенти, державно-приватне партнерство, державні корпорації і державні установи. Така система має як індивідуальні особливості кожного елемента, так і системні властивості. Це те, що в цій статті називається економічним дуалізмом. Така інтерпретація економічного дуалізму в роботі порівнюється з його традиційною інтерпретацією. У роботі розглядаються основні характеристики системного підходу на ринкову економіку. Також аналізуються приклади системної організації економіки, зокрема, мережеві організації. Основним результатом роботи є те, що системний погляд на ринкову економіку вимагає її регулювання на основі системного підходу до виправлення недоліків ринкової економіки та системних ризиків. У дослідженні також розглядається системний підхід до регулювання економічної системи.

Ключові слова: дуалізм, регулювання, ризик, ринкова економіка, система.

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