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A Word From the Editors: Humanism in the Economy. Introduction to the Special Issue "Humanistic Economy"

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Abstract:
The special issue "Humanistic Economy" is a collection of articles which are a response to the increasingly frequent voices, for contemporary economics to be treated not only as a set of economic notions, but as a science, where human beings and their happiness are the main focus. The authors suggest the use of solutions from the area of psychology, sociology or cultural studies in economics, which allow considering economics as a humanities science. This special issue consists of this introduction and 13 submissions which are published in issues 10:2 and 10:3.
Keywords: humanistic economy, financialization, ethics in finance, social capital.

Modern economics is not only a paradigm of neoclassical economics, referring to classical economic concepts such as rationalization, optimization, maximization of profits, minimization of expenditures, etc. These issues are extremely important and necessary, but they prove to be insufficient to solve the problems arising in the today's world. Current economics is becoming a humanistic economy, i.e. one in which human beings are the main focus.

Today's economy must be characterized neither by logical thinking nor by behavioural knowledge. Getting closer to day-to-day practice in economics, understanding human activity, the criteria of choice and the way it translates into the happiness of individuals requires the application of knowledge in the area of psychology, sociology, and cultural studies. Between those sciences and

economics there is a feedback, as they all shape each other. Expanding the cognitive framework of economy with new knowledge from unused areas may allow to recommend new solutions. There is a growing number of voices that economics should be treated as a humanistic science.

The answer to this demand is a special issue of "Studia Humana" journal. It is a collection of scientific articles that deal with topics from the borderline of economics and various humanities. The opening study of this journal by Anna Horodecka and Andrzej Żuk treats financing as a phenomenon harming the common good. However, this is a rare approach. It is based mostly on Catholic social teaching. The authors point out the need to create new theoretical solutions in the science of economics and finance as well as present the concept of financial personalism.

The phenomenon of financialization also applies to the second text, prepared by Justyna Chmiel. It contains a comparison between the level of financing of Polish and foreign households. The author refers to the household financialisation measures and presents the values achieved by them.

In the third article Małgorzata Kmak examines the relationship between social trust in the development of a territorial unit, which is reflected in the urban growth. Research conducted in three cities: Krakow, Helsinki and Valletta lead to surprising conclusions.

The work of Robert Zajkowski and Beata Żukowska shows the unique goals of family businesses and their need for financial instruments. The element of uniqueness of the study is primarily contained in the analysis of the relationship between family values in business objectives and the way this relationship shapes the demand for basic and advanced finance instruments.

Two more articles deal with the stability of economic growth. The text written by Aleksandra Borowska concerns the stability of economic growth examined by means of a model that takes into account public capital. A model of economic growth has been established, in which both private and public capital can influence the rate of knowledge growth. Meanwhile, in Dominika Byrska's work, she tries to capture the relationship between intermediaries and economic growth.

Another article prepared by Paweł Lont refers to energy prices and differences in their values in the European Union countries. The aim of this article is to present some examples of differences in the functioning of the market in the EU Member States, which leads to discrepancies in average energy costs incurred by end customers.

Piotr Misztal's work is devoted to issues related to public debt and its impact on the financial stability of the country. The statistical analysis contained in the text indicates the benefits of effective public debt management.

Rydzewski Rafał prepared an article presenting the business sector involved in video games. A characteristic feature of these companies is a combination of business and cultural elements in their activities. Two further texts also apply to the activities of companies. The work of Maciej Stradomski and Katarzyna Schmidt focuses on investments of Polish family businesses. The empirical studies compare the level of investments of family and non-family companies in Poland. Financial factors influencing the development of innovation in enterprises are the subject of analyses of Stanisław Ślusarczyk's work. The aim of this work is to show that the development of product innovations in Polish small and medium enterprises depends mainly on their financial capabilities.

Marcin Złoty discusses the functioning of the commodity market. An important aspect is to show the relationship between financial factors and the way the prices of goods and services are shaped.

The last article deals with the role of banks in meeting the housing needs of households. The author tries to answer the question to what extent the banks' offer meets the average housing needs of households.

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Financialization and the Erosion of the Common Good

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Abstract:
The phenomenon of financialization is multifaceted and can be considered from different points of view. The main purpose of the article is to show how financialization affects the erosion of the common good. To achieve this, various negative sides of financialization are described, referring to the eight principles of the common good: effective use of limited resources, freedom, prosperity, justice, responsibility, solidarity, primacy of interpersonal relations and institutional principle. Further considerations concern the presentation of possible solutions to the problem of financialization. Two perspectives are selected. First, the answer of Catholic social teaching to the phenomenon of financialization, as presented in the form of the Vatican document *Oeconomicae et pecuniariae quaestiones* from May 2018. Next, one of the main causes of financialization is shown: economic and financial theories, which has become the theoretical foundation for the phenomenon. On this basis, the need for new theoretical solutions based on the institutional approach in the science of economics and finance is discussed. Possible new alternative approaches, including the concept of financial personalism, are also recognized.
Keywords: financialization, common good, new institutional economics, Catholic social teaching, ethics in finance.

1. Introduction

The subject of the study is the phenomenon of financialization, which due to its numerous economic, social, political and ethical consequences, has received a vast number of studies. It arouses the interest not only of financiers, but also representatives of broadly understood social sciences: economists, political scientists, sociologists, anthropologists, and even the Church and Catholic social teaching (further called: CST). The main purpose of this work is to show financialization as a phenomenon that harms the common good. We put forward the thesis that financialization erodes the common good, i.e. it violates the principles of the common good.

At the beginning of the study, various approaches to financialization, and the most important concepts of the common good are presented. Further, based on the understanding of the common good in Catholic social teaching, examples of the negative impact of financialization on individual principles of the common good are presented, demonstrating the legitimacy of the thesis. The rest of the study describes possible responses to the phenomenon of financialization. First, the position of CST is presented in the example of the Vatican document *Oeconomicae et pecuniariae quaestiones*, highlighting, among others, the need for adequate institutional solutions. Then, the weaknesses of traditional economic and financial theories in the context of the phenomenon of financialization were highlighted. Here, the potential of new institutional economics is discussed. In the summary, first of all, the contradiction between financialization and implementation of the common good is clearly emphasized, and then possible new theoretical approaches useful to describe the socio-economic reality of the era of financialization are outlined.

2. The Concept of Financialization

The varied definitions of financialization can be divided into two groups. In the first, this phenomenon is defined narrowly – it is presented in relation to the economic system and the economic sphere of human activity in general. The second group of definitions treats the phenomenon of financialization more broadly, referring not only to the economic sphere, but also to the social, political, legal, cultural or moral spheres.

2.1. Financialization as a Phenomenon Related to the Economic Sphere

First of all, the group of narrower definitions includes definitions that explicitly include financialization as a change in the form of the economy – the transition from corporate capital to financial capital [46]. A similar approach to the phenomenon of financialization was presented by Foster [18] – it is a shift of focus in the economy from the sphere of production and from a large part of the services sector to the sphere of finance. Ahn [2, p. 3] in his definition went somewhat further by defining financialization as 'the growing dominance of capital market financial system that results in the explosion of financial trading with a myriad of new financial instruments'.

There are also definitions describing the disturbance of relations between the real and financial sector and the disturbances governing the economic system. In this key, Bibow understands financialization as 'a definite change in priorities within the financial sector, whose participants – instead of financing the real economy – took up speculation and gambling' [cf. 17, p. 18].

The analysis of the phenomenon of financialization considered at various levels – from the growing importance of the financial market, through changes in the way it is organized, to the evolution of the priorities of market participants – leads to the question about the current ability of the financial market to perform its traditional functions. For a long time, it was widely believed that the main function of the financial market is intermediation in the transfer of funds from entities (market participants) that possess them to those that demand them [5]. The market operating in this way had direct allocation, capital mobilization and investment financing functions, and indirectly served as a capital valuation. Financialization implies a gradual detachment of the financial market

from the real economy, and its dominant function seems to be a continuous transfer of funds between market participants, taking the form of continuous speculation [1]. For Ratajczak [38, p. 261], financialization is not only 'the process of autonomization of the financial sphere in relation to the real sphere', but even 'obtaining the superiority of the former over the latter'. In this context, Krippner [23, p. 174] understands financialization as 'a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production.' This is also associated with transformations in the financial system, which is why, according to Seccareccia, 'the essence of financialization is the transition from a financial system with the dominant position of banks to a system in which financial markets play a key role' [cf. 17, p. 19].

2.2. A broader Understanding of the Notion of Financialization

Generally, broader definitions of financialization concern the impact of this process not only on the economy, but also on non-economic aspects, thus opening the possibility of analyzing the impact of this phenomenon on the common good. Sometimes non-economic aspects are recognized as being an essential part of this phenomenon in relation to the economic sphere. An example of such definition is one from Epstein [cf. 17, p. 16], who understands financialization as 'the growing importance of financial motives, financial markets, financial actors and financial institutions in the functioning of the national and international economy'. This definition is similar to his earlier one, in which financialization means 'increasing the impact of financial markets, financial sector elites and motives for making decisions related to financial motivations on the functioning of the economy and institutions at both national and international level' [cf. 17, p. 16], wherein in this case the area of influence of financialization concerns not only the economy but also institutions.

Wiśniewski proposed the broadest definition of financialization from the point of view of the subject of its impact, understanding the term as 'financialization of economic life or human activity in a broad sense', so the definition covers the impact of financialization on all spheres of human activity [cf. 17, p. 17]. This phenomenon is also understand broadly by Zwan [46], who presented it not only from the point of view of the change in the accumulation regime and the dominance in finance of the shareholder value orientation, but also as financialization of everyday life. She also notes that financialization, due to the increasing independence of the sphere of global finance, has an impact on the basic logic of the industrial economy and the functioning of a democratic society. Aalbers also emphasizes the changes resulting from financialization, noticing 'the increasing dominance of financial actors, markets, practices, measurements and narratives at various scales, resulting in a structural transformation of economies, firms (including financial institutions), states and households' [cf. 24, p. 113], thus going beyond the purely economic consequences of financialization.

The changes resulting from financialization also apply to more fundamental spheres, including in particular deeper transformations taking place in the sphere of values [cf. 1]. It is noted, *inter alia*, that the importance of material values and financial benefits has increased as a basis for making decisions in various areas of personal life, and the right to meet financial needs has been socially sanctioned [1]. The value category is combined with the common good category, whose various concepts are outlined below.

