

# Why does mainstream economy not explain the causes of contemporary negative socio-economic phenomena?

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DOI 10.2478/WSBJBF-2019-0010

## Abstract

This article is a continuation and extension of the lecture ‘Causes and effects of incompleteness and non-inclusion of ownership structures of contemporary capital companies’ delivered at the conference in Wrocław in 2017 and published in the Scientific Notebooks of the University of Economics (No. 493). The aim of the article is to answer the question: why the Neoclassical Theory of Markets (Main Current Economics) does not explain the causes of a number of contemporary socio-economic phenomena, in particular, huge price fluctuations, breakdowns of individual markets and as a consequence of economic crises on a global scale? This required a new, different from the neoclassical view of the series of processes and market phenomena occurring in contemporary economies as well as the verification of the Neoclassical Market Theory paradigm constituting the main core of the Mainstream Economics. These include, in particular: 1) theoretical (classical) and real ‘object (s)’ analysis of market transactions; 2) rejection of one-dimensional, neoclassical analysis of exchange processes (transactions), accepting two or even three-dimensional analysis of the exchange process (transaction); 3) analysis of exchange processes (transactions), the ‘subject’ of which are complete, incomplete or partial (and their bundles) property rights; 4) analysis of exchange processes (transactions) by complete and exclusive and incomplete and non-exclusive decision-makers; 5) analysis of exchange processes (transactions), whose ‘subject’ are partial (and their bundles) property rights in relation to virtual (non-material) ‘goods’. Taking into account that the above verification (acceptance of a different from the neoclassical paradigm of market theory) allows to break out of the circle of elegant and logical neoclassical analysis of theoretical, never and nowhere existing markets (exchange processes), and more importantly, the explanatory reasons for a series of negative, contemporary socio-economic phenomena.

**Keywords:** Neoclassical Theory of Markets; law of supply and demand; New Institutional Economy; Theory of Property Rights; completeness and exclusivity of property rights

## 1 Introduction

Some economists frequently express their beliefs (e.g., J. Wilkin, 2016, p. 11) that Mainstream Economics does not provide any explanation to a number of contemporary negative social and economic phenomena. There are two key questions to be considered in this field:

1. Why is Mainstream Economics unable to explain the causes of numerous contemporary negative social and economic phenomena?
2. Is New Institutional Economics able to fill in the gap and provide explanation to the causes of such phenomena?

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The first question is mainly of theoretical nature; whereas, the second one is particularly significant not only in the context of a positive attitude (what is the situation like?), but first of all, in the context of a normative attitude (what should the situation be like?), that is, namely an attitude that would enable us to counteract any negative effects in the future through the correction of current and future principles (institutions) regulating the functioning of the contemporary social and economic systems.

Therefore, in order to provide answers to the above-mentioned questions, this article subsequently presents the analysis of the following:

1. methodology for the verification of the hypotheses formulated with regard to the purpose of scientific research
2. a paradigm of Mainstream Economics in some part of its assumptions and their comparison to the assumptions of New Institutional Economics
3. the attitude of Mainstream Economics towards the problem related to the reasons for the lack of market balance and the attitude of New Institutional Economics towards the problem of market balance and institutional balance
4. the law of supply and demand in the context of the main statement presented in the Theory of Property Rights (New Institutional Economics)
5. multi-dimensionality of transactions involving incomplete and non-exclusive property rights

## **2 Methodology for the verification of hypotheses formulated with regard to the purpose of scientific research**

The implementation of the main purpose of scientific research is advancement of scientific knowledge. It (alternatively or altogether) requires some answers to the following questions:

- ‘what is the situation like?’ (a positive attitude), which leads us to cognition and understanding of reality that surrounds us
- ‘what should the situation be like?’ (a normative attitude), which enables us to apply the results of scientific research in practice

Methodologically, correct answers to the above-mentioned questions (separately and/or totally) require formulating a positively (at least temporarily) verified statement.

To make it simple, it primarily requires formulating and testing research hypotheses (and/or research questions), which come as some expected (or anticipated) relations between some phenomena. The formulated hypotheses should be tested by their confirmation<sup>i</sup> or falsifiability.<sup>ii</sup>

Although a positively verified hypothesis becomes a thesis, it does not automatically become a statement, which is a set of two sentences (an assumption and a thesis) that are related by implication. A formulation of a methodologically correct statement is the purpose; hence, the ultimate objective of scientific research.

The above-mentioned short methodological reasoning leads us to the following conclusions:

- positive verification of the hypothesis (thesis) may also take place when erroneous assumptions have been made
- validity of the formulated statement requires not only verification of the formulated thesis but also verification of the assumptions, which are strictly related to it

It is important that the above-mentioned methodological observations also refer to scientific laws, which come as a type of strictly general (universal) statements – that is namely, statements of unlimited temporal and spatial scope, as they refer to any objects or phenomena of a certain class, which may appear in the whole area of their occurrence.

Hence, while looking for an answer to the first question presented in the introduction, it is important to provide an analysis of the assumptions made by Mainstream Economics and New Institutional Economics. Contesting the validity of the assumptions, which have been accepted directly, indicates the incorrectness of the formulated statements, including scientific laws, regardless of their logic and elegance.

## **3 The paradigm of Mainstream Economics in some of its assumptions and their comparison to the assumptions of New Institutional Economics.**

### **3.1. The assumptions of the paradigm of Mainstream Economics**

As a result of some criticism, Mainstream Economics has accepted an assumption of methodological individualism; it means rejection of an assumption of Classical Economics that treats a company as a black box, in accordance to which, the important things occur only at the input and output of that black box.

At the same time, despite common criticism, one of the main assumptions of the paradigm in most economic theories is the concept of homo oeconomicus (a Latin phrase to denote an economic man or a rational man). It assumes that people are rational in their actions, and they always pursue maximisation of gain. They also make their choices with consideration of the economic value of the results of such choices. Another independent

component of the above-mentioned assumption is the acceptance of full information, which is owned by decision-makers who decide about social and economic processes. In the terminology of new institutional economics, it is identical to the acceptance of an assumption (it requires such acceptance) about a zero-transactional cost level.

