

Transformation of Property Register in the Digital Age: Evidence from Ukraine

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Abstract: The article is devoted to the problem of the need to transform the property register on the example of Ukraine. Existing registers do not accumulate all the necessary information on property, while the effects of unauthorized concentration and hidden monopolies are present in many countries around the world. Concentration of ownership poses a threat not only due to the deterioration of the economic situation, business activity of many market participants, but also due to the threat to the economic security of the country. Antitrust law does not always effectively regulate antitrust actions and focuses more on changes in ownership (ownership shares, asset values). However, most cases of concentration and hidden monopolies occur in terms of use and disposal, in particular through the institution of trust management. It is proposed to create a single property register, which will have a completely new approach to grouping information and its use. Information on property of both individuals and legal entities is proposed to be provided using matrices based on the triad of property rights: ownership, use and disposal. This information should be accumulated from all existing registers. The elements that will form the matrices will be considered both from the standpoint of the owner and from the standpoint of the beneficiary. The data of the unified property register will be useful both for antitrust regulation and in assessing the feasibility of property transformations by public authorities for decision-making on privatization. The authors suggest that consolidating all information into a single register would not only prevent veiled forms of concentration and provide more effective regulation of property transformations, but become the basis for the formation of the ownership history of each entity such as credit history. We believe that digitalization processes can significantly help to improve the register and provide new opportunities for collecting and creating a database.

Keywords: database, propertyregister, concentration of capital, property transformation

JEL: H1, L12, L33,L4, L5, O33, P14

Introduction

Property in all its manifestations remains a key factor in economic development. Transformation of ownership is closely linked to the creation of new innovative products, and it provokes the formation of technological cycles. As a result, it is extremely important, from

the standpoint of state and regional development, to assess and control the ownership structure, as well as the change of all its factors that affect the transformation of property itself. All available information about the owners is accumulated in the registers, each of which has its own purpose. However, despite the understanding of the importance of this issue, we see a number of negative consequences of property transformations, particularly in Ukraine. It is a question of concentration of property at legal and physical persons, as well as at observance of all norms and requirements of the antimonopoly legislation.

The concentration of capital on a state-controlled scale makes it possible to scale economic activity and develop it. However, uncontrolled concentration can lead to negative consequences. Of particular concern is the uncontrolled concentration of ownership of strategic enterprises, the owners of significant stakes in which are registered in other countries. Therefore, we can talk not only about transparent market relations, but also about the economic security of the country. However, the usual tools for valuing property and the owner, which are partially reflected in the registers, often do not work. The reason is that hidden concentrations, and later monopolies, arise not so much in terms of concentration of ownership but use, and especially disposal of property. Unauthorized associations are most often the result of abuses in trust management and difficulties in identifying the final beneficiaries.

Consequently, we assume that the transformation of the property register with all the opportunities provided by digitalization, namely the accumulation of the necessary information from the registers that reflect all possible changes that occurred with the property from the owner's position in the alienation of property, and from the position of the beneficiary, will help to manage problematic issues. Bringing all the information into a single register would not only prevent violations and ensure more effective regulation of property transformations, but also become the basis for the formation of the property history of each business entity, such as a credit history.

Theoretical premises

The category of property belongs to both economic and legal categories. Historical analysis of the development of the institution of property allows us to conclude that it was and still is the foundation, the basis for the development of any state and its legal system.

Property relations arose in the early stages of society. Nowadays, they are evolving together with new innovative challenges dictated by the digital age.

Property is not a thing and not just relationship of people to things, but relationship between people that can be related to things.

According to Breakey, H. and Simashenkov, P., property was mentioned by the Roman lawyers in terms of ownership, the right to use, right to dispose, right to receive income, right to exact a thing [Breakey, H., 2011, p. 240, Simashenkov, Pavel, 2018, p. 237], However, Glackin, S. specifies that the last two powers of the owner later ceased to be used, and the powers of ownership, use and disposal were called the classical triad and were perceived by most modern legal systems as the traditional and most abstract definition of the content of property rights [Glackin, S., 2014, p.14].

Developing the economic nature of ownership, it is important to note that the objects of property relations can be both tangible and intangible resources, and the subjects – people, associations of people, labor collectives, and representatives of the state.