3. Concepts of the Common Good

The idea of the common good has its roots in ancient thought. For Plato, it referred to the common benefit of the citizens, for Aristotle – for the good formation of the whole civic life, and for Cicero – for the good of a commonwealth, understood in terms of the entire state and individual citizens [19]. For St. Augustine (in the *City of God*) achieving the common good, i.e. social peace (*pax et ordinata concordia*), ensuring sustainable development beneficial in the long run for all members of a given community, requires that all citizens recognize their common interest as more important than personal gain [43]. Similarly, for St. Thomas Aquinas, the common good was the order and

perfection of the universe, extending its scope also to the social order, uniting the activities of individuals who strive for perfection. For St. Thomas the common good has an ethical structure, because it is reflected in the goals and tasks of individuals, and reaches its end in God, who Himself is the highest common good [15; 19]. In the 17th century, John Locke coined the notion of 'public good of the people' to express the pursuit of peace and social security. Other visions of the common good were proposed in the next century by Jean-Jacque Rousseau, for whom *le bien commun* was associated with the 'general will' of the people. Finally, in the 20th century, John Rawls presented in his *Theory of Justice* [39], the idea of the common good as certain general conditions that are equally beneficial to all – which clearly identifies the common good with the aspects of social justice [14]. In turn, the winner of the Nobel Memorial Prize in Economic Sciences Elinor Ostrom created, within institutionalism, an economic concept of the commons as common-pool resources that are jointly managed [33].

In relation to the analysis of the impact of the phenomenon of financialization, a useful concept of the common good is the social teaching of the Church (CST), including Catholic social ethics. Pope John XXIII defined the common good as 'all those social conditions which favor the full development of human personality' [34, sect. 65]. Such a broad approach to this category was confirmed by the Second Vatican Council in *Pastoral constitution on the Church in the Modern World (Gaudium et Spes*): 'the sum of those conditions of social life which allow social groups and their individual members relatively thorough and ready access to their own fulfillment' [44, sect. 26]. Earlier, in the 1950s, Karol Wojtyła explained during his lectures that the common good (i.e. 'the general good') 'should not be considered as a sum of individual goods of individual members of society', but it is 'a separate good which is closely connected with society only, and without [reference to] society there is no reason for it to exist at all', so it is a good which has a social nature [50, pp. 78-79]. This means that the common good 'is a more basic good than any individual good', and no 'individual good can be fairly and reliably realized without the common good', and therefore 'the general good determines the good of individuals' [50, p. 79]. There is never a contradiction between the 'real common good' and the 'real good of the person': true common good does not interfere with the development of a person who tends to his perfection [50, pp. 79-80]. The relationship between the common good and the good of the person Karol Wojtyła developed later, as Pope John Paul II, indicating *inter alia* that respect for the human person, his dignity and rights remains the most important element of the common good [37]. Therefore, it is necessary to create for each member of the community the right conditions to fulfill his/her vocation, which also translates into prosperity and economic development in a given community [37]. Thus, for John Paul II, the common good is the basis (keystone) of social order – a commitment to create conditions for full development for all those who participate in a given social system [37].

The idea of the common good is so important for Karol Wojtyła, that he defines society as 'a permanent fusion of people who strive to realize the common good', and immediately adds that 'they do so under the direction of power' [50, p. 81]. The task of society is therefore the implementation of the 'real common good', which in practice means coordinating the activities of individuals, and this is already the domain of power [50, p. 81]. Pope John XXIII thought similarly, stating emphatically that 'the attainment of the common good is the sole reason for the existence of civil authorities', which should do so for the benefit of all citizens and for every human being [35, sect. 54, 56]. Public authorities implement the common good in various ways, including creation of institutions capable of regulating social life [9] and provision of public goods, whose collection some even identify with the common good [cf. 31]. At the same time, taking into account the above considerations, the common good is not a precise institutional project but can also be understood as meeting a set of principles of life in society [cf. 9]. Therefore, the implementation of these principles in the practice of the functioning of a given community is in this regard the creation of the common good, while the lack of their implementation might contribute to the 'common evil' [cf. 21, p. 189]. The obstacles to the creation of the common good violates those principles, causing the erosion of the common good. In this sense, treating various aspects of financialization as obstacles, chapter four deals with the erosion of the common good.

4. The Erosion of the Common Good in the Era of Financialization

The principle of the common good particularly close to economists is the principle of efficient use of limited resources, which is associated in particular with thrift, frugality and not wasting resources. The distortion of this principle is the so-called 'efficiency ethos', which justifies any economic activity, if it leads to increased efficiency [10, p. 83]. Increased efficiency can lead to an increase in the so called 'general interest', defined as 'the sum of the individual interests of egoistically oriented individuals' [12, p. 90]. In the era of financialization, more and more complex financial instruments are created to increase efficiency and profits, not taking into account the threat of growing systemic risk [12], which threatens the common good, as evidenced by the economic effects of the recent financial crisis. In contrast to the general interest, the common good requires the cooperation of members of society and genuine care for it, which is not taken into account by the worldview based on the ethos of efficiency [10]. Another example of misuse of efficiency in the era of financialization is negative selection in managerial positions, which involves the replacement of honest persons by dishonest ones, who e.g. use psychological weaknesses and lack of information of their clients, due to the better financial results of the latter [4].

In the context of the misinterpretation of the principle of efficiency, it is worth discussing the principle of freedom – the pursuit of the common good does not deprive the individual's freedom as a member of society, however, as it results from the above considerations about the essence of the common good, this freedom is not absolute. Under the dominance of the ethos of efficiency, when efficiency ceases to be used to obtain benefits and becomes the only criterion for behavior, in an economy theoretically built on freedom of choice, market players in practice have no choice, acting under duress [10]. In the market system of the era of financialization, consumers also do not make free choices, due to the existence of enterprises that manipulate consumer tastes and disrupt they ability to evaluate and correctly choose what to buy [4]. Also, the purchase of risky financial instruments, which are the main cause of financial crises and subsequent recessions, can be considered in terms of 'phishing' customers who do not have adequate knowledge about purchased financial products [4, p. xxix].

A principle related to the one of effective use of limited resources is the principle of prosperity – the common good is associated with the situation of satisfying basic individual and social needs, for which the state is traditionally responsible (at the central, regional and local government levels). The sources of financing these needs are primarily taxes. Financialization as an effect of, among others, deregulation of financial activity is also based on the fact that generally financial transactions, including short-term speculative flows, are not taxed (taxation of financial transactions was once proposed by the winner of Nobel Memorial Prize in Economic Sciences James Tobin) [cf. 10], which means that financial markets, despite their growing importance in the economy and the large scale of turnover, do not support the state in providing public goods. Such taxation would also increase the 'financial markets stickiness', which would limit extremely dynamic price changes in those markets whose volatility is not justified in processes of real economy and serves only the speculators [cf. 12, p. 119]. Moreover, it is pointed out by Dembinski and Beretta that the negative role of rating agencies (as a manifestation of financialization), involving the exerting pressure on domestic economic and fiscal policy to meet the expectations of financial markets, does not serve the state to meet social needs [cf. 12].

The principle of justice is related to the principle of prosperity, wherein justice can be understood very differently [cf. 40]. The principle of justice in this work concerns the need of participants in social life (e.g. individuals, business entities) to bear the consequences of their choices. It strengthens the principle of efficient use of limited resources and the further discussed principle of responsibility. For example, according to this principle, the bankruptcy of a company that managed its finances poorly, because of missing responsibility or skills of its managers, is a just result. However, when a large economic entity is saved by the state, with the argument that its bankruptcy would have negative consequences for the entire financial system, this is considered unfair, especially when the entity has been proven guilty of performing very risky financial

operations (the ‘too big to fail’ or ‘moral hazard’ problem). This situation, which depicts one of the side effects of financialization, affects the sense of justice in society, which can have negative consequences for economic decisions and economic activities, and thus for the common good [cf. 3].

The just-mentioned principle of responsibility means that the common good is based on the accepted responsibility before or at the time of the action (*ex ante* responsibility) of individuals and social groups, including the responsibility towards each other. *Ex ante* responsibility is taking into account the potential consequences and impact of actions taken under the responsibility, and acting with awareness of the consequences for others and the values at stake [11, p. 42]. Therefore, responsibility limited to financial compensation for damages paid after the fact (*ex post* responsibility), which leads *de facto* to the total disappearance of the sense of responsibility for consequences of ones actions, is unacceptable [cf. 11, 12]. In this context, the manifestations of financialization are the existence of speculative capital and the character of a speculator who strives for short-term profits by changing entities, countries and regions of investing without being responsible for his decisions in relation to them. This is due to the complexity of financial markets, which overshadows the consequences of actions and promotes the division of responsibility, so that in fact it is not known who is responsible. Consequently, speculators are moving in a ‘closed space of finance, feeling there more powerful than other participants of economic life’ [10, p. 190].

The principle that particularly emphasizes the social dimension of the common good is the principle of solidarity – every person and every social group is important in creating the common good, which requires sharing limited resources within a given community. Solidarity applies to various groups, including family, business, state and the world. A violation of this principle at the level of joint-stock companies is the shareholder value optics, characteristic of the phenomenon of financialization. According to this view ‘the most important manager's responsibility is to maximize shareholder assets, achieved by caring for higher and higher share prices’, which means that the company's other stakeholders (including employees, clients) become somewhat ‘tools for achieving the shareholders' goals’ [12, pp. 54-55]. The common good of the firm in the aspect of solidarity requires the use of management optics that takes into account all stakeholders without discriminating anyone. This requires not only the recognition of the moral sense of the common good, but the orientation of management towards a firm-specific common good, which is not the sum of individual goods of stakeholders. Public and legal recognition of such business management optics would be tantamount to legitimizing the common good at the level of economic activity [cf. 12].

The social and personal dimensions of the common good concern the principle of primacy of interpersonal relations – the common good is primarily based on relationships between people as thoroughly relational beings. Financialization is a serious threat to these relationships, which prompted Dembinski [10, p. 20] to define financialization as a process of ‘profound changes in the relationship of the two basic elements typical of every community: relationships and transactions’. According to this author, ‘financialization is about instrumentalizing relationships for transactional purposes,’ which ‘directly harms the relationship between partners: they become more cautious and less willing to engage in new relationships’ [10, p. 181]. An example of such instrumentalization was the establishment of relationships by banks with their clients in the form of sub-prime loans, which was not aimed at establishing long-term relationships with clients (it was known that borrowers may have a problem with loan repayment), but was dictated by the desire to make the bank's debt claims the subject of transactions by using debt securitization [cf. 10; 13]. Thus, from the point of view of the common good, there is a need ‘to restore the primacy of relationships over the subordinated transactions in every sphere of life – with particular emphasis on finance and economy’ [12, p. 150].