However, reality (that is, crises or bankruptcies) proves that choices made by people (actors of social and economic life) are not as rational as the theory of Mainstream Economics assumes, and the world with the zero-transactional cost level does not actually exist.

With regard to the considerations presented in this article, it is important to notice that Mainstream Economics accepts another silent assumption, that is, decision-makers of transactional processes are complete and exclusive owners and transactions involve complete and exclusive property rights. True at the beginning of capitalist economy, the above-mentioned assumption does not have much in common with the contemporary social and economic system.

### 3.2. The correctness of the paradigm (assumptions) of Mainstream Economics in the light of the assumptions of New Institutional Economics

New Institutional Economics has accepted different assumptions, as it can be observed in an interdependent triangle of categories: limited rationality, asymmetry of information and opportunism.

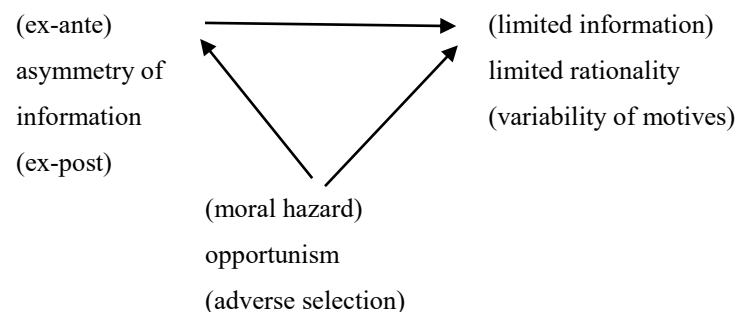


Figure 1. Interdependence of limited rationality, asymmetry of information and opportunism

Source: the Author's own study

As a semi-strong form of rationality, **limited rationality** comes as an assumption of New Institutional Economics. In the assumption, it is stated that individuals act *with rational intentions but only to some limited extent* (Williamson O. E., 1998, p. 58), which is determined by cognitive capabilities. It is advisable to agree with O. E. Williamson's statement that the acceptance of the limited rationality assumption is not just a devious way to become convinced that information costs. The reasons for the acceptance of that assumption by New Institutional Economics should be sought in the fact that New Institutional Economics has accepted the principle of uncertainty (formulated by U. C. Heisenberg), according to which, it is impossible to obtain all the necessary information, and it is not just the question of experience, patience, machinery and money. In this way, New Institutional Economics makes assumptions, which are different than those of Mainstream Economics. These assumptions refer to the following:

- limited possibilities to obtain full information, which is related to an increase in transactional costs
- variability or even unpredictability of motives for actions undertaken by decision-makers, which comes as a consequence of incompleteness and, first of all, non-exclusivity of property rights

**Opportunism** of the parties, that is, their moral attitude, is characterised by resignation from firm moral principles or beliefs in favour of obtaining immediate benefits, always choosing what is safe and advantageous at a particular moment, conniving pursuing the implementation of one's own purposes even with the use of lie, theft or deception in order to achieve incomplete or distorted disclosure of information. In a situation of incompleteness and, first of all, non-exclusivity of decision-makers' property rights, opportunism leads to:

- **moral hazard**, that is, decision-makers' actions, which are riskier than in a situation in which decision-makers would be fully exposed (they would be complete and exclusive owners) to the risk
- **adverse selection** – a situation in which worse products displace better products, or in the case of transactional processes – in which complete and exclusive property rights are displaced by incomplete and non-exclusive rights

**Asymmetry of information** – a situation in which one party of a transaction has more information than the other party.<sup>iii</sup> Being a direct derivative of opportunism and limited rationality, asymmetry of information refers

both to ex-ante processes and ex-post transactional processes. In the second case, it is particularly significant for the so called fundamental transformation of transactional processes (competition). The exchange process undergoes fundamental transformation – from the ex-ante stage (entering the contract) to the ex-post stage (implementation of the contract) (Williamson O. E., 1998).

Coming as the assumptions of New Institutional Economics, all the above-mentioned processes are of strictly interdependent nature. It means that the impact of their influence is mutually intensified.

Summing up, the assumptions of Mainstream Economics describe an ideal world, which exists only in theory, whereas New Institutional Economics refers to the assumptions that are far from the ideal. It is important to observe that such assumptions do not define each decision-maker as an opportunist who has too little information or who acts under some variable motives. One opportunist, the lack of one piece of key information and a slight change in the motives of action are enough for the social and economic processes to take a course that is quite different from a logical and elegant model. It can be particularly observed in the case of balance – or rather in a situation of the permanent lack of market balance – perceived in a different way by Mainstream Economics and New Institutional Economics.

#### **4 The approach of Mainstream Economics towards the problem related to the reasons for the lack of market balance and the approach of New Institutional Economics towards the problem related to market and institutional balance**

##### **4.1. The search for the reasons for the lack of market balance in Mainstream Economics**

Economists who represent Mainstream Economics are well aware of the fact that in social and economic reality, we face permanent deviation from the point of market balance. They also observe that the assumptions of perfect competition<sup>iv</sup> cannot be met in practice. Hence, it makes them look for the reasons for such a situation. Considering the scale of their impact, such reasons can be divided into three groups:

- **micro-economic factors** that can be found in motivation (behaviour) of buyers and sellers, which include:
  - a tendency to postpone purchase transactions with regard to anticipation of growing or falling prices in the future
  - the Giffen paradox that describes a situation in which the demand grows despite the growth of prices; the reason for such a situation is a higher increase in the prices of substitutional goods
  - the Veblen paradox, also referred to as a snob effect, which takes two forms: a classical form when
    - because of the prestigious character of the goods – the demand increases despite growing prices, and
    - a snobbish form when the demand curve is located below the demand curve of a typical consumer as a result of abstaining from the consumption of goods considered to be of too low quality (brand prestige). The reverse phenomenon is a herd effect in which consumers buy certain goods only because other people buy them (emulation motive)
- **mezzo-economic factors** related with the formation of oligopolies and monopolies on particular markets. In this case, the deviation from classical curves of demand and supply is related to the use of a dominating position, which allows its holders to have at least partial influence on the level of purchase or sales prices
- **macro-economic factors**, which are related to the phenomena observed in the macro-scale, such as social, demographic, geographical factors, economic or political situation

Although they can explain some reasons for the shape of demand or supply curves, the above-mentioned factors cannot provide any explanation to the reasons for numerous contemporary negative phenomena observed in transaction markets. Unfortunately, New Institutional Economics cannot provide any explanation either.

