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Disbalances in inefficient equilibrium states in “vertical” relationships of agents

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Disbalances in inefficient equilibrium states in “vertical” relationships of agents

Abstract

The problem of identification of efficient economic conditions, arising from the «vertical» agents’ relationship, is considered. It’s shown that the application of classical concepts of market failure to estimate the intracorporate relationships is inexpedient. The application of the principal-agent theory using the concept of disbalances is considered. A number of examples of the interaction between economic agents, the eventual failure of whose can be proved by disbalances given. The pattern of evolutionary transformation of relationship, characterized by coordinating or strategic disbalance, is described for Pareto inefficient conditions and norms.

Keywords: *efficiency, economic agents’ relationship, disbalances*

JEL code: C02; C62; H30

Introduction

One of the methodologies for modeling interaction with asymmetric information is the principal-agent theory (Stiglitz, 1987).

Representation of the interaction of economic agents, primarily in so-called “vertical” relations, in the form of a “principal – agent” system, is widely used in economic theory, primarily institutional. The theory of the principal and the agent is not institutional (at least, not inherent in a purely institutional paradigm and can be fully applied within the limits of both neoclassical economic theory and other non-institutional directions) but it follows quite naturally from a purely institutional logical

chain: consideration of the transaction cost in economic models – risk category – theory of contracts (one of the directions of institutional economic theory) – opportunism (already a completely institutional category) “ex-ante” and “ex-post” – finally, the theory of principal and agent.

Within its framework, we consider the problems caused by asymmetry of information: asymmetry before the conclusion of the contract (ex-ante) – the problem of adverse selection – the choice of the principal not the most effective agent to perform the work; asymmetry after the conclusion of the contract (sometimes during its execution) (ex-post) – the problem of moral hazard – improper performance of duties by the agent (in the classic formulation of the problem) and/or the principal (in the extended formulation).

These problems are considered in sufficient detail in the scientific literature. Thus, the problem of moral (subjective) risk, the cause of which is opportunistic behavior, was studied by Oliver Williamson (1985) (the definitions of “subjective risk” and “opportunistic behavior” also belong to him).

At the same time, neither adverse selection nor moral hazard, in our opinion, are manifestations of market failures, since in both cases there is only a redistribution of the same amount of goods between counterparties, so, we can't about any Pareto improvement under the condition of neo-opportunistic behavior or direct selection.

Therefore, any distribution cannot be considered Pareto inefficient, i.e., market failure. In fact, we have two subjects, each of which tries to maximize its profit. But the same thing happens, e.g., during the conclusion of a deal between principal and agent (type of work, income distribution). In this case, we also observe the parties following their own interests, in the complete absence of signs of opportunistic behavior or moral hazard. The principal's costs for the agent's salary and control of his activities (regardless of whether the latter acts opportunistically or not) may well be positioned as costs for the production of a good, i.e. they no different from the usual costs for the acquisition and processing of resources in the production process.

There are ineffective situations, the causes and factors of which remain unexplained within the limits of the classical system of market failures.

In addition to the “principal-agent” theory, we propose to research these situations, disbalance concept, that is caused by research on one of the conditions of market failure, namely, cognitive limitations. It's a pretty general factor to be a real factor of market failure, so for its specification, we identify 3 phenomena that are caused a cognitive limitation: short-sighted behavior of agents, insufficient coordination of interaction between agents, and asymmetry of information available to agents (clearly, the first point concerns the individual behavior of agents, and the second and third – mutual) that formed the basis of 3 relevant disbalances.

Presentation of the main research material

Government failure

The conditions (reasons) for government failure are the following restrictions (Stiglitz, 1999):

- ✓ restrictions on information (receiving, evaluating, processing);
- ✓ restrictions on control over the implementation of management decisions (actually, this is a special case of the previous point);
- ✓ limitation of influence on the bureaucracy (in other words, inefficient management);
- ✓ restrictions caused by political processes.