The above principles of the common good are complemented by the institutional principle – the implementation of the common good requires specific institutional solutions in the form of the common good structures. Examples of such structures are the Financial Activities Observatory (www.obsfin.ch), which attempts to link ‘the world of financial techniques to the ideas of the

common good' [10, p. 229], banks implementing codes of good conduct, 'contributing to the dissemination of best practices' and 'reminding managers of various types of risk that they might otherwise forget' [13, pp. 73-74] or ethical funds that are guided by the principles of socially responsible investing [cf. 8]. Somehow opposing to the structures of the common good are the 'structures of sin' [36, sect. 36-40], defined as 'institutional order established by man, conditioning and encouraging others – often socially subordinate – to do evil or, interchangeably, to discourage doing good' [12, p. 147]. The structures of sin 'come from individual sins: greed, pride, egoism, disloyalty and lies, which are transformed into specific organizations or legal structures' and thus have a great impact on society [12, p. 147]. The problem of 'sin structures' is also very serious because they affect people who participate in these structures due to the mechanism of cognitive dissonance: 'when actions carried out by a given person become inconsistent with their previous convictions, that person often changes their convictions' [42, p. 233]. In the era of financialization the examples of sin structures are often hedge funds, whose 'main sin' is an access to confidential information, allowing them above average returns from stock market investments [45, p. 309]. The structure of sin in the form of a financial pyramid turned out to be the hedge fund owned by Bernard Madoff. This was possible because of the absence of reaction from the US Securities and Exchange Commission (SEC), which did not detect the existence of this fraudulent investment program, despite reports from stock analysts [cf. 42]. The importance of institutional issues consider also the subsequent parts of the work.

5. The Document *Oeconomicae et Pecuniariae Quaestiones* as a Response to Financialization

Financialization is of interest to CST, as evidenced by the document entitled *'Oeconomicae et pecuniariae quaestiones' [Economic and financial issues]. Considerations for an ethical discernment regarding some aspects of the present economic-financial system*, prepared by the Congregation for the Doctrine of the Faith and the Dicastery for Promoting Integral Human Development, which was published in May 2018. Although the term is not mentioned in the document, it refers to a number of issues discussed above.

In the introduction the assumption was made that there is no area of human activity, which in relation to ethical principles based on freedom, truth and solidarity, is impenetrable or is beyond them [32, sect. 4]. The economy, like any other sphere of human activity, according to the words of Benedict XVI from the encyclical *Caritas in veritate*, even 'needs ethics in order to function correctly — not any ethics whatsoever, but an ethics which is people-centred.' [32, sect. 8]. In this context, it was stated that 'every human action, even in the economic sphere, implies some conception of the human person and of the world' [32, sect. 9]. Today, the vision of the human person is often reduced – a human is perceived as an individual and a consumer, and not as someone having a 'relational nature and a sense for the perennial search for gains and well-being that may be more comprehensive, and not reducible either to a logic of consumption or to the economic aspects of life' [32, sect. 9]. It has also been rightly noted that in reality, 'in the transmission of goods among persons there is always something more than mere material goods at play, given the fact that the material goods are often vehicles of immaterial goods whose concrete presence or absence decisively determines the quality of these very economic relationships (for example, trust, equity, and cooperation)' [32, sect. 9].

Consequently, in the document, referring to the pastoral constitution *Gaudium et Spes*, we find the principle that 'all the endowments and means that the markets employ in order to strengthen their distributive capacity are morally permissible, provided they do not turn against the dignity of the person and are not indifferent to the common good' [32, sect. 13]. At the same time, it was emphasized that 'markets, as powerful propellers of the economy, are not capable of governing themselves. In fact, the markets know neither how to make the assumptions that allow their smooth running (social coexistence, honesty, trust, safety and security, laws, and so on) nor how to correct those effects and forces that are harmful to human society (inequality, asymmetries, environmental

damage, social insecurity, and fraud)' [32, sect. 13]. For this reason, the recent financial crisis, according to the authors of the document, not only gives rise to building a new economy that will take more account of ethical principles, but also to introducing new regulations for financial activities to neutralize 'predatory and speculative tendencies' in the financial markets and to 'acknowledge the value of the actual economy' [32, sect. 5]. Especially since 'financial industry, because of its pervasiveness and its inevitable capacity to condition and, in a certain sense, to dominate the real economy today, is a place where selfishness and the abuse of power have an enormous potential to harm the community' [32, sect. 14].

What would the abovementioned regulations apply to? Firstly, it would involve 'supranational co-ordination among diverse structures of local financial markets' through cooperation between national regulatory authorities to ensure binding decisions 'in the face of the threats to the common good' [32, sect. 19, 21]. Secondly, it would be about 'serious control of the quality and reliability of every economic-financial product, especially of those more structured' [32, sect. 21]. In addition, 'when the velocity of the innovative processes produces excessive systemic risk, the economic operators must accept the obligations and limits that the common good demands' [32, sect. 21]. It is the regulatory and institutional vacuum that creates 'space not only for moral risk and embezzlement, but also for the rise of the irrational exuberance of the markets, followed first by speculative bubbles, and then by sudden, destructive collapse, and systemic crises' [32, sect. 21]. Thirdly, a concrete institutional solution of a formal nature would be the establishment of Ethical Committees within the banks that would ensure compliance with accepted standards for decision-making processes and major financial products [32, sect. 24].

Institutions can be described as 'rules of the common life' [48, p. 109], which emphasizes their key importance for the common good. As part of CST, it is recognized that 'ethical behavior emerges only within the framework of the right institutions', especially those that 'facilitate greater dialogue between the different interests represented in production organizations' [30, p. 13]. Thus, 'individual ethics should be complemented by socio-economic institutions helping individuals to work for the common good, and including a renewed emphasis on ethical education, common definition of entitlements, and acknowledgement of the duties that accompany personal rights' [30, p. 13].

6. The Importance of Institutional Approach to the Phenomenon of Financialization

According to Sen [41, pp. 7, 9], 'the nature of modern economics has been substantially impoverished by the distance that has grown between economics and ethics', therefore 'economics, as it has emerged, can be made more productive by paying greater and more explicit attention to the ethical considerations that shape human behavior and judgment'. Once, at the beginning of economics, it was different thanks to its father, a moral philosopher Adam Smith, who in the *Theory of Moral Sentiments* perceived moral standards as the main pillar of the wealth of nations [cf. 6]. Although he noticed that 'in the sphere of economic behavior, the motive of profit is particularly important, this does not mean that in this area of activity people should not be guided by the principles of ethics and morality and what Smith called sympathy, which today is rather associated with the concept of empathy' [38, p. 266]. It seems that such ethical concepts as justice, honesty and thrift are still key to explaining the wealth of nations [6]. However, today in the mainstream of economics, i.e. neoclassical economics, there is a paradigm of using mathematically rigorous tools to determine the efficient allocation of resources. In this approach, the behavior of market entities is considered ethically neutral, and behavioral problems, including issues of information asymmetry or moral hazard, are recognized as incentive problems, and not as ethical issues [6]. As a result, such well-known financial theories as Markowitz's portfolio theory or Fama's efficient market hypothesis are devoid of reference to moral standards [6]. On the basis of these achievements, awarded the Nobel Memorial Prize in Economic Sciences, the 'ethos of efficiency supported by proven truths' was created, which 'gradually broke the resistance of an ethical or moral nature', 'becoming the final criterion for judgment' [25, p. 226].

Ethical issues can be considered in the framework of the new institutional economics. Institutions defined as 'the rules of the game in a society or, more formally, […] the humanly devised constraints that shape human interaction' are divided into formal and informal [29, pp. 3-4]. Interrelated formal and informal institutions shape the so called 'institutional matrix' [1, 29, p. 7]. Mainly spontaneous informal institutions (including traditions, customs, norms, shared values, religion) impose restrictions on formal institutions, which in turn affect those informal institutions on the basis of feedback loops [cf. 1, 49].

The definition of the institutional matrix shows that in the case of establishing formal institutions incompatible with informal institutions, there might be changes in informal institutions, as a result of feedback loops. Thus, for example, if we adopt certain mechanisms of the functioning of financial markets (as a certain formal institution) that allow the creation of complex financial instruments whose risk is in practice impossible to estimate, it may lead to transformations of informal institutions, e.g. a sense of responsibility for one's own actions, which is associated with blurring the distinction between what is good and what is bad (thus affecting the sphere of morality). This way of changing informal institutions is also indirectly demonstrated by the retributive theory in criminal law: if something is legally permissible and is not met with opposition, it may consequently be considered good and right [cf. 47]. Translating this into finance, consent to the current model of functioning of financial markets (as a manifestation of financialization) has led and can further lead to reevaluations in informal institutions. It is also noticed that, due to financialization, 'the importance of material values has increased, the importance of financial benefits as a basis for making decisions in various areas of personal life has increased' [1, p. 53].

Other basic concepts of new institutional economics can also be used to show some ethical issues in financial markets. Firstly, according to Blommestein [6, p. 59] 'financial markets that lack integrity are characterized by relatively high transaction costs and therefore operate less efficiently than markets that are characterized by a high degree of honesty and credibility'. This is associated, for example, with opportunistic activities that are a consequence of imperfect information and uncertainty of information [6]. Secondly, the contract, which means an institution shaping human interactions using formal rules, is related and conditioned by a network of informal rules and standards, including moral standards [6].

Nevertheless, not only neoclassical finance theories, but also new institutional economics is unable (for now) to explain the relationship between the credibility and efficiency of financial markets and moral standards. Therefore, according to Blommenstein [6], one should strive to explain why moral standards play a key role in the evolution towards more effective and complete financial markets.

At the same time, there is no doubt that efficiency should not be a criterion of choice in decisions where moral issues are important, but it is the developed moral standards that should set the boundaries of pro-efficiency aspirations. Thinking in this way, the conclusion is that institutional solutions that would introduce a certain ethical framework in the world of finance should precede rather than follow a new financial theory that would take into account the ethical considerations of operations on financial markets. Looking from this angle, it does not seem reasonable to criticize financialization as a construct that would be an obstacle to the emergence of a new financial theory [cf. 27]. Defining financialization and explaining the mechanisms of this phenomenon may first become the basis for institutional solutions, and then the basis for theoretical constructions using the achievements of the new institutional economy, as part of the institutional approach in finance.

These considerations prove how close the financial (and economic) sphere relates to the ethical one, and that they are in practice inseparable. For this reason, there are no ethically neutral economic and financial theories, unless the theory is: purely mathematical, not based on any assumption about the nature and choices of man and devoid of the social context of market processes, actually not going beyond purely technical or abstract issues. Otherwise it will only be 'apparent neutrality'. For example, the formulation that 'financial theories are (largely) devoid of

moral content' [6, p. 61] means that these theories are not explicitly related to ethical issues. However, this does not mean 'real neutrality', because these theories implicitly refer to certain ethical assumptions, and may also lead to moral consequences.