We agree with Pozner E. A., Vejl E. G. that property transformation can take place not only in the ‘public – private’ range [Pozner E. A. & Vejl E. G., 2018, p.344]. If certain changes occur in the property itself, namely when the restructuring takes place, the property is to some extent transformed as well, because a number of features change. The restructuring of the enterprise is carried out in order to improve its activities (a certain recovery) [Van Erp, S. (2016)]. It is impossible not to take into account such types of restructuring as mergers, acquisitions, divisions, leases, sales of part of the property, which we call forms of microtransformation of property and propose to use to form matrices of a single property register.

However, the issue of how to effectively use information on property transformations to prevent and avoid institutional disparities, in particular by transforming existing registers into the most convenient and useful property register, remains insufficiently covered in the scientific economic literature. The issue of choosing the method of forming the register database and its structure also remains unsolved.

Methodology

The article provides an implementation of the matrix method of grouping information, which is proposed by the authors for the formation and effective use of the proposed Unified Property Register and will be described in more detail in subsequent publications of the authors. Given the proposal to analyze various forms of ownership transformation from the standpoint of ownership, use and disposal, the authors propose to group databases of information in a matrix.

If the owner owns, uses and disposes a particular object, this condition can be characterized by three indicators:

- 1) ownership O – reflects the market value of the property;
- 2) use U – reflects the potential profits that the owner may receive as a result of using the object;
- 3) disposal D – reflects the potential income that the owner may receive as a result of the disposal of the object (sale of a share or a part of it, lease, etc.).

Accordingly, this characteristic can be written as an expression

$$(1) \quad (O_i U_i D_i)$$

If the owner owns, uses and disposes n -objects, it can be described as follows

$$(2) \quad \begin{pmatrix} O_1 & U_1 & D_1 \\ O_2 & U_2 & D_2 \\ \dots & \dots & \dots \\ O_n & U_n & D_n \end{pmatrix}$$

Obviously, some objects can only be owned or used or disposed by the owner. There are also options when 2 out of 3 conditions are met. In this case, all possible combinations of these situations are used. For example, if you consider the lease of real estate, then from the standpoint of the tenant, this matrix of ownership will look like he/she does not own it, but uses and does not dispose. From the point of view of the property owner, the owner owns it, but does not use it, but disposes it if he/she is an adult and if the property is not encumbered by litigation.

Thus, the possible elements of property matrices will look the following:

OUD – ownership-use-disposal

$OnUD$ – ownership -non-use-disposal

$OUnD$ – ownership-use-prohibition-disposal

OnUnD – ownership -non-use-prohibition-disposal

nOUD – non-ownership-use-disposal

nOnUD – non-ownership - non-use - disposal

nOUnD – non-ownership -use-prohibition-disposal

nOnUnD – insufficient or no access to ownership - insufficient or no access to non-use
- prohibition of disposal

There are examples of each of these elements of the matrix in economic and legal practice. Some of them will be considered in this study.

The paper also explores the role of trust management, which has a number of shortcomings. They relate to the tendency to create hidden monopolies in the absence of official violations of applicable law.

Results

Information on property relations is reflected in the registers, which are used primarily by state regulatory authorities. In particular, in Ukraine, the main register is the Unified State Register of Legal Entities, Individual Entrepreneurs and Public Associations. But it is related neither to the State Register of Real Property Rights, nor to the Register of Court Decisions or stock market participants and other registers that create a useful database, but each operate separately, without forming a general picture of change of ownership in society.

It is important to monitor changes in the ownership structure. First, they are the first signal of possible structural disparities in the national economy. Second, they inform about the threat of excessive concentration of capital due to property transformations. Concentration is the process of merging enterprises, companies and other market assets, as a result of which the economic power of market participants increases [Kryukov Victor V., 2020, p.36]. Concentration is determined not only by the acquisition of shares, but also by the creation of new enterprises, the transfer of certain objects for rent, as well as the appointment of managers of large companies. All large concentrations must be agreed with the Antimonopoly Committee.

In accordance to different characteristics the following transactions (agreements) and actions of business entities are recognized as concentration:

- merger of business entities or accession of one business entity to another;

- acquisition directly or through other persons of control over economic entities or parts of economic entities, in particular by: a) direct or indirect acquisition, acquisition of assets in another way, acquisition, management, rent, leasing, concession or other acquisition of rights; b) appointment or election to the position of head, deputy head of the supervisory board, board; [Khalikov A., 2013, p.47]
- purchase, acquisition of ownership in another way or receipt of shares (shares, units), which ensures the achievement or excess of 25% or 50% of the votes in the supreme governing body of the relevant entity.