The government is not big enough to run the country effectively. So, to fulfill this mission, the government hires an apparatus of civil servants, i.e. bureaucrats. In fact, we have a situation of “principal – agent” relationship with all its properties, advantages, and disadvantages. In particular, the interests of the agents do not necessarily coincide with the interests of the principal, the agents have informational advantages over the principal regarding their activities and can use opportunistic behavior. This causes the government to refuse the second and third points.

The analysis of state failures shows that they are also explained to a considerable extent by the presence of disbalances. The first failure in general directly indicates the presence of information disbalance, the second, as follows from the text, is a special case of the first. In general, the asymmetry of information characteristic of the principal-agent relationship is inherent in all government failures (and this would be

quite enough), but, in addition, the incoherence of the bureaucracy's management actions clearly indicates a coordination disbalance, and the constraints caused by political processes can actually be conditioned by the strategic “short-sightedness” of the executive power, which prefers achieving local goals of re-election to the parliament before solving global economic problems.

Opportunistic behavior

The reason for opportunistic behavior, as noted above, is the asymmetry of information ex-post, that is, in this case, we observe an information disbalance.

The consequence of the incompleteness of information and knowledge, arising on the basis of limited attention and intelligence, is not only limited rationality but also opportunistic behavior – due to the presence of contradictions in the economic interests of decision-makers. In the theory of contracts and other directions of economic theory, the behavior of an individual who evades the terms of compliance with the contract in order to obtain profit at the expense of partners is called opportunistic. It is about any form of violation of assumed duties. A utility-maximizing individual will behave opportunistically (e.g., provide a lower volume and lower quality service) when the other person is unable to establish this fact. Opportunistic behavior can take the form of extortion or blackmail when the indispensable role of some team members becomes apparent. Using their relative advantages, such team members can demand special working conditions or pay, blackmailing others with the threat of termination of cooperation. In the neoclassical theory, there was no place for opportunistic behavior, since the possession of perfect information excludes its possibility. In the institutional economy, compared to the neoclassical one, individuals, having established priorities, maximize utility not only in the field of consumer choice but also in all their actions.

Moral hazard

Moral risk is a special case of opportunistic behavior, but it is quite special, so it is advisable to consider it separately. Clearly, the cause of moral risk, as well as opportunistic behavior is the asymmetry of information, but ex-ante, i.e. there is also an information disbalance.

The opportunistic behavior cost is caused by information asymmetry, although it is not limited to it. After concluding the deal, dishonest individuals will minimally fulfill these conditions or avoid them at all (if there are no sanctions or ones that are ineffective). The phenomenon of avoiding the execution of a contract after its conclusion to increase one's own utility function is called a moral (subjective) (see Williamson (1985)) hazard. In this understanding, the concept of moral hazard is a narrowing of the concept of opportunistic behavior. However, they are sometimes used interchangeably: the literature describing formal principal-agent relationships uses the term “subjective hazard”, while the transactional literature uses the term “opportunism”. Usually, moral hazard can be clearly separated from “adverse selection”, i.e., opportunistic behavior before concluding an contract, when one of the parties hides the information available to it, which allows it to achieve a profit when concluding an contract at the expense of oppressing the interests of the other), and both of these cases fall under the concept of opportunistic behavior.

The moral hazard increases too much in conditions of collective cooperation, i.e. working as a “team”, when it is difficult to clearly separate the contribution of everyone from the efforts of other team members, especially if the potential capabilities of individual counterparties are not fully known. This causes the appearance of the so-called “hare problem” – the behavior of agents, characteristic of the “collective good” situation.

Free-rider problem

The precondition for the formation of market failure is the “availability of collective goods.” The reason, as in previous cases, is an information disbalance.

It was first studied by Olson (1971). The consumption of purely public goods occurs collectively, but the individual benefit from this consumption is different. Such a situation presupposes the availability of accurate information on the marginal benefits of each user. However, in reality, the availability of such information is very rarity.

The principle of paying for purely public goods in accordance with the marginal benefits from their use contributes to the emergence of powerful incentives to hide true information, to reduce the real quantity of the received benefit. Really, since consumers

receive benefits from a purely public good regardless of whether they pay for it or not, there is a desire to save on payments, to get the good for free.