A good example is the widespread and still key mainstream economics and finance model of 'the economic man' (*homo oeconomicus*) as a certain image of man [cf. 22], who aims to 'maximize wealth, profit, utility or preference' [cf. 16, p. 8]. It is true that the *homo oeconomicus* is only an abstract model, but following the principles derived from the assumptions on which it is built in economic reality, can lead to specific moral consequences for the individual and society [16]. Also, the fundamental dogma of finance, which recognizes the maximization of value for shareholders, is normative, because it shows a specific purpose of action and may be subject to moral evaluation [cf. 7]. In fact, it is impossible to separate means to achieve goals (as a traditional subject of financial theories) from goals alone (as a possible subject of ethics) within financial theories, because the choice of goals is ethically entangled [cf. 7]. In practice, the general assumptions and specific doctrines of finance theory not only affect the perception of financial managers in terms of how to proceed to achieve goals, but also affect the choice of what should be targeted [cf. 7].

7. Conclusions

Currently, financialization can be considered the most important 'organizational principle' [10, p. 193] not only of economies, but also of societies and smaller communities. In the fourth part of the study it is proved that the principle stands, at various levels, in contradiction with the idea of the common good. In fact, the concept of the common good can be considered as an alternative organizational principle of socio-economic reality.

Better understanding of the phenomenon of financialization and the importance of the common good, can be achieved by applying an institutional approach in economics and finance. It seems that institutional changes, including those of a regulatory nature, are necessary to reorient the socio-economic perception from the optics of financialization to the common good. Somewhere at the junction of these institutional issues and various ethical issues concerning functioning of financial markets, one can see the emergence of a new institutional theory of finance. Such a theory would be grounded in a realistic worldview, which puts observations and description of the changing reality over deductive thinking. The latter leads to conclusions which are coherent, but over-simplified and often contrary to reality [cf. 12].

Another possibility is the emergence of 'a new discipline, closer to sociology, that would attempt to describe markets and financial institutions, social networks and power relationships' [28, p. 26]. It would also be interesting to develop the concept of financial personalism (personalistic finances) similar to the concept of economic personalism (personalistic economics) [cf. 20]. The creation of an 'ethical political economy' based on CST was also raised, whose core would be the vision of the common good with its three pillars of justice, solidarity and subsidiarity [26, p. 45].

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Multi-Factor Evaluation of the Financialization Degree of Polish Households in the Background of the Euro Area

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Abstract:
Financialization is a term that is becoming increasingly popular in the Polish literature. One of its important aspects, which is multidimensionality, is often emphasized. It is a process whose effects are visible at all levels of the economy. The effects of financialization could be seen both at the national level and in the basic economic unit, which is a household. Firstly, the purpose of this study is to analyze changes, which in literature are considered to be symptoms of financialization in Polish households. The second, no less important goal, is to compare the level of financialization of Polish households with the level characteristic for countries belonging to the euro area.
Keywords: household financialization, humanistic economy, ethics in finance, social capital.

1. Introduction

In a general sense, financialization means the increasing role of financial motives, financial markets, financial actors, and financial institutions in the operation of the domestic and international economies [2, p. 3]. Financialization is also defined as a pattern of accumulation in which profits accrue primarily through financial channels rather than through trade and commodity production. Financial refers to activities relating to the provision of liquid capital in expectation of future interest, dividends, or capital gains [7, pp. 174-175].

Until now, this phenomenon has been mainly examined by economists, but its multilateral conditions and effects influencing various spheres of social life make sociologists, representatives of political sciences and ethicists increasingly interested in financialization. It is also the subject of journalistic works and press articles. In the Polish literature the term *finansyzacja* is sometimes used, but it seems that the term *finansjalizacja* better reflects the processual nature of this phenomenon, clearly indicating its continuity and developmental character [9, p. 210].

The global financial crisis of 2007-08 pushed households closer to the center of the discussion – though only to a certain extent. In a review of the key literature concerned with the rise of global finance prior to the crisis, Richard Degg and Mary O'Sullivan [1, p. 731] identified a number of essential works focused on financial firms, rating agencies, governance structures, and

capital account liberalization – but none that dealt with household financial activities – in an in-depth manner. Numerous pre-crisis works did warn of instability produced by exotic financial instruments based on household borrowing – and most post-crisis autopsies focused on those instruments to some degree [6, pp. 67-87].

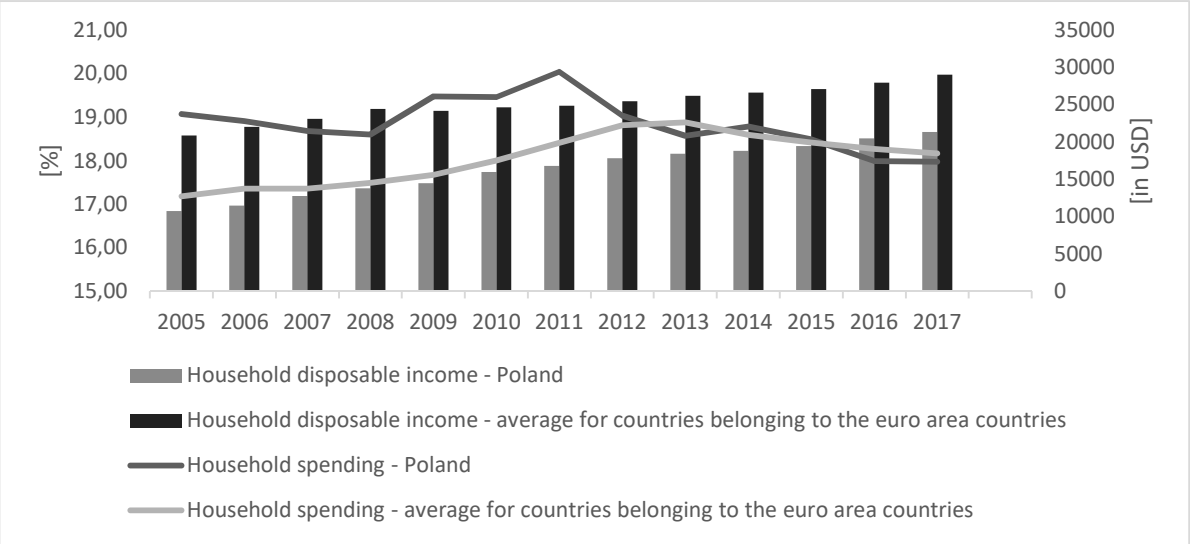
Individual people are no longer only consumers traditionally understood, but they have also become investors on a smaller or larger scale. Real estate, which previously was only assets that satisfied existential needs, have become an object of investment and a source of additional income [10, p. 5]. From a different perspective, in the matter of the financialization of everyday life, the literature also refers to the problems of low middle class income, participation in retirement plans, taking out mortgages and using other financial products offered on the market. People through active relations with the financial market make various decisions and expose themselves to a number of different risks [11, p. 38].

Household financialization can be defined in two ways. The first approach says that the financialization of households manifests itself primarily in the increasing sale of financial products to all households [3, pp. 575-601]. According to the second approach, households come to embrace a more proactive and entrepreneurial management of their finances to capitalize on the opportunities these products present. In other words, they begin to think more financially. They conceive of their wealth as deployable assets. They embrace risk and trade stocks. They use leveraged equity to fund investments and consumption expenditures [5, pp. 120-144].

A growing level of financialization among households is undoubtedly due to an increase in the average monthly income per individual member. Increasing level of disposable income (fig. 1), both in Poland and in the countries belonging to the euro area, makes households take one of the necessary decisions concerning the form of investing free financial resources. It seems obvious that the more money available to household members, the greater their propensity to risk. A wealthy household will more often choose more risky forms of investing free capital. They are aware of potentially higher profits, and a potential loss will not deprive them of the possibility of further existence. In the literature, this behavior is considered one of the manifestations of financialization.

In the scientific literature, the expression “financialization of daily life” thus covers remarkably diverse situations. It signals the description of a world in which individuals find themselves constrained by the faceless private actor called finance, where their desires are greatly shaped by this same actor, as is their inclusion in society, which, through the term “financial inclusion”, is itself increasingly associated with their inclusion in finance. The definition of this expression, however, remains relatively vague: for some, it refers to the presence of money or of a formal financial institution in a space that has previously been given to community trade; for others, the term is used to designate changes in the modes of financing certain public actions and policies, or to point out the need for households to manage their money by using complex financial products [8, pp. 28-29].

Figure 1. Household disposable income, gross adjusted, (in US dollars/capita) and household spending(% of disposable income).



Source: Own study based on OECD National Accounts Statistics: National Accounts at a Glance.

2. General Characteristics of the Empirical Research

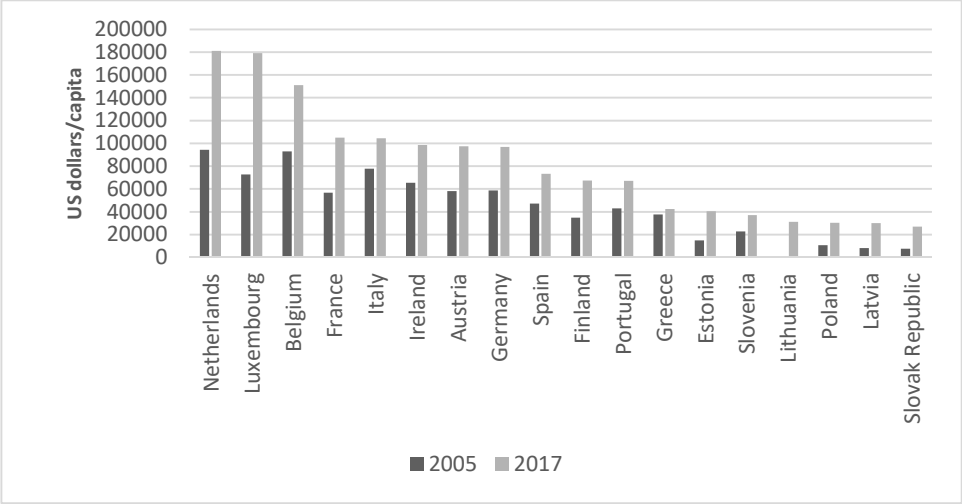
The purpose of this study is an attempt to answer the question whether household financialization is a process which, although to a small extent, concerns Polish households, or it is still a phenomenon which poses no threat to the Polish economy? Another equally important goal of the article is to measure the level of financialization of Polish households by means of a multifactorial development analysis and a summary of the obtained results in relation to the countries belonging to the euro area. The article formulates two hypotheses. The first of them assumes that the process of financialization is a phenomenon whose level is increasing among Polish households. The second says that the level of financialization in Poland is at a much lower level than in the countries using the single currency. In order to verify the hypotheses described above, such indicators as the level of households' financial assets, the share of their individual components in the total structure, as well as the debt level of the described entities have been used. The conducted research has allowed to draw conclusions about whether financialization threatens Polish households in any way. A comparative analysis has also been conducted, and the results obtained for Polish households compared with those for households in the countries that are members of the euro area. A detailed description of the variables adopted for the research and the methods for determining the synthetic indicator is provided later in this work. In order to analyze and make proper conclusions, data from 2005-2017 have been used. The source of the empirical data for the study have been the information published by the OECD. Due to the incompleteness of such data, the analysis has omitted two countries belonging to the euro area. They are Malta and Cyprus.