The negative consequences of property transformations include tendencies to its concentration, in particular among beneficiaries registered in other states. Unlike foreign direct investment, which is important for economic development, investment from foreign legal entities and individuals who are not the final beneficiaries can pose a number of threats in high concentrations. Despite the requirements of the Ministry of Justice to disclose information about the final beneficiary, reports [Report of the State Financial Monitoring Service for 2019] proved that this requirement was often violated, favoring the payment of a fine.

After analyzing the data on significant participation in the ownership of the Ukrainian enterprises (10% of shares and more), a number of conclusions can be drawn. First of all, given the geography of registration of business owners, we see that most countries belong to the offshore zones. On the example of fuel industry enterprises (Table 1), we see that Cyprus is the country with the largest number of beneficiaries-owners of the key Ukrainian enterprises. A similar situation is observed in the chemical industry, in the fields of ferrous metallurgy, mechanical engineering, transport.

Table 1 Owners of Shares of Fuel Industry Enterprises with Significant Share of more than 10%

Name of Enterprise	Beneficiary Country	% of share
DTEK Energovuhillya ENE PJSC	Netherlands	100
Odesa Oil Refinery Plant PJSC	Cyprus	99.6
Institute of Oil Transportation PJSC	Cyprus	76
Naftokhimik Prykarpattya PJSC	Virgin Islands (British)	38
DTEK Pavlohradcoal PJSC	Netherlands	60
Halychyna Oil Refining Complex PJSC	Virgin Islands (British)	38
Ukratnafta Transnational Financial and Industrial Oil Company PJSC	Cyprus	37
Naftoavtomatyka PJSC	Virgin Islands (British)	16
Ukrnafta PJSC	Cyprus	27
Diesel Plant PJSC	Virgin Islands	12

Source: own elaboration on the basis of property statistics

Furthermore, of noticeable worth is the power industry, which is strategic, but some power plants are almost entirely owned by foreign companies.

Owners of enterprises related to the financial and insurance market of Ukraine are also registered with significant participation. In particular, 37% of the shares of Oranta National Joint-Stock Insurance Company PJSC belong to a beneficiary registered in Kazakhstan and 25% in Cyprus. Joint-Stock Commercial Industrial and Investment Bank PJSC is 99.8% owned by a legal entity registered in the Russian Federation, and Ukrsofsbank JSC is 100% owned in Luxembourg.

The main reason for the concentration of property outside Ukraine is the attempt of its owners to protect it from the possibility of unauthorized redistribution, raids, which took place during political crises in the 'power-property' cycle.

Another reason for registering beneficiaries in many offshore countries is tax avoidance. For Ukraine, this is a significant loss to the state budget as a result of previous transformations and political crises.

Therefore, the registers often show the result of the change of ownership and do not help in the effective assessment and prevention of threats from the negative consequences of such property transformations.

The main body of state control and regulation in Ukraine regarding the concentration and protection of economic competition is the Antimonopoly Committee of Ukraine, which makes the decision on granting permission for mergers and acquisitions, additional increasing of share ownership, which can lead to the increase of concentration. It is also analyzed whether such a concentration does not lead to monopolization or restriction of competition in the market.

The Antimonopoly Committee monitors the level of capital concentration and takes the first steps in reforming antitrust legislation required by the Memorandum with the MIA. An example of legislative changes is the development of the Procedure for submitting to the Antimonopoly Committee of Ukraine applications for exemption from liability for violations of the legislation on protection of economic competition.

However, it should be noted that the Antimonopoly Committee of Ukraine uses a far from perfect methodology for assessing the possible concentration of capital, which is based only on the analysis of assets, sales of goods, works, services and calculation of aggregate shares in commodity markets. This is not enough, because most abuses in terms of invisible concentration occur due to certain transformations not so much in terms of ownership as in use, and especially in the form of disposal through beneficiaries, to whom the main owner entrusts the right to dispose their property. Trust management is a fairly common type of management in world practice. Therefore, it is important to monitor its manifestations, which would accumulate in the Unified Property Register.

The focus is drawn to the information support of this register. The authors assume that the elements of the matrix approach, which is the basis of the Unified Property Register, will be the result of transformations accumulated from all registers and databases. Examples of elements of the matrices of the owner in the alienation of property or for the beneficiary are shown in Table 2 and Table 3.