The free rider problem is characteristic of large rather than small groups of consumers, because, usually, the larger the group, the more difficult it is to get the necessary information about the state of payers. As a result of the free rider problem, the production of purely public goods is not efficient enough. The market is unable to cope with it, which leads to market failure.

Prisoner's dilemma

The reason is a coordination disbalance.

A well-known game model of the interaction of two agents, each of which acts locally in an optimal way, however, this does not allow for achieving a Pareto-optimal equilibrium of the game (for details, see, for example, (Aumann., 1995). At the same time, the introduction of repetitive interaction together with the use of certain learning algorithms allows to achieve an evolutionarily Pareto-optimal equilibrium according to Nash (Axelrod and Hamilton, 1981).

However, in all these cases, the ineffectiveness of the mutual strategy is revealed immediately. More interesting (and in practical applications – more dangerous) is the case in which instantaneous market failure is not observed, it occurs only in the process of repetitive relations of agents. I.e., locally we can talk about potential inefficiency in the “vertical” sense. However, when considering the evolution of the relations of economic agents through their repetition, it turns out that the situation eventually becomes Pareto inefficient due to the strategic disbalance inherent in the relations of the agents (note that in this regard, the specified situations are the opposite of the prisoner's dilemma, in which repeated interaction allowed to get rid of inefficiency).

Adverse selection

In addition to the standard reason for principal-agent relationship models – information disbalance, there is also a strategic disbalance in this case. It is he who leads to the formation of market failure in the process of repetitive interaction of agents.

The most famous example of such relationships for the situation of ex-ante is adverse selection, namely, the model of the displacement of a higher-quality product from the market by a lower-quality one, the classic description of which is considered to be the article by Akerlof (1970), in which the principle possibility of the existence of a situation on the market when sellers have there is an incentive to put low-quality goods on sale, because high quality creates a reputation, mostly, not for a specific merchant, but for all sellers on the market. As a result, there is a tendency to decrease the average level of quality of goods at a constant price, due to the displacement of low-quality goods by high-quality goods. More generally, accidental differences in the quality of goods can have even worse consequences, because it is quite possible that the development of events, high-quality goods are displaced from the market by not quite good quality, not quite low-quality – by goods of average quality, which are displaced by not quite low-quality, and those, in turn, are of low quality. Eventually, the market finishes its activity at all.

Squeezing out of the market

The reason is the cost disbalance.

A situation close to adverse selection is when sellers who received more favorable starting conditions over time completely displace those who initially found themselves in worse conditions. If information asymmetry was the main factor in the advantage of one group of sellers over another in the market of “lemons”, then, in this case, the decisive advantage is primarily the lower cost of production. At the same time, as in (Akerlof, 1970), it does not matter that sellers who remain at a loss and leave the market could produce and sell higher-quality products.

So, the concept of disbalances, together with the theory of the principal and the agent, allows us to investigate inefficient states that cannot be investigated by the methods of the theory of market failure.

“Market or organizational delusion”

The reason is strategic imbalance, short-sightedness of one of the counterparties.

Also similar to reverse selection is the situation, which to a greater extent concerns dual agency relationships, although it can also be observed in the market. It is characterized by the fact that the current solution looks completely satisfactory for both parties, and only over time, in the process of repeating the relationship, irreversible changes manifest its ineffectiveness, and even harmfulness. It is logical to call situations of this type "market or organizational delusions".

Conclusion

So, "principal – agent" theory in combination with the disbalance concept lets research inefficient states that are not available to investigate by methods of market failure theory.

In the research process, the greater universality and convenience of the "quantitative" concept of disbalances for identifying the effectiveness of states formed in the process of mutual activity of economic subjects, compared to the concepts of market failure, was substantiated. In particular, it allows us to evaluate the effectiveness of both "horizontal" (market) and "vertical" (intra-company) relations of agents according to the same principles.

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