3. The Results of the Empirical Research

In reference to the first figure, which was presented in the first part of the article, the amount of income that is available to the household members is constantly increasing; it can therefore be assumed that their financial assets are also growing. Household financial assets include: currency and deposits; securities other than shares; loans; shares and other equity; net equity of households in life insurance reserves; net equity of households in pension funds; prepayments of premiums and reserves against outstanding claims; and other accounts receivable This assumption is also confirmed by the conducted research. Each of the surveyed countries is characterized by the above tendency (fig. 1). The countries that recorded the highest increase in the level of savings are The Netherlands, Luxembourg, and Belgium. The countries such as Poland, Latvia and Slovakia have

the lowest level of financial assets. It is worth emphasizing, however, that despite the lower values achieved by the mentioned countries, the dynamics of changes in this indicator remains at a satisfactory level. For example, the financial assets of Polish households have increased their value almost threefold over the last twelve years (2.8).

Figure 2. Household financial assets (US dollars/capita).



Source: Own study based on OECD National Accounts Statistics: National Accounts at a Glance.

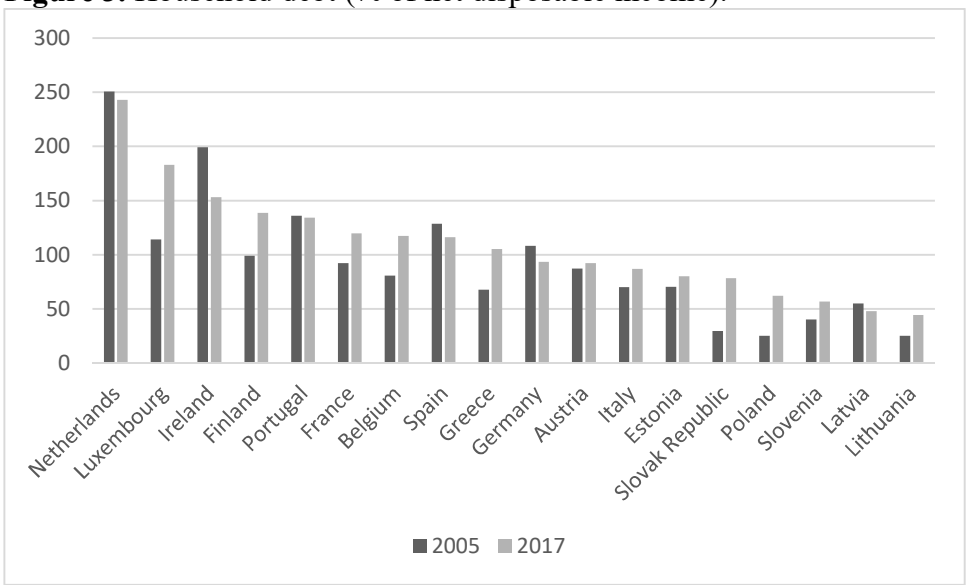
The essence of financialization is not the increase in savings by itself. A symptom that may show a deepening process is changes in the structure of free cash being saved for the future. The table below presents the changes that took place in the savings structure of the studied countries over the period taken in consideration. It turns out, that even though for some researchers, the increase in the level of financialization is something obvious, in some countries it is not entirely unequivocal. It is noteworthy that only nine out of the seventeen analyzed countries recorded a decrease in cash and deposits, which are considered ones of the safest forms of investing free cash in contrast to more risky ones. Only in 8 countries an increase in the value of shares and other equity in the savings structure can be noted.

Table 1. Structure of savings in the selected countries belonging to the euro area and Poland (in%). Source: The author's own work based on OECD National Accounts Statistics: National Accounts at a Glance.

		2005	2008	2011	2014	2017	2017/2005 (in %)
Austria	**Currency and deposits**	42.60	44.50	42.60	40.30	40.74	-4.37
	Securities other than shares	6.61	8.78	8.70	6.99	4.94	-25.31
	Shares and other equity	18.39	16.64	18.78	21.33	22.88	24.39
Belgium	**Currency and deposits**	27.30	30.50	29.60	29.80	29.73	8.90
	Securities other than shares	10.95	10.05	10.20	6.30	3.54	-67.72
	Shares and other equity	23.31	22.58	25.10	27.52	26.98	15.78
Estonia	**Currency and deposits**	22.50	22.70	30.10	26.80	28.67	27.42
	Securities other than shares	0.29	0.76	0.24	0.16	0.23	-22.11
	Shares and other equity	62.83	63.39	54.28	56.44	51.59	-17.89
Finland	**Currency and deposits**	31.10	39.70	38.10	30.70	30.26	-2.70
	Securities other than shares	1.78	2.14	2.64	1.97	1.20	-32.53
	Shares and other equity	36.41	29.90	31.78	36.79	38.92	6.89
France	**Currency and deposits**	30.00	30.40	29.30	28.80	27.37	-8.77
	Securities other than shares	2.16	2.23	2.03	1.73	1.07	-50.49
	Shares and other equity	22.43	17.86	18.18	20.51	22.80	1.65
Germany	**Currency and deposits**	35.20	39.40	39.80	39.10	39.25	11.51
	Securities other than shares	7.67	6.35	5.39	3.77	2.57	-66.50
	Shares and other equity	12.47	9.44	8.93	9.90	10.85	-12.95
Greece	**Currency and deposits**	50.70	71.20	79.60	69.40	60.91	20.14
	Securities other than shares	11.08	9.00	5.25	1.31	1.21	-89.05
	Shares and other equity	24.60	6.90	3.59	19.13	26.66	8.39
Ireland	**Currency and deposits**	35.80	42.80	40.70	37.10	36.84	2.91
	Securities other than shares	0.06	0.06	0.07	0.12	0.06	8.93
	Shares and other equity	21.92	16.22	15.49	13.81	12.09	-44.83
Italy	**Currency and deposits**	23.60	29.10	31.30	30.90	30.88	30.85
	Securities other than shares	19.05	21.27	20.70	13.70	6.91	-63.73
	Shares and other equity	28.25	24.33	18.47	22.61	24.11	-14.66
Latvia	**Currency and deposits**	46.60	33.50	32.60	37.10	32.17	-30.97
	Securities other than shares	0.06	0.13	0.62	0.84	0.81	1363.64
	Shares and other equity	16.85	22.33	6.01	21.42	24.18	43.54
Luxembourg	**Currency and deposits**	52.00	55.00	52.60	49.90	45.91	-11.71
	Securities other than shares	6.02	11.16	11.17	7.61	4.26	-29.31
	Shares and other equity	15.71	11.56	11.99	13.90	22.75	44.88
Netherlands	**Currency and deposits**	21.40	22.40	21.50	19.10	16.82	-21.40
	Securities other than shares	1.89	1.79	1.06	0.47	0.32	-83.35
	Shares and other equity	14.00	11.90	9.80	8.41	11.15	-20.35
Poland	**Currency and deposits**	37.60	46.60	48.30	46.00	47.11	25.29
	Securities other than shares	1.29	0.96	0.65	0.28	0.51	-60.16
	Shares and other equity	32.77	19.60	17.78	19.72	20.43	-37.66
Portugal	**Currency and deposits**	38.80	41.80	43.80	43.40	43.81	12.91
	Securities other than shares	5.00	5.19	5.79	4.09	3.43	-31.30
	Shares and other equity	20.47	20.70	19.77	20.86	23.52	14.91

Slovak Republic	**Currency and deposits**	66.70	60.70	63.60	61.10	60.41	-9.43
	Securities other than shares	0.51	0.24	2.09	1.35	3.51	589.02
	Shares and other equity	0.30	0.38	0.40	0.54	0.90	198.67
Slovenia	**Currency and deposits**	50.40	48.00	50.20	49.00	49.29	-2.20
	Securities other than shares	1.81	1.39	1.33	0.66	0.40	-78.13
	Shares and other equity	24.43	25.17	21.69	22.15	22.72	-7.01
Spain	**Currency and deposits**	36.40	46.80	47.00	42.90	39.17	7.61
	Securities other than shares	2.13	2.25	4.76	1.75	0.84	-60.50
	Shares and other equity	30.81	23.53	23.05	25.57	27.56	-10.55

Figure 3. Household debt (% of net disposable income).



Source: Own study based on OECD National Accounts Statistics: National Accounts at a Glance.

Household financialization can also be analyzed from the perspective of the debt of the described units. The increasing level of this indicator shows that this process is becoming more and more widespread. A growing part of income is allocated to repayment of debt, which results in an increase in financial costs (due to interest payments) in the total amount of expenses. The countries where the debt ratio was at its highest are The Netherlands, Luxembourg, and Ireland. Compared to most of the euro area countries, Poland was a state with a relatively low level of debt (it was in fourth place from the end). It is worth noting that almost all countries recorded an increase in the level of debt over the years 2005-2017.

4. The Multi-factor Analysis of the Financialization Process Level

In order to compare easier the degree of financialization of the Polish households to the countries belonging to the euro area, a synthetic measure has been calculated. This indicator makes it possible to assess to what extent the households are affected by the above phenomenon. For the purposes of this article, the degree of household financialization is assessed through the prism of features that have been divided into two groups. The first of them collects variables according to the structure of savings accumulated by household members, while the second one combines some features reflecting the level of debt. Out of the six selected variables, each of them may be of a different nature. In this article, the degree of financialization is characterized by five stimulants and one destimulant (table 2). Stimulants are those financial indicators whose growth is a positive trend in the development of the phenomenon, and in this case, it shows an increasing level of financialization. On the other hand, destimulants are indicators whose decline is a positive trend in the development of the phenomenon. The share of cash and deposits in the total number of financial

assets in the analyzed case is the only destimulant in which decreasing values should be considered as a sign of increasing financialization.

Table 2. Partial indicators used in the algorithm of the synthetic indicator of the level of household financialization (FINHH).