Table 2. Forms of Ownership Transformation when Ownership Passes from Owner (not only Alienation)

(non) Ownership, / (non) Use, (non) Disposal	UD	nUD	UnD	nUnD
O	<ul style="list-style-type: none"> - Full ownership before transformation - Barter - Privatization (corporate rights of the state >50%) - Reprivatization (corporate rights of the state >50%) - Nationalization 	<ul style="list-style-type: none"> - Concession (in case of violations - Rent** - Venderliz (lat.) - Easement - Superficies - Leasing - Privatization (corporate rights of the state >50%) - Reprivatization (corporate rights of the state >50%) 	<ul style="list-style-type: none"> - Mortgage - Easement - Rent - Emphyteusis - Privatization (corporate rights of the state <50%) - Reprivatization (corporate rights of the state <50%) 	<ul style="list-style-type: none"> Rent Sequestration Raiding Venderliz (lat.) - Privatization (corporate rights of the state <50%) - Reprivatization (corporate rights of the state <50%) - Requisition
nO	Vindication	<ul style="list-style-type: none"> - Emphyteusis - Consignment 	<ul style="list-style-type: none"> - Privatization full - Reprivatization full 	<ul style="list-style-type: none"> Redemption Eviction Realization Requisition Arrest Confiscation Granting Sale Alienation Eviction Restitution Acquisition

Source: own study, based on definitions of various forms of ownership transformations

Some of the presented transformations show macrotransformation in the 'private-state' range of property (privatization, reprivatization, nationalization). Another group of forms of transformation is more related to transformations at the meso-level and micro-level (concession, clustering, merger, acquisition, division, lease, and others). It is also necessary to note such forms of transformation which demonstrate change of the right to use and dispose property (easement, emphyteusis, sequestration, vindication, hire, and others).

Each of these forms finds its place in economic practice. For instance, mergers as a form of transformation are carried out by merging the debtor company with other

financially stable companies. As a result of such a merger, the debtor company loses its independent legal status.

Unlike a merger, an acquisition takes the form of a significant investment by one entity into another. An enterprise that is acquired usually loses its independent status, although as a legal entity, it may be retained as a subsidiary.

Table 3. Forms of Property Transformation for Beneficiary

(non) Ownership, / (non) Use, (non) Disposal	UD	nUD	UnD	nUnD
O	<ul style="list-style-type: none"> - Barter - Redemption - Granting - Purchase - Accession - Privatization (corporate rights of the investor >50%) - Reprivatization (corporate rights of the investor >50%) - Deprivatization - Restitution - Acquisition 	<ul style="list-style-type: none"> - Privatization (corporate rights of the investor >50%) - Reprivatization (corporate rights of the investor >50%) - Deprivatization 	<ul style="list-style-type: none"> - Privatization (corporate rights of the investor and affiliates <10 %) - Reprivatization (corporate rights of the investor and affiliates <10 %) - Deprivatization - Emphyteusis 	<ul style="list-style-type: none"> - Vindication - Privatization (corporate rights of the investor and affiliates <10 %) - Reprivatization (corporate rights of the investor and affiliates <10 %) - Deprivatization - Sequestration
nO	Requisition	<ul style="list-style-type: none"> - Eviction - Sequestration - Venderliz (lat.) - Confiscation 	<ul style="list-style-type: none"> - Rent - Leasing - Concession - Easement - Superficies - Raiding 	Saving Nationalization

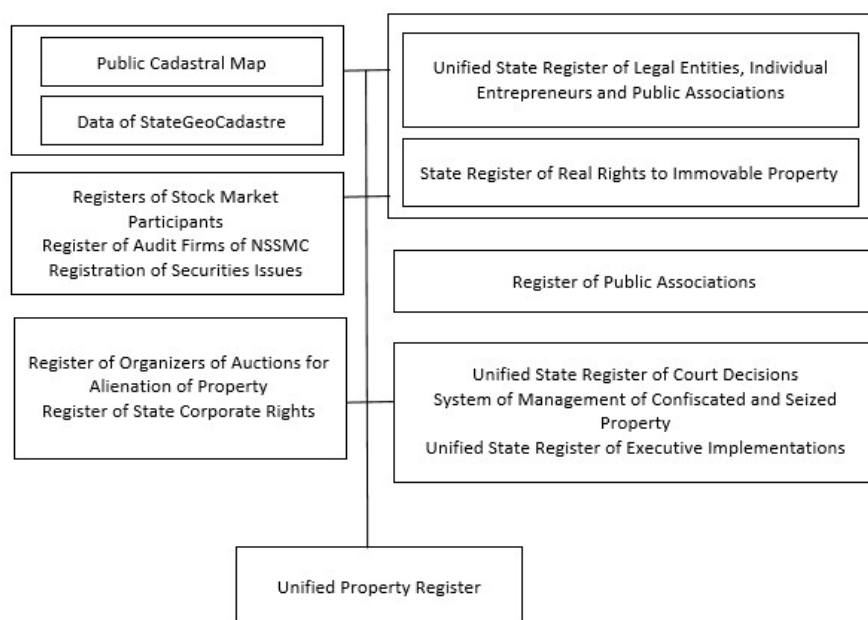
Source: own study, based on definitions of various forms of ownership transformations