##### **4.2. The problem of balance in New Institutional Economics**

New Institutional Economics has been largely distanced from the problem of general institutional balance, considering it as a minor problem. At present, it is possible to observe three approaches:

- While incorporating the Game Theory into New Institutional Economics, another concept, which is the most important in economics, should be mentioned – namely, the concept of equilibrium presented by J. Nash (Nash's equilibrium), which sets the equilibrium point in a situation where no decision maker is stimulated to change their strategy, considering the strategies assumed by other players (Wilkin J., 2016, p. 117). Unfortunately, also in this case there are some "paradoxes", that is namely situations where at least two points of Nash's equilibrium appear:
  - domination of the significance of institutional balance over market balance, according to which institutional balance comes as a status of game (institution) principles *in which economy functions and develops itself despite perpetual market imbalance* (Wilkin J., 2016, p. 120)
  - a real key to long-term growth is adaptive efficiency rather than allocational efficiency (D. North 2006, p. 562 w Wilkin J. 2016, p. 121). In accordance with this approach, in our contemporary economy, we deal with both market imbalance and institutional imbalance. Hence, the main problem is the problem of adaptation in the situation where the lack of balance and institutional changes can be observed.

Limited possibilities of explaining the reasons for numerous contemporary negative phenomena in the market with the use of achievements of Mainstream Economics and New Institutional Economics generate a necessity of providing a different approach towards transactional processes.

## **5 The law of demand and supply in the context of the main statement of Property Rights Theory (New Institutional Economics)**

### **5.1. The assumption of *ceteris paribus* (a Latin expression for *other things equal*)**

The classical analysis of demand and supply curves accepts the *ceteris paribus* assumption. It comes as a necessary and logical assumption, which enables us to present the law of demand and supply in an elegant way. However, it still does not provide any explanation to a number of contemporary negative social and economic phenomena. The reasons for that situation should be found in the fact that the acceptance of the above-mentioned assumption with the simultaneous analysis of demand and supply as a function of the price leads us to the following:

- one-dimensionality (unilaterality) of the analysis of a transactional process in which only certain goods are purchased or sold, with the omission of the fact that at the same time 'the financial equivalent' (money) is also sold and purchased
- the price is *de facto* treated as a date at the moment of the purchase, which refers to the independence of the buyer and the seller at the moment of decision-making
- the price is treated only as a measure of 'the value', which affects the level of demand and supply and not the value in itself.

Hence, a key question arises: what does the value of transferred goods depend on (including the financial equivalent) in the context of limited rationality (i.e., in the context of the motives and usability)? The question seems even more well-justified when we consider the fact that the price becomes an independent variable, and demand and supply become dependent variables. The price comes as a result of decisions made by some particular individuals, whereas demand (reaction of non-individualised mass of customers) and supply (reaction of producer/s) come only as reactions to a particular level of the price (in accordance with the law of demand and supply). It is neither demand nor supply that becomes the key of the analysis – it is the price or rather the value it measures (motives and usability).

### **5.2. The main statement of the Theory of Property Rights**

The motive (drive) of decision making is the subjective usability of decisions. Usability is strictly correlated with the category of value of resources, the use of which is decided in a subjective way. The correlation of subjective individual rationality with economic efficiency of allocation and the use of resources makes it possible to present the key statement of New Institutional Economics (Strzelecki J., 1984, pp. 11–13) or, to be more precise, of the Theory of Property Rights.

**For the actors, the value (usability) of resources depends on the actors' property rights to such resources.**

We use expressions such as the purchase/sales of a house, machinery or real estate not only in our everyday language but also in scientific analysis. In fact, such expressions come as a large simplification. It results from aware or unaware acceptance of a silent assumption of Mainstream Economics stating that decision-makers of transactional processes are complete and exclusive owners and transactions involve complete and exclusive property rights. In other words, we accept the identity of the following terms: property and property rights. However, we do not purchase 'things' as such, and we do not buy 'property' as such – we buy a strictly defined 'structure of property rights'.

### **5.3. (Non)-identity of terms: property and property rights**

Regardless of the way (a negative or positive approach<sup>v</sup>) applied to define property, we most often identify (in an aware or unaware way) the term of property with property rights. Although we realise the fact that there are partial property rights, we cannot ask and answer ourselves a simple question: if we decrease property by one (two, three or ten) partial property rights, do we still deal with property or not? This question is particularly significant in the world where there is no unlimited property that is absolutely complete and exclusive.

Considering property, we do not refer to the property of particular goods. We refer to property rights because property as such does not determine the value (usability); these are property rights to determine the value, that is, the level of their completeness and exclusivity. Expressed by the virtual character of some goods or services and transferability of partial property rights (e.g., the right to use renunciation, destruction, transferring administration or inheritance rights), the complicated nature of our world results in the fact that we face various structures of bundles of property rights, which – as subjects of exchange – are characterised by various levels of value (usability) for the particular actors.

Contrary to what may seem, property rights do not refer to relations between people and things – they refer to human relations, which result from the existence of things (i.e., bundles of property rights to them). In such a way, property rights are also human rights (human relations).