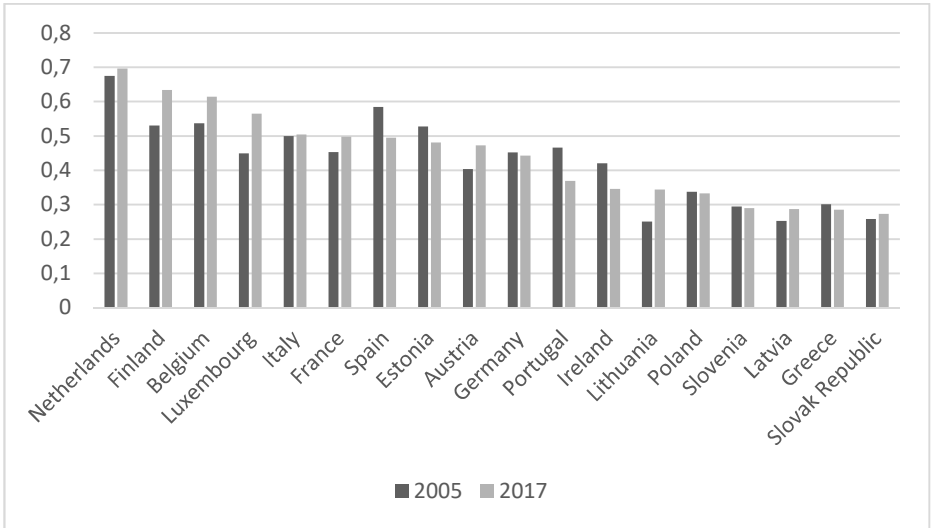
Analysis Area	Variable (feature)	Nature of variable
Structure of household savings	X_1 - Currency and deposits, % of total financial assets,	destimulant
	X_2 - Shares and other equity, % of total financial assets,	stimulant
	X_3 - Mutual fund shares, % of total financial assets,	stimulant
	X_4 - Investment rate of households, % of fixed capital formation / gross disposable income,	stimulant
Household debt level	X_5 - Gross det-to-income ratio of households, % of loans, liabilities / gross disposable income	stimulant
	X_6 – Credit / deposit ratio	stimulant

In order to show the level of household financialization six features have been selected, divided into two groups. The first group includes such variables as Currency and deposits, % of total financial assets, Shares and other equity, % of total financial assets, Mutual fund shares, % of total financial assets, Investment rate of households, % of fixed capital formation / gross disposable income. All of them reflect the way of shaping household savings. The second group covers variables characterizing debt level. The selection of such and not different factors has not been casual. Household financialization is reflected in the fact that the financial sphere is becoming increasingly common in the daily life of its members. What is more, household financialization is not locating of savings in the safest forms but searching for new, more risky ones.

The values of the synthetic indicator thus calculated, showing the level of financialization, prove that the distance between Polish households and those belonging to the euro area is still quite large. The research conducted for the purposes of this article has shown that the countries with the highest degree of financialization are The Netherlands, Finland, and Belgium. Poland, with an index of just over 0.3, is the fifth country from the end. Interestingly, four countries from the euro area have an even lower rate of financialization level than Poland.

In order to characterize the dynamics of the multidimensional phenomenon of financialization, not all countries have recorded its progress. In some countries, the years 2005-2017 were the time of a decline in the level of financialization (these countries include Poland). In nine cases its increase can be noted.

Figure 4. A synthetic indicator measuring the level of Poland's financialization process against the background of the euro area countries.



Source: Own study.

5. Conclusions

The financialization process is a dynamic and multifaceted phenomenon. Due to this fact, it is difficult to measure accurately the level of this phenomenon. This can be particularly difficult for households, often associated with a lack of access to relevant data. However, based on the analysis, the following conclusions can be made:

- Changes in the level of financialization of Polish households can be noticed; in most cases, however, these are changes showing that the level of financialization process of Polish households is nevertheless decreasing slightly.
- The level of financialization of Polish households is at a much lower level than in most of the euro area countries. It is worth emphasizing, however, that it is not the lowest.
- In the future, it is possible to extend the synthetic measure and add other variables characterizing the level of financialization, such as: the amount of financial interest, the ratio of mortgages taken for investment purposes or for housing purposes. However, it should be borne in mind that these data are difficult to access
- It can be considered almost certain that financialization is an inevitable process. It is worth emphasizing, therefore, that in the interest of individuals as well as the general public, striving to have sufficiently high knowledge in the field of universally understood finances seems to be almost a necessity. Without sufficient knowledge in this field, an individual can succumb easily to pressure from the environment and manage their personal finances in a too risky manner.
- Many aspects of household financialization can have negative effects on the stability and financial security of households. As in the macroeconomic sphere, financialization is treated as the causative agent of financial crises [4, p. 299-311].
- However, the research has shown that household financialization is not a major threat now. This process does not show any sharp upward trends, and in some countries, there is a downward trend.

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Social Trust as a Development Factor – Selected Aspects

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Abstract:
The aim of the article is to present selected relationships between social trust and the development of a territorial unit. Social trust affects the level of cooperation in society and decides about the competitiveness of a territorial unit [12, p. 7]. The main thesis of the article is the author's conviction that there is a significant correlation between social trust and the activity of citizens, the consequence of which is the development of territorial units. This relationship applies to different categories of units, the article mainly focuses on municipal units. The conclusions presented are a consequence of the analysis of information sources and surveys carried out in three cities: Cracow, Helsinki and Valletta. The socio-economic situation of Poland, Finland and Malta is varied, also due to historical and political conditions. Social trust in these cities depends on different factors. Everywhere, however, significantly affects the direction of urban development, accelerating and stabilising it. Trust is a component of social capital, which translates into the ability to build an innovative and modern economy. In countries where citizens trust each other, a sense of security increases which significantly affects well-being.
Keywords: social trust, social capital, development, activity, territorial unit.

1. Introduction

Urbanisation is a process characteristic of both developed and developing countries. For the former it is a natural consequence of change, for the latter it is a stimulus for their introduction. The aim of the article is to demonstrate that the development of urban space is particularly dependent on public trust. The main thesis is the author's conviction that there is a significant correlation between social trust and the activity of citizens, the consequence of which is the development of territorial units. Investment efficiency and, consequently, the pace of city development depends on the level of social trust. Formulated models and development initiatives included in development plans and strategies are not effective enough to meet the problems of 21st century cities. They do not provoke a sense of security and they do not build social trust. The slogan popular in Polish planning documents – sustainable development, with human capital as one of its cornerstones – is not implemented in practice. Urban planning is accompanied by a lack of monitoring of spatial processes whose effectiveness determines the investment success.

2. Social Trust – Selected Definitions

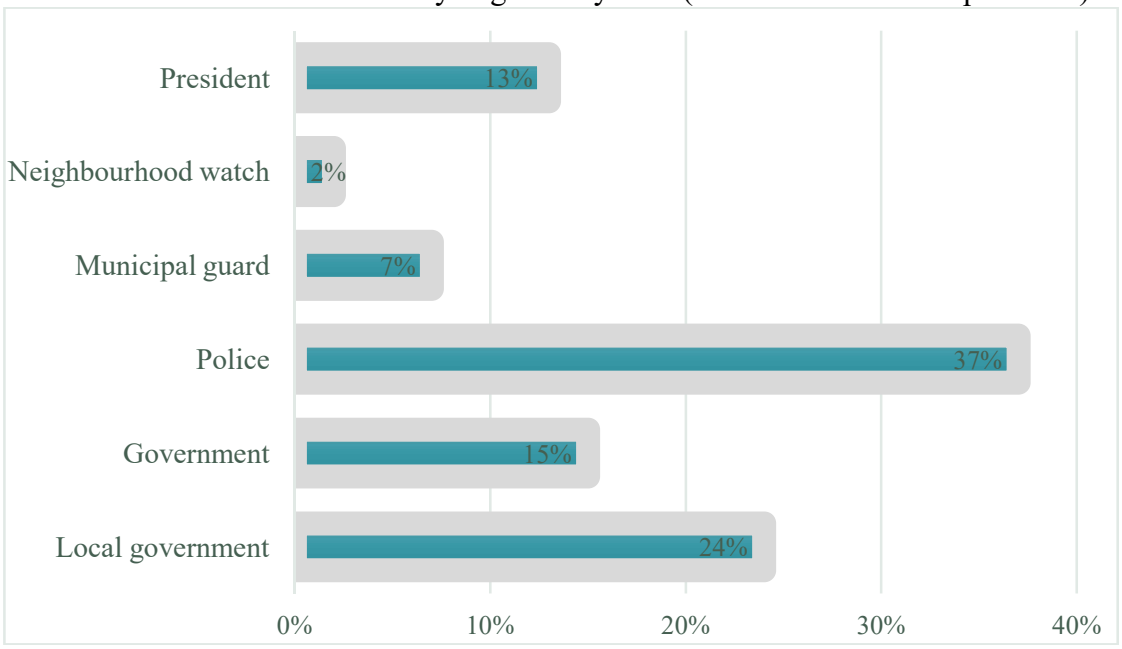
Trust is an ambiguous concept. Francis Fukuyama considers trust to be an expression of social capital. In his opinion, it is "a mechanism based on the assumption that other members of a given community are characterised by honest and cooperative behaviour based on their standards" [9, p. 38]. Trust applies to a certain community and is closely linked to the extent to which members of that community are able to give up their individual interests for the benefit of the group [9, p. 20]. According to Anthony Giddens, trust is "based on a belief, which balances ignorance or lack of information, reliance on individuals or abstract systems" [11, p. 318]. The author distinguishes between so-called passive trust "based on acceptance of symbols of power established by custom or tradition" [10, p. 13, 144] and active trust, which is a mechanism of social solidarity in post–industrial and network societies – "based on monitoring the honesty of the other person in an open and continuous manner" [10, p. 13]. Piotr Sztompka explains that "trust and distrust are a kind of betting on the future uncertain actions of others" [22, p. 310]. The author distinguishes between types of trust, emphasising that "trust is a belief plus an action based on it" [23, p. 71]: personal (in relation to specific people), positional (to specific social roles, professions, positions), commercial (in relation to products, brand, company). Other types of trust are technological (to various technical systems: communication, energy, IT), institutional (to complex organisations, involving numerous, anonymous participants, e.g. to a bank, stock exchange or university), systemic (to the social and political system, civilisation or economy). The basis for these types of trust are human activities, and the presented division constitutes their results and products [23, p. 111]. Trust is therefore a personal attitude, but also a reference to the processes taking place in contemporary society, becoming an element of its culture. According to Sztompka, trust is the most valuable form of social capital [23, p. 71]. According to Andrzej Matysiak, the ambiguity of the notion of trust determines the existence of two spheres of social life: the private and public spheres, which imply the existence of two types of trust. The first is market trust – present in the private sphere, with market exchange as its essence. The second type is public trust, the subjects of which are citizens and state bodies acting on the basis of established law and coordinating collective actions [17].