For example, emphyteusis provides the right to use someone else's land for agricultural purposes and is an example when the beneficiary does not own it, but uses and does not dispose it. Such and similar transformations often underlie trust management, which is somewhat contradictory for public authorities.

Trust ownership has a number of features, namely the possibility of joint ownership of property by several owners with anonymity, when the ultimate owner of the property remains unknown. It is also possible for the same person to be the founder and beneficiary,

thus receiving all the benefits from the property. However, there are controversial issues regarding trust management, which in the triad of ownership-use-disposal emphasizes the latter. Trust management makes it possible to differentiate between owners, beneficiaries and managers, which make trust relations a convenient mechanism for tax evasion. In some countries, beneficiaries (property users) are not required to report the income of the trust in a state the beneficiaries reside. Moreover, the use of trust management ensures the unavailability of property for creditors, the opportunity to declare the absence or limited amount of their own assets and apply, for example, for assistance from the state. There is a practice of registration of enterprises for other persons (students, pensioners, socially vulnerable groups, persons registered in the territory not controlled by Ukraine). It is necessary to compose an information base of the existing registers, which provide the necessary data for public authorities for evaluation and further planning. The most important are the existing registers, which would be most useful for the creation of the Unified Property Register.

Fig. 1. Formation of Information Sources of the Unified Property Register on the Example of Ukraine



Source: own study, based on existing registers in Ukraine

The formation and use of a common unified property register should naturally bring some positive results. Each of these results of using the proposed tool – a single property

register – has its own explanation. In the case of Ukraine, for the Antimonopoly Regulation, this register would be useful for assessing and monitoring the dynamics of ownership concentration in various sectors of the economy, detecting warning signals of unfriendly takeovers through the matrix approach to property transformation proposed in the Unified Property Register. For the State Property Fund of Ukraine – in assessing the dynamics of financial results of state enterprises and those preparing for privatization, determining the feasibility of rehabilitation of state enterprises. For the State Financial Monitoring Service – the detection of violations that are used to conceal the ultimate beneficial owner. For the Ministry of Economic Development, Trade and Agriculture of Ukraine, the register data would be needed to assess the dynamics of financial results of enterprises with state corporate rights, to identify sectoral disparities. Therefore, we consider the transformation of the property register to be expedient and necessary.

Nonetheless, the dialectic of the contradictions of the global monopolization of capital is reduced to the unity and struggle of essentially opposite economic phenomena and processes.

Consequently, nowadays, the policy of deconcentration should be based on the search for effective structures, new transformational formations of optimal size in terms of concentration of production and capital, with ensuring the competitiveness of the country in the context of globalization.

Summary, recommendations

The problems faced by both public authorities and society regarding the imperfect formation and use of property information require a new approach to solving this problem. Digitalization gives us new opportunities for this, which can allow us to accumulate all property information in a single register. Our proposed matrix approach will allow us to track all possible transformations of ownership, taking into account the information on the triad of property rights: ownership, use, disposal.

Of particular interest from the point of view of valuation and state planning of business transformation is the matrix approach in cases of concentration of capital resulting from mergers, acquisitions, mergers and other indirect forms of interaction.

Strengthening the protection of property rights is necessary to restore confidence and promote favorable economic development. A single role in this process belongs to the Unified Property Register [Pozniakova, O., 2020, p.47], which would accumulate information not only on the ownership but also the use and disposal of property, generating information on all previous transformations, which would prevent most raider seizures.

The authors plan to investigate and describe in more detail the matrix approach to the formation of a single register in future studies.

The question also remains whether the introduction of this register will provoke the withdrawal of capital from Ukraine and what preventive measures should be taken to prevent and cause new negative consequences of the proposed transformations. The investigation of the issues of private property and personal data in the context of protection of rights of consumers of financial services is presented in other works, but the topic requires implementation in the context of specific issues and conducting of further research.

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