It is also equally important to observe that property rights are rights of particular natural persons. It is not a company (a legal person) who enters a purchase-sales transaction. The transaction is entered by a natural person, although in the case of companies, natural persons act on behalf of a legal person who holds only a formal (institutional) legal title.<sup>vi</sup>

While analysing a purchase-sales process, we cannot forget – as it happens in Mainstream Economics – that it is of two-subject nature; there are not only the property rights to certain goods purchased and sold, but the transaction also involves the property rights to a financial equivalent (money). It should be remembered that since the moment when the parity of gold was abandoned as a form of securing the value of money, money as such does not have any value (greater than the value of paper or metal alloy on which it has been issued). On one hand, the value of money results from the guarantee of the state as its issuer;<sup>vii</sup> on the other hand, it results from the value of property rights with regard to the goods that can be purchased with that money in the subsequent transaction. In other words, a sale transaction without a possibility to enter another purchase transaction to buy some other goods would not make any sense and, in this way, any value either. In this case, however, it is not about considering a particular transaction, property rights to the subsequently purchased goods in the process of analysis but about considering the level of completeness and exclusivity of property rights to the financial equivalent which is paid or received.

Considerations about the main statement of the Theory of Property Rights lead to a conclusion that contemporary transactional processes are far more complicated than it is described by the logical and elegant law of demand and supply.

## **6 Multi-dimensionality of transactions involving incomplete and non-exclusive property rights**

A separate analysis of completeness and exclusivity of property rights is possible only in theory. In practice, they are strictly related. Completeness requires exclusivity of property rights; however, exclusivity does not always require completeness.

### **6.1. Completeness of property rights**

Completeness of property rights means that all the partial property rights that can be specified (a positive approach) exist; or on the contrary, it is impossible to specify any partial property right (a negative approach), which would not be applicable. Polish civil law is characterised by a positive-negative definition of property.<sup>viii</sup> Incompleteness of property rights results in impossibility of making some decisions referring to the way of using the goods. It means ‘atrophy’ of some partial property rights (as a result of institutional limitations). Limitations that cause incompleteness of property rights may be of two-sided nature.

**Incompleteness of the subject** – it refers to the limitation (or exclusion) of particular partial property rights to the particular goods. It may result in either appearance of other goods (e.g., operational and financial leasing) of various structures of property rights or incompleteness of one piece of particular goods (e.g., as a result of administrative price control). In the first case, it is possible to present the demand and supply curves on various charts as different goods. In the second case, it is necessary to present the transformation of the demand and supply curves on one chart.

**Incompleteness of the party** – it does not refer to the goods themselves but it refers to limitations in the completeness of property rights in relation to the party that owns them. A typical example can be limitations in trading agricultural land, in particular, an obligation of personal farm management, prohibition of selling and leasing the purchased land for 10 years, prohibition of purchasing more than 300 ha of agricultural land or an obligation of receiving purchase permission by foreigners.<sup>ix</sup> In such a case, it is impossible to present the impact exerted by incompleteness of property rights on separate charts of demand and supply curves, which are not mutually related.

Incompleteness of property rights affects the value of resources through the limitation of possible alternatives for using the goods, which are the subject of exchange. Hence, it makes the transformation of the above-mentioned statement of the Theory of Property Rights possible.

### **The value of resources becomes lower for the actors with an increase in the incompleteness of property rights<sup>x</sup>.**

Incompleteness of property right can be separated from exclusivity of property rights only in theory.

### **6.2. Exclusivity of property rights**

A synonym to the category of exclusiveness is the notion of exclusivity, as it seems to describe its meaning in a better way. Exclusiveness of property rights means that it is exclusive in itself. Exclusivity implies elitism, which limits the possibilities for the party to exercise property rights. In other words, exclusive property is ‘attributed’

property, which is limited only to an individual or to a set of strictly defined individuals. It also means exclusion of the influence exerted on the subject of property by individuals from the outside of a strictly defined set of the owners of property rights (also through the assignment of partial property rights). Non-exclusivity means dispersion of decision rights (partial property rights) among various natural persons who are or are not empowered with property rights. Limitation of exclusivity always leads to incompleteness of property rights from the owner's point of view. It means that although they can be complete with regard to the goods, they become incomplete to the owner because the owner does not exercise them. Limitation of exclusivity leads to a situation where decisions are made by 'secondary' decision-makers who are empowered by the assignment of property rights or by decision-makers who have appropriated property rights (appropriation not based on legal empowerment). In both cases, it leads to limitation or even to disappearance of individual (economic) responsibility for 'positive' and 'negative' results of decisions, which have been made. Hence, it makes it possible for us to supplement the above-mentioned statement as follows:

**The value of resources becomes lower for the actors with an increase in incompleteness or/and limitation in exclusivity of property rights.**

However, the influence of this statement on the shape of demand and supply curves is of two-directional character, depending on the subject of exchange: the goods and the financial equivalent. As a result of limitation in the exclusivity of decision-makers' property rights, we deal with two **apparently opposite** processes.

A decision-maker (who is not an owner) is ready to **pay more** than when being a complete and exclusive owner.

A decision-maker (who is not an owner) is ready to **sell at a lower price** than when being a complete and exclusive owner.

Although such processes take place simultaneously, we deal with the dominance of the influence power exercised by the first one or the second one in various periods of time.

It results in the fact that the analysis of demand and supply curves requires a multi-dimensional perspective.

Summing up the current analysis of completeness and exclusivity of property rights, we can provide a general extension to the statement of the Theory of Property Rights.

**Extended statement:**

**Various structures (levels of completeness and non-exclusivity) of property rights (bundles of property rights) must generate various values (usability) of resources for the actors.**

### **6.3. Multi-dimensionality of the exchange process, viewed from the perspective of (in)completeness of subjects which are exchanged.**

In the analysis of contemporary transactional processes, it is necessary to consider various levels of completeness of property rights, which are the subjects of the exchange and which may refer to:

1. complete property rights that can be observed mainly in the market of simple consumer goods
2. partial property rights and/or bundles of them; it may refer to simple bundles, such as the lease, more complex ones, such as pre-emptive rights or highly complex ones (with regard to the future aspect) such as option rights or pollution emission allowances (CO<sub>2</sub>)
3. virtual property rights to virtual goods (e.g., WIG [Warsaw Stock Exchange Index] transactions, naked CDS<sup>xi</sup> or virtual money [bitcoins])
4. incomplete property rights of the party (also incomplete with regard to their subject), that is, limitations of the party (parties) of transactional processes

As it has been already mentioned, it is possible to analyse separately only some of them (first three types) as various 'subjects' of exchange. Incompleteness of the party (and some cases involving incompleteness of the subject) requires its consideration on one chart of demand and supply curves.