In the subject literature, the concept of trust is most often defined in a broader context of social capital. Different objects can be a subject of trust: general public, national and ethnic groups, family and other microgroups [3, p. 131]. One of the criteria for their classification is the type of bonds that connect their members. Therefore, one can distinguish primary or social (generalised) trust 3, pp. 131-132]. Primary trust [24] is a binding social capital. It represents strong social networks, it connects people who already know each other and have personal (private) trust. The binding dimension of trust makes the created network inclusive, and the bond built up can unite members while excluding other individuals [21]. Such groups can reduce the overall level of trust. They include, for example, family or a narrow group of friends. This situation makes cooperation difficult and often impossible, directing all resources towards protection against strangers instead of development. There is a bridging social capital in external networks, involving people from different groups, across different social divisions [19, p. 22]. The creation of general (generalised) trust is significantly influenced by the level of social life and political factors. The lack of this trust, however, results not so much from the actions of others, but above all, from the attitudes of individuals who are oriented towards the realisation of their own good, at the expense of the common one [18]. Social trust can also have an institutional dimension, where there are both relations with people who hold positions at different levels of power and relations between groups differentiated by function, size, character or position in the social hierarchy [2, p. 12]. Information about the functioning of public institutions and political leaders constitutes a characteristic feature of institutional trust. The existence of this type of trust is particularly important in the context of limiting the phenomena of social pathology (the more trust of this type the less social pathology). Social trust can therefore determine the shape of institutions, but also results from their operation.

3. Social trust – Selected Aspects. Comparative Research

The experience of the conducted research in the field of social trust and development of public space in selected units in Poland, Finland and Malta shows a diversity of opinions. The survey was conducted in three cities: Cracow (Poland), Helsinki (Finland) and Valletta (Malta) using the same tool. The survey was completed by 120 respondents in each of the units. In total 360 respondents took part in the survey. The survey was conducted between April and May 2019. The answers are an expression of individual thoughts and opinions, provoked by the structure of the questions asked ("Who do you think...", "What do you think..."). The place where the survey was carried out in each of the mentioned centres was the library, which undoubtedly influenced the age structure of the respondents. The dominant group are students in the age range: 25–34 (67% in Cracow, 73% in Helsinki, 69% in Valletta). Women constitute the majority in the study (75% in Kraków, 63% in Helsinki, 77% in Valletta).

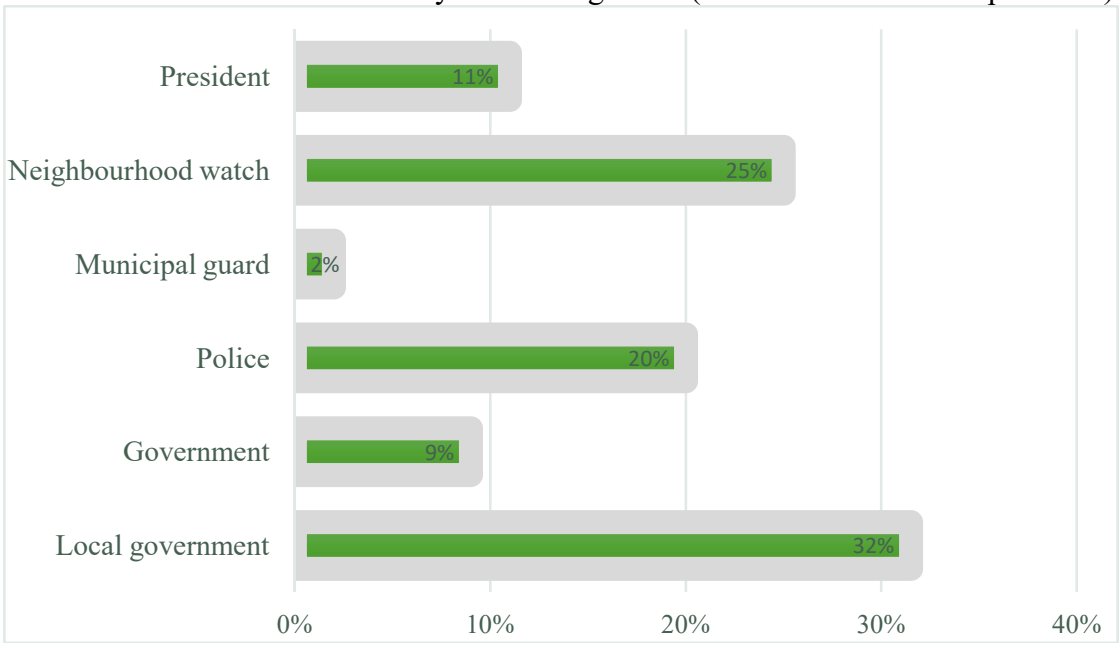
Chart 1. Indicate the institutions you generally trust (answers of Polish respondents).



Source: Own study.

In Poland, the basic, armed uniformed service, whose task is to protect people and maintain public order, and also to protect life and health of people and property is the Police [4, p. 134]. The answers indicated by the respondents demonstrate the conviction that security and ensuring order are primarily the responsibility of state institutions. Trust is one of the most important values maintaining the integrity of social groups, and more broadly – societies. In recent years, however, the attitude of Poles towards state institutions has changed. According to the respondents in Poland, Police (trusted by 37%) is among the most respected institutions. The second place among state institutions was taken by the local authorities of a city/municipality, which were trusted by 24% of respondents (2% of respondents chose the answer – it is difficult to say).

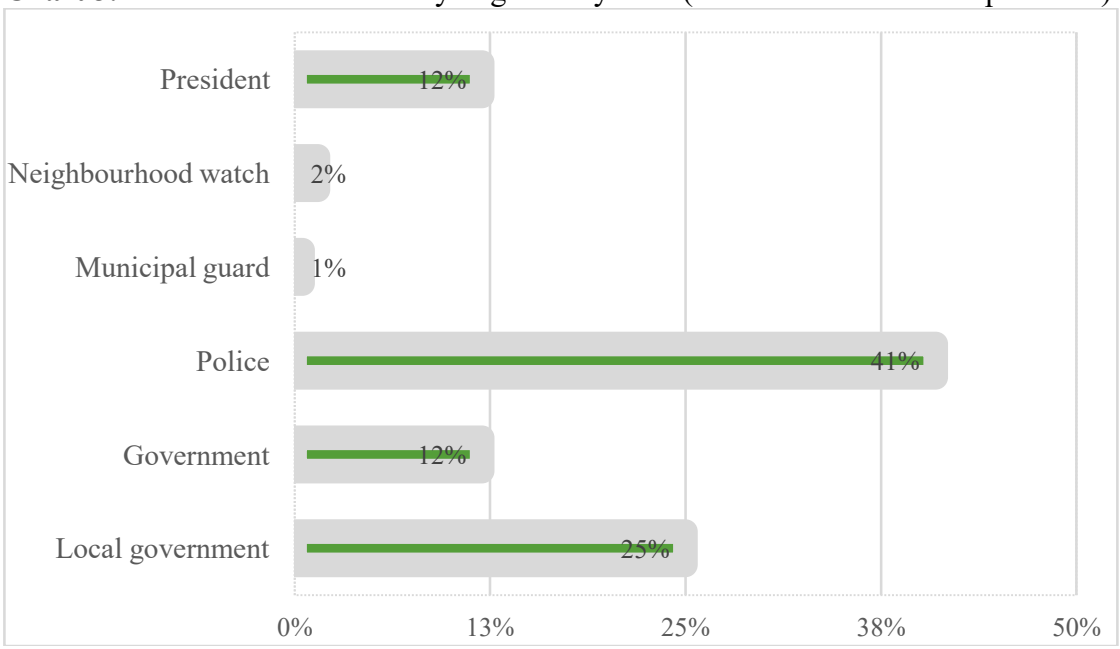
Chart 2. Indicate the institutions you trust in general (answers of Finnish respondents).



Source: Own study.

According to the Finnish respondents (32% of those interviewed), local government deserves the trust of citizens as the main entity responsible for the security of public space. In Finland, public trust is a key element of responsibility for public space. The term "Public Facility" means not only public space and facilities, but above all a sense of responsibility for their security, in the implementation of which members of local communities are particularly involved. In Finland, there is a high degree of trust between members of the local community. This is why as many as 25% of those surveyed trust the neighbourhood guards. Citizen's activity on behalf of the state is identical to that of a member of the local community or a neighbour, who responsibly takes care of the order and safety of the common (public) space. Asked about the institution that they trust the most, 2% of respondents chose the answer – is hard to say.

Chart 3. Indicate the institutions you generally trust (answers of Maltese respondents).



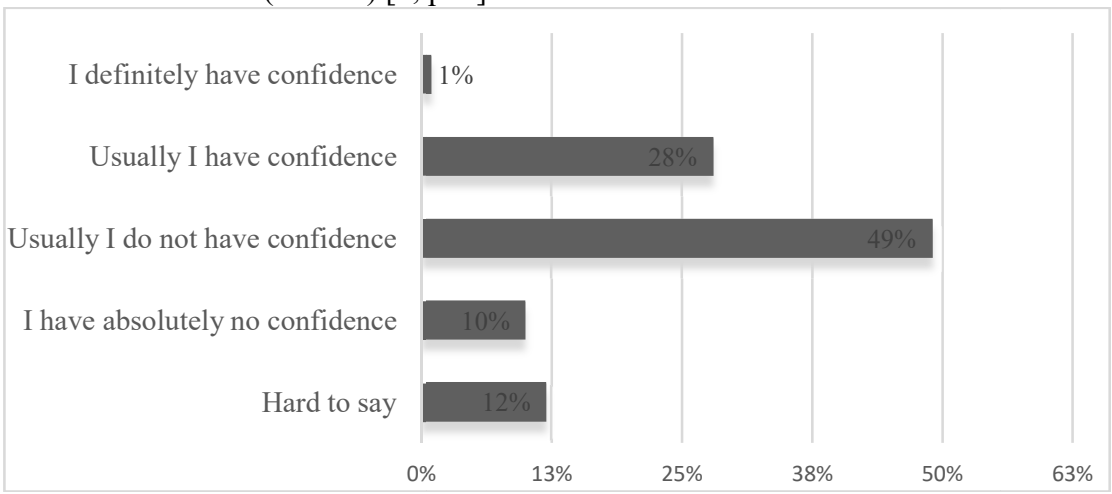
Source: Own study.

The Maltese model of local security was based on the conviction of the effectiveness of the Police, which explains the high rate of trust of Maltese respondents (41%) in the Police. The respondents indicated territorial self–government in second place (25%). The economic development of Malta and economic security are a consequence of the effectiveness of tourism policies implemented by the country. The safety of visitors to Malta is one of the priorities of the strategic document entitled "National Tourism Policy for 2015–2020". The image of a Police officer in Malta differs from the image established in Poland and Finland. A Maltese police officer not only keeps order but also provides information and advice. Tourism is the main source of income for Maltese residents.