### **6.4. Multi-dimensionality of the exchange process viewed from the perspective of the level of (non)exclusivity of decision-makers**

The development and ownership transformation process in limited liability companies have had a major impact on the limitation of exclusivity of property rights. In the history of capitalist economy, it is possible to distinguish at least four stages:

1. the stage of 'closed' limited companies – a period of primary separation of property from administration
2. the stage of 'open' limited companies – a period of intensified personalised separation of property from administration
3. the stage of legal persons' property – a period of depersonalisation of property

4. the stage of (simple and complex) cross-exchange of property rights – a period of transition from property to appropriation<sup>xiii</sup>

All four processes described above<sup>xiii</sup> have been<sup>xiv</sup> of key significance for the level of exclusivity (and completeness) of property rights.

The first three processes (stages) lead to an increase in incompleteness and non-exclusivity of limited companies with maintaining institutional transferability of property rights.

The fourth process (stage) leads to a change in quality, that is, to transition from decisions that are directly or indirectly empowered by the property rights (based on the right to assign the administration rights, i.e., assignment of property rights) to decisions that are empowered by appropriation, that is, a chance to appropriate making decisions about the use of rare resources by natural persons who are not empowered by the property rights.

Considering the level of decision-makers' exclusivity of property rights, we can distinguish four types of transactions, that is, transactions made between the right holders:

1. 'exclusive' (seller) and 'exclusive' (buyer)
2. 'non-exclusive' (seller) and 'exclusive' (buyer)
3. 'exclusive' (seller) and 'non-exclusive' (buyer)
4. 'non-exclusive' (seller) and 'non-exclusive' (buyer)

The first type of transactions refers to a situation between individual owners or an individual owner and a consumer.

In the second and the third types of transactions, one of the party is a natural person and the other party is a legal person. Such transactions involve separation of property from administration<sup>xv</sup> and dispersion of property rights.

The fourth type refers to transactions in which both parties are legal persons characterised by various levels of non-exclusivity (separation of property from administration and dispersion of property rights).

Considering the problems discussed in this article and the significance to the functioning of social and economic systems in the macro-scale, the most important type of transactions is the fourth case, that is, transactions made between 'non-exclusive' sellers and 'non-exclusive' buyers.

Providing the only possible theoretical separation of incompleteness from non-exclusivity of property rights, it is advisable to notice their various ways of impact exerted on transaction subjects, that is, exchanged goods and financial equivalent.

Incompleteness of property rights refers mainly to property rights (alternative applications) in relation to the goods that are the subjects of a transaction. Exclusivity refers to property rights (individual responsibility for decisions) in relation to both financial equivalent, which is spent or received, and the goods, which are sold or purchased.

Assuming the above-mentioned differentiation, it should be stated that there is a separate impact of incompleteness and non-exclusivity exerted on the value (expressed by the level of acceptable price):

The impact of incompleteness in relation to the goods that are subjects of the transaction, exerted on:

- the value (the acceptable price) for the buyer – the value (the acceptable price) decreases with the growth in incompleteness, with regard to the limitation to the number of possible alternatives for the application of resources, which also means a decrease in demand
- the value (the acceptable price) for the seller – the value (the acceptable price) decreases with the growth in incompleteness because a limited number of alternative applications should encourage the parties to sell the goods; in this way the supply increases

Considering the buyer's and the seller's points of view, an increase in incompleteness in relation to the goods that are the subjects of a transaction leads to a decrease in the value (the acceptable price).

The impact of non-exclusivity in relation to the financial equivalent and transferred goods exerted on:

- the value (the acceptable price) for the buyer – the value (the acceptable price) increases with the growth in non-exclusivity in relation to the limitation of individual responsibility for the 'wrong' decisions (purchasing for a higher price instead of resigning from the transaction does not result in any individual loss)
- the value (the acceptable price) for the seller – the value (the acceptable price) decreases with the growth in non-exclusivity in relation to the limitation of individual responsibility for the 'right' decisions (resigning from the transaction instead of selling the goods for a lower price does not result in any individual saving).

In the case of non-exclusivity, the situation is different than in the case of impact exerted by incompleteness. An increase in non-exclusivity affects the price (acceptance of the price) in a mutually inverse way for the buyer and the seller. However, it does not result in mutual reduction of their impact on the level of commonly acceptable price. The above-mentioned processes do not dominate simultaneously. A general principle is domination of stronger motivation, that is, 'more expensive purchase'. If it is possible to sell the goods for a higher price, the goods will not be sold for a lower price. Domination of 'cheap sales' (acceptance) can be observed



in a crisis or when there are some significant differences in the levels of exclusivity, that is, when the selling entity is characterised by a significantly lower level of exclusivity than the buying entity. In such cases (not only in the areas overlapping with public property), acts of corruption may be observed; however, they are often referred to only as acts to the detriment of the company.

A separate analysis of the level of (in)completeness and (non-)exclusivity allows us to formulate the following initial conclusions (motivation processes):

1. an increase in incompleteness (of the party and of the subject) of property rights in relation to the goods that are the subjects of the transaction leads to a decrease in the value (the acceptable price) both for the buyer and for the seller
2. an increase in non-exclusivity of property rights in relation to the goods and the financial equivalent leads to:
  - an increase in the level of the acceptable price for the buyer
  - a decrease in the level of the acceptable price for the seller

The above-mentioned processes can take the following graphic representation:

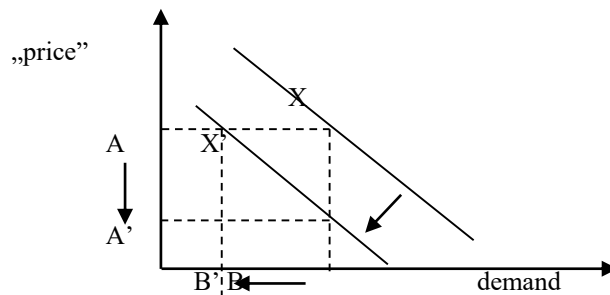


Figure 2. The demand curve, which is determined by incompleteness of property rights

Source: the Author's own study

A common assumption made for all the following charts involves assuming a twofold interpretation of the 'price' parameters. On one hand, it is understood in a traditional way, as an independent variable; on the other hand, however, it undergoes a transformation to the level of the acceptable price, which results from the level of incompleteness and/or non-exclusivity of property rights.

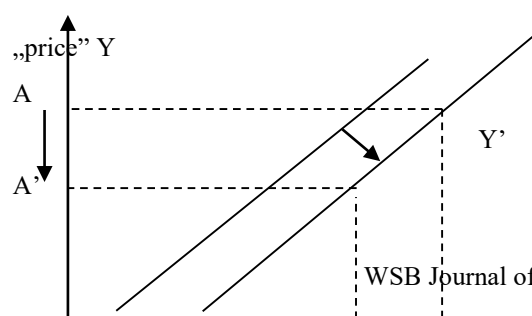
In the separate analysis of incompleteness and non-exclusivity, there is an additional assumption that refers to their theoretical separate consideration. It means that the assumption of full exclusivity has been made for the analysis of incompleteness (Fig. 2, 3 and 4) and vice versa – the assumption of full completeness of property rights has been made for the analysis of non-exclusivity (Fig. 5, 6 and 7). However, it is possible only in theory.

Figure 2 presents a translocation of the demand curve as a result of incompleteness of property rights. Limitation of property rights means a lower value for the actors, and it causes translocation of the demand curve to a lower position: from X to X' (a change in the inclination is also possible). Each level of incompleteness of property rights is assigned with a different demand curve. A translocation downwards to zero is possible with the lack of the key<sup>xvi</sup> partial property rights to the particular goods.

The analysis of the curves allows us to formulate two conclusions:

- The demand will decrease to the B' level at the A price.
- Maintaining the demand at the B level will require the A price of the goods to drop to A'.

The difference between A and A' presents the level of decrease in the value of the goods (the acceptability of the price) in relation to the increase in incompleteness of property rights.



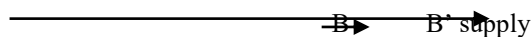


Figure 3. The supply curve, which is determined by incompleteness of property rights

Source: the Author's own study

Limitation of property rights increases a tendency to sell the goods, and it results in the translocation of the supply curve downwards, from Y position to, for example, Y' position (a change in the inclination is also possible). Each level of incompleteness of property rights is assigned with a different supply curve.

A change in the supply curve means that:

- the supply will increase up to B' at the A price
- providing the supply at the B level is possible even when the A price drops down to A'

The difference between A and A' presents the level of a decrease in the value of the goods (acceptability of the price) in relation to the increase in incompleteness of property rights.

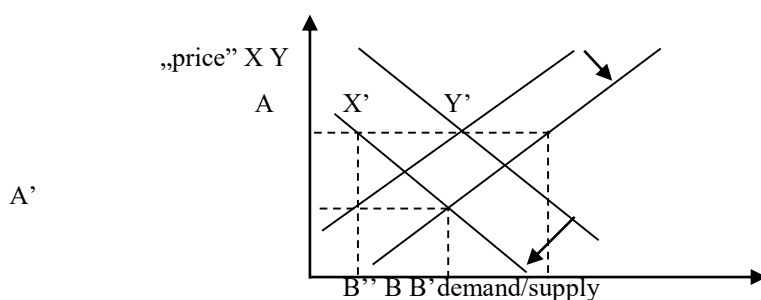


Figure 4. The demand and supply curves, which are determined by incompleteness of property rights

Source: the Author's own study.

A combination of Figures 2 and 3 allows us to formulate some conclusions, which refer to the analysis of incompleteness.

Maintaining the price at the A level, that is, above the value, which results from incompleteness and non-exclusivity (A') means an increase in supply up to B' and a decrease in demand down to B''.

Generally, the price of balance (A') should be lower than in the case of completeness and exclusivity of property rights (A).

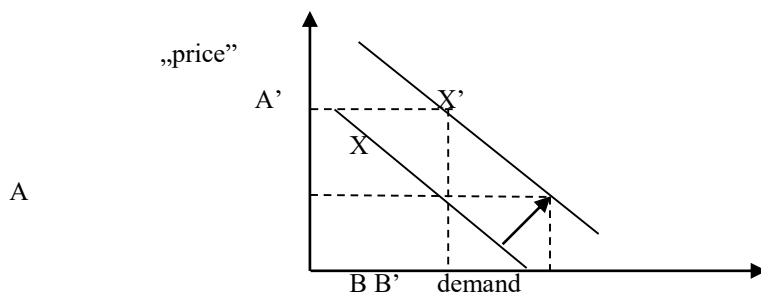


Figure 5. The demand curve, which is determined by non-exclusivity of property rights

Source: the Author's own study

Considering non-exclusivity, decisions are affected by the fact that responsibility for positive and negative effects of such decisions decreases with an increase in non-exclusivity. Considering demand, the fact of the purchase itself becomes a specific act of consumption, and it causes translocation of the demand curve from X to X', presenting acceptance of motivation for the purchase of the goods for a higher price rather than for the price that results from the level of completeness of property rights. It means that:

- demand increases to B' at an unchanged A price
- maintaining demand at the B level requires the price of the goods to increase from A to A'

The difference between A and A' presents the level of increase in the value (acceptable price) of the goods in relation to the increase in non-exclusivity of property rights.