4. Trust of Poles – According to CBOS Research[1]

Based on CBOS data, the confidence of respondents in the public sphere in 2018 is clearly differentiated. The highest social trust is characteristic of local authorities in urban centres or municipal units. Trust in local authorities is declared by almost two thirds of adult Poles (65%) [5, p. 7]. The second place is held by the President of the Republic of Poland, who is trusted by three fifths of the respondents (60%), while less than one third (32%) do not trust him [5, p. 7]. More than half of the respondents declare trust in the Ombudsman, as well as trust in public administration officials (54% each) [5, p. 7]. More than half of the respondents trust the European Union (53%, with 32% of votes declaring a lack of trust) [5, p. 7]. The government is not trusted by 46% of respondents, while 44% declare trust [5, p. 7]. Poles have the least confidence in political parties. As many as 63% of those surveyed [5, p. 7] do not trust political parties. More than half of those surveyed do not trust parliament (53%, with 34% confidence votes) [5, p. 7]. Half of those surveyed do not trust the judiciary – the Constitutional Tribunal and the courts (50% each) [5, p. 7] the Police is among the institutions which enjoy the greatest trust of Poles, it is trusted by 71% (21% do not trust them) [6, p. 1]. Higher trust was indicated only with regards to the army (74%) [6, p. 1]. In the CBOS trust ranking, the third place among state institutions was taken by the local authorities of the city/municipality, which were trusted by 60% of those surveyed [6, p. 1].

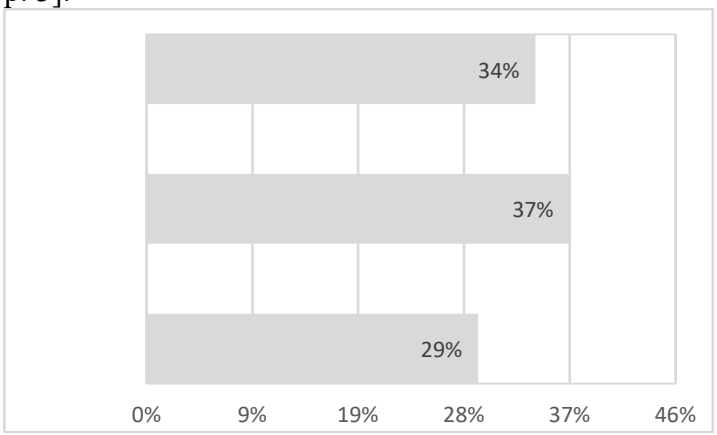
Chart 4. "Do you generally have confidence or not have confidence in strangers you encounter in various situations?" (II 2018) [5, p. 2].



Source: Own studies on the basis of: CBOS [5, p. 2].

The research conducted by CBOS shows that in 2018 distrust towards strangers was the highest since 2006. Relatively high distrust towards strangers (at the level of more than half of the indications) was recorded in 2006 and 2014, but they were lower than those of 2018 (54% and 55% respectively, compared to 59% in 2018) [5, p. 3].

Chart 5. "Which of the two opinions concerning social life in Poland is closer to your views?" [5, p. 3].



Source: Own studies on the basis of: CBOS [5, p. 3].

Lack of confidence in strangers is less relevant in the business sphere. The research clearly indicates a division of opinions among Poles on trusting business partners. Slightly more than a third of respondents believe that trust in business generally pays off (34%), 3% more respondents say that one should be careful, because trust in business generally ends badly. The lowest level of trust in business was recorded by CBOS between 2002 and 2006 [5, p. 3]. Lack of social capital kills business – it makes negotiations more difficult, increases transaction costs, delays investments, gives rise to disputes and complaints about badly conducted tenders or court cases that last for years. The lack of trust capital fosters corrupt practices. Poland is a country of "increasingly efficient individuals and invariably ineffective community" [7]. Thus, currently the primacy of human capital (education, qualifications, health) prevails over social capital, which in poorer countries may temporarily be a premise for development [7].

5. Urban Space and Social Trust

It is difficult to compare the quality of urbanised space in Poland with other European countries. The process of wide participation present in Finland, based on the willingness to work out a compromise in the course of substantive discussion and in the spirit of understanding of all entities interested in new investments, is rare in Poland. Social trust has to be earned, in the case of public institutions the way to do this may be to prioritise the needs of the citizen. In the city space such a priority area may be projects of better quality of public spaces, oriented towards better quality of everyday life [15]. A society of high trust requires fewer formal regulations and institutional controls [8, p. 34]. R. Putnam noted the relationship between decreasing public trust and increasing number of lawyers and police officers in the USA [19, p. 31]. In contrast, greater trust leads to an increase in pro-social attitudes, and promotes participation in associations and social initiatives. An important function of social trust is to make the flow of information more effective, which leads to improved communication and cooperation between citizens and businesses [25, pp. 893-919].

Jane Jackobs in a study entitled *The Death and Life of Great American Cities* claims that usefulness is the main function of cities and their streets. According to the author, cities cannot be boring. They should be diverse and full of visual surprises. Tall buildings in the city space are not a good solution. They can only be used by rich users due to high overhead costs of their maintenance. Exploitation of small blocks of flats is cheaper, allows for greater variety of forms and cubatures. Social trust in cities is determined by the sense of security that needs to be taken care of. According to Jackobs, the three main principles have a significant impact in strengthening the sense of security of city dwellers [14]:

1) a clear division between public and private space,
2) orienting the buildings on the street so that the side walls are not facing the street

3) users should appear in the streets at different times of day.

A properly designed and socially used street is a space for social integration. An area deprived of people, in contrast, becomes increasingly dangerous. According to Jackobs, the most difficult is to achieve the effect of diversity, which favours social integration. The condition for the effectiveness of such a planned urban structure is, among other things, to plan basic functions and services (education, work, museums, schools, public buildings), to design low buildings, to develop old buildings and to diversify the residents' professions. The comfort of living in a safe urban space builds social respect based on generalised trust, which strengthens and even initiates city development. Jacobs stresses that each district or housing estate should have at least one object – a hallmark. Such a housing estate's signature serves as a node for maintaining the presence and activity of the residents. A similar view is represented by Waldemar Siemiński, who considers the city filled with people in the streets not only safe, but also interesting and used [20, pp. 91-121].

6. Summary

Wrong investment visions and forcing planning solutions against economic realities and social expectations are the main reason for the lack of trust in investment proposals among Poles. Discussions on investment must be accompanied by a reliable plan created on the basis of substantive social agreement. Residents of territorial units must be sure that the planned investment can provide them with attractive space, new jobs and significant income for the commune. Trust is a factor that favours the development of urban units. It mobilises people to act, motivates them to be creative and entrepreneurial. The feeling of security implied by trust (rather than increased supervision and control of the state) favours non-conformist attitudes, originality and innovation. Trust increases tolerance and acceptance of strangers, builds bonds between individuals and the community, leading to cooperation, willingness to help and readiness to engage for the benefit of the community. Trust realises the flow of information in the networks of connections that it builds and strengthens. The economic value of social trust in the context of social and economic development is substantial.

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Notes

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Unique Goals of Family Businesses and Their Absorption of Finance Instruments in the Financialization Era

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Abstract:
Nowadays financialization seems to be an inherent and obvious phenomenon and it appears to have infected all industrialized economies. Within general phenomenon of financialization, three areas should be indicated: financialization as a system of capital accumulation, financialization of business entities and financialization of every day-life. In our paper we try to investigate family businesses that are unique due to the overlap of family and business subsystems in one entity. More specifically, we undertake to find out whether intertwining of family values with business objectives can influence the level of absorption of various finance instruments that are offered on nowadays financial market. Analysis revealed a few statistically significant relationships between perception of family firm objectives and absorption of basic and sophisticated finance instruments. It is the first to suggest, that family firms which are intrinsically-oriented, i.e. those more willing to keep independence or to keep long term survival, are less prone to absorb sophisticated finance instruments, e.g. private equity, venture capital, hybrid capital or they are less keen to become a public company. On the other hand, if a family firm is more oriented towards risk minimisation or keeping long term growth, then it is also more open for absorption of advanced finance instruments.
Keywords: family businesses, company objectives, finance instruments.

1. Introduction

Financialization as a common phenomenon, observed and noticed in almost each economy, affects majority its spheres that are not only analysed in terms of macro and microeconomics but also influences the symbolic and cultural dimension of the societies [6], [33]. Generally, this tendencies seems to affects each kind of behaviour of all entities (persons and legal persons) that operate in "world of economy". In particular, with the growth of the importance of financial markets, companies have been gaining various opportunities to absorb new finance instruments and services from domestic and international financial markets through cross-border capital flows [5], [9]. This progressive adjustment of all enterprises' relevant dimensions (formal control, accounting, strategy, structures, work organization, personnel policies, internal culture, etc.) in order to accommodate an increasing orientation towards financial accumulations can be understood as their financialization [30]. From this prospect financialization modifies, in some way, enterprises' way of behaviour. Businesses start to implement extensively varied finance instruments both in an investment and operational sphere. It changes its intrinsic behaviour in such a way that they increase employment in finance departments, put more attention to financial indicators of accomplishments, a horizon of decision has been getting shorter and a short term approach seems to be dominant in day-to-day company operations [1]. However, it is debatable whether each group of business entities behave in the same way facing "tempting" signals from the financial market or from financial institutions. In this paper, we investigate family businesses as some kind of specific firms in the economy, due to the overlap of family and business subsystems in one entity [11]. With our point, this intertwining of family values with business objectives can influence the level of absorption of various finance instruments that are offered in today's financial market. Dominance of family-oriented objectives in some cases deter family firms from employing finance instruments that can be risky for preservation of family firm legacy. However, as each company, family firms have to boost their market position and create values for each group of stakeholders. In this context, it is obliged to conduct market operations in accordance with economic rules that act in favour of purely business goals. It constrains family businesses to implement finance instruments that can improve their performances. Due to this, family businesses seem to be an interesting "laboratory" to observe if financialization – understood as proliferation of financial instruments – corresponds with objectives of these firms. Hence, in this paper, we intend to investigate whether orientation on specific goals influences family business absorption of finance instruments (divided into basic and sophisticated – see further in the paper).

Empirically, we try to confirm whether various objectives of the firm that reflect both business and family expectations can moderate an absorption of finance instruments in this group of business entities.

The paper is organised as follows. Firstly, on the background of the existing and commonly accepted knowledge of financialization, we stressed potential changes in entrepreneurs' behaviours and shift of their objectives connected with new advantages provided by the financial market. Subsequently, the theory related to differences between family goals and business goals was marked. The observed differences in goals sets were springboard to formulate the research purposes of this paper and hypothesising. As the next step, we presented the assumption of a research model, a model achieved and general results. Finally, we drew conclusion and formulated generalisations.

2. Theory Background

Nowadays, financialization seems to be an inherent and obvious phenomenon of almost each modern, internationalised economy. With the definition of Epstein [12, p. 1] this notion means the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level. Or, as the same