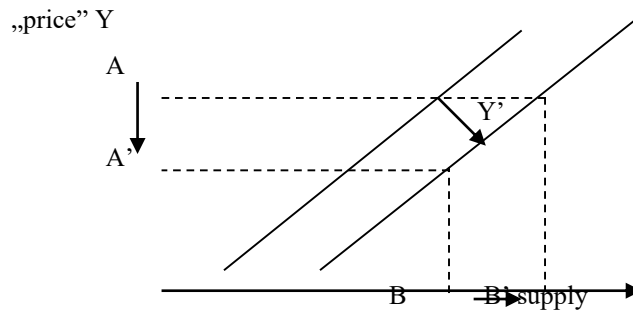


Figure 6. The supply curve, which is determined by non-exclusivity of property rights

Source: the Author's own study

A higher level of non-exclusivity of property rights indicates an increase in readiness to accept the purchase price, which is much lower than the value resulting from completeness of property rights; it causes translocation of the supply curve downwards, from the Y position to the Y' position (a change in the inclination is also possible). Each level of non-exclusivity of property rights is assigned with a different supply curve. Generally, it means that:

- supply increases to B' at the A price
- maintaining supply at the B level is possible even when the 'price' decreases from A to A'

The difference between A and A' presents the level of a decrease in the value of the goods in relation to an increase in non-exclusivity of property rights.

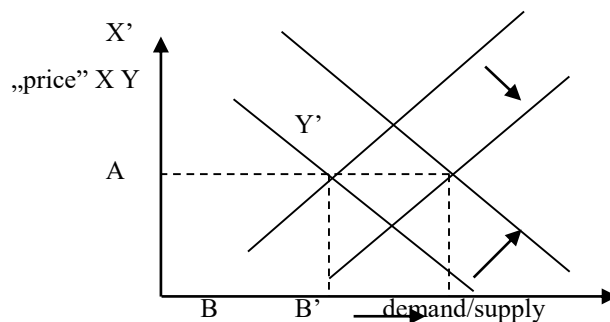


Figure 7. The demand and supply curves, which are determined by non-exclusivity of property rights

Source: the Author's own study

The combination of Figures 5 and 6 allows us to formulate the following conclusions:

- Maintaining the price at the A level indicates an increase in supply up to B' and a similar increase in demand because non-exclusivity affects the increase in demand and supply with similar strength (in the case of transactions made between entities of a similar level of completeness and non-exclusivity).
- Generally, achieving the balance price in the case of non-exclusivity at the level similar to the price (A) of balance for complete and exclusive property rights takes place at a (B') level of demand and supply, which is significantly higher than in the case of (B) completeness and exclusivity of property rights.

A separate analysis of the impact exerted by the level of completeness and non-exclusivity on demand, supply and on the level of acceptable prices allows us to formulate conclusions.

The impact of incompleteness exerted on:

- demand – considering limitation in the number of alternatives for application of resources, demand should decrease with an increase in incompleteness, which results in a decrease in the value of the exchanged goods
- supply – supply should indicate growing (or at least neutral) tendencies with an increase in incompleteness, which results in a decrease in the value of the exchanged goods, because a limited number of alternatives for application of the goods should encourage parties to sell those goods

The impact of non-exclusivity on:

- demand – demand should increase with an increase in non-exclusivity, which results in tendencies to accept a higher price (which is above the value resulting from the level of completeness of property

rights), with relation to the limitation (or, as in the case of appropriation, to the disappearance) of individual responsibility for decisions which have been made

- supply – supply should indicate growing tendencies along with an increase in non-exclusivity, which results in a tendency to accept a lower price (which is below the value resulting from the level of completeness of property rights), in relation to the limitation (or, as in the case of appropriation, to the disappearance) of individual responsibility for decisions which have been made

In fact, incompleteness and non-exclusivity are strictly related to each other. Although an increase in incompleteness of property rights does not have to indicate an increase in non-exclusivity in each case; each case of an increase in non-exclusivity resulting from dispersion of complete property rights means an increase in incompleteness (viewed from the perspective of the owner). Hence, it is impossible to provide their separate analysis. It is even more so because – considering the motives of the decisions undertaken by transactional parties (acceptance of the levels of purchase and sales prices) – non-exclusivity is of the highest significance in relation to incompleteness.

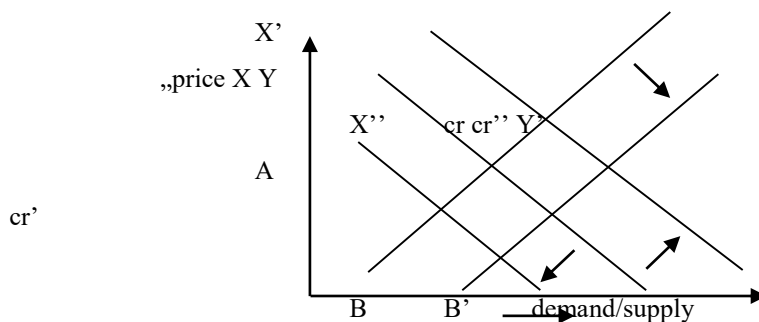


Figure 8. The demand and supply curves, which are determined by non-exclusivity and incompleteness of property rights

Source: the Author's own rights

Figure 8 presents a combination of Figures 2 to 7 providing a graphic representation of the impact exerted by incompleteness and non-exclusivity on translocation of the points of market balance. Hence, it is possible to indicate three balance points:

- the  $C_r$  balance point, which is achieved when property rights are complete and exclusive
- the  $C_r'$  balance point, which is achieved when property rights are incomplete and exclusive. The  $C_r'$  balance point is achieved at similar levels of demand and supply, however at a price that is much lower than in the case of complete and exclusive rights
- the  $C_r''$  balance point, which is achieved when property rights are incomplete and non-exclusive.

The  $C_r''$  balance point is achieved at a price similar to the case of complete and exclusive property rights, however at a much higher level of demand and supply. Translocation of the demand curve resulting from non-exclusivity can be so large that the price may also significantly exceed the price of balance for complete and exclusive rights.

The reasons for translocation of the demand and supply curves, and at the same time for translocation of the market balance points are two processes.

Firstly, the impact of the non-exclusivity level is much stronger than the impact of independent incompleteness because, on one hand, non-exclusivity refers to direct motivation for a decision, and incompleteness refers to objective measurement of a hypothetical value of the goods; on the other hand, non-exclusivity automatically indicates incompleteness of property rights.

Secondly, considering non-exclusivity, stronger motivation is 'I am not able to pay more' than 'I am able to sell for a lower price', because even if these two motivation cases take place simultaneously in the same transaction, the transaction will be made for a higher price.

It is also important to notice that these processes exert influence of various intensity at different stages of economic conditions. During the boom time, the balance prices are translocated from the  $C_r$  point to the  $C_r''$  point, which often exceeds the level of the balance price of complete and exclusive property rights (the demand curve is translocated further upwards). At the moment when the level of prices has been significantly exceeded over the value of incomplete and non-exclusive property rights (the total of the prices for the purchased property rights has significantly exceeded their actual value), a crisis occurs and the decline in the market begins (transition from the  $C_r''$  to  $C_r'$ ), which may be finished at the level of prices below the value resulting from incompleteness and non-exclusivity of property rights (the sum of the prices of property rights that are sold becomes much lower than their actual value expressed with, for example, a sum of unit costs of production or purchase).

Moreover, the above-mentioned processes (e.g., the financial crisis of 2008) are intensified by the fact that non-exclusivity can stimulate demand for transactions the subject of which are virtual goods (financial instruments, such as naked CDS, virtual bitcoins or goods based on the Ponzi scheme) ‘the property rights’ of which cannot be understood by anybody except for their makers.

### Conclusions

To sum up, it is undoubtedly true that economics is the science about transactions, which are not so simple and elegant to be explained by the law of demand and supply.

It has been a long time since economics stopped to be just economics of households in which vegetables used to be bought from complete and exclusive owners-sellers. It is no longer economics of production in which transactions are made by complete and exclusive producers, where the law of demand and supply can explain the behaviour of the transaction parties in a simple, logical and elegant way.

Although a single transaction always comes down to a simple act of selling and buying, economics is highly complicated, because it refers to transactions involving **incomplete** property rights, which are entered by **non-exclusive** decision-makers who are driven by **limited rationality** (including **changeable and hardly** predictable motives) in a situation of **asymmetry** of information (and knowledge) which enable them to follow a tendency towards **opportunism**.

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<sup>i</sup>The aim of confirmation is a partial confirmation of the validity of the research hypothesis, increasing its plausibility or weakening its power (disconfirmation).

<sup>ii</sup>As a result of its falsification, the hypothesis can be fully confirmed, it may be impossible to prove its falseness (corroboration) or its falseness can be proved.

<sup>iii</sup>In expert literature, we are most often provided with a description of a classical situation involving asymmetry of information. At present, in the era of the Internet and computerisation of management, it should be noticed that we frequently deal with transferring asymmetry from the level of pure information to the level of knowledge, that is, asymmetry of knowledge with theoretical balance of information.

<sup>iv</sup>The main assumptions of the market models of perfect competition include:

1. a large number of buyers and sellers
2. homogeneousness of products
3. a price which balances out demand with supply
4. the lack of non-price competition
5. transparency of the market and the lack of risk – zero transactional costs
6. limited differentiation of producers – identical production functions but different cost functions
7. rational behaviour of market entities
8. flexible prices which adjust to changes in market conditions in a fast and precise way
9. perfect mobility and divisibility of production factors which result in freedom of input and output

<sup>v</sup>In accordance with a negative definition of property, owners can do whatever they wish with their property – that means anything which is not against the law, principles of social coexistence and social and economic predestination of law.

In accordance with a positive definition of property, among other legal regulations, the legislator lists the rights of a full owner. The positive definition was once characteristic for feudal ownership, which was divided between lords and vassals. The negative definition appeared with capitalist economy and full private ownership.

<sup>vi</sup>For example, we say 'There goes Kowalski's car' although, in fact, we should say 'There goes Nowak driving Kowalski's car'.

<sup>vii</sup>The arrival of virtual currency, for example, a bitcoin, temporarily undermines dependence of money on the guarantees of the state as its issuer. A similar situation can be observed with the Euro, where there is not any single guarantor of its issuance and value.

<sup>viii</sup>In accordance with the Art. 140, within the framework defined by legal acts and principles of social coexistence, with the exclusion of other parties, owners may use their property in accordance with social and economic predestination of their rights, particularly they may take benefits and other profits from their property. Considering the same legal framework, owners may dispose of their property. The Journal of Laws 1964 no. 16, item 93 with later amendments.

The Act of 14th April 2016 on the withholding of the sales of property included in the Agricultural Property Stock of the State Treasury and on the amendments to some other acts. The Journal of Laws 27<sup>th</sup> April 2016, item 585.

<sup>x</sup>There are also converse situations, that is, an increase in completeness of property rights. A typical example is a significant increase in the value of the pool of shares and stocks which allow the parties to gain current control over the administration of a limited company.

<sup>xi</sup>CDS – a derivative instrument applied to hedge against a situation in which debtors do not meet their liabilities. Naked CDS – a party which buys CDS does not have to be the owner of the debt on which a particular contract is based, which in fact brings the discussed financial instrument down to the level of a bet the subject of which is the question whether the contract will be paid back or not.

<sup>xii</sup>Appropriation (from a Latin word *approprio* – to appropriate). In the theory of property rights, it means appropriation of property rights, that is, a chance to make decisions about the use of rare resources without any rights empowered by property.

<sup>xiii</sup>I have described them in detail in the article (Misiński, 2017, pp. 174–190).

<sup>xiv</sup>In relation to the evolutionary character of the discussed phenomena, it is difficult to indicate the exact dates of the beginning of the particular stages. However, it is clearly possible to notice the fact that the intervals between the subsequent stages have

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become shorter. The first one started over 4 centuries ago, the second one – over a century ago, the third one – several decades ago and the last one just over a decade ago.

<sup>xv</sup>Differences in the levels of exclusivity of the contract parties are, among others, the causes of corruption, because the party characterised by a significantly lower level of exclusivity is prone to pay more or to sell cheaper for a bribe.

<sup>xvi</sup>A historical example that decreased the value of land almost to zero was a decree of 1480 issued by the King of Spain. It prohibited fencing grounds (the lack of the right to protect property) and allowed people to move and graze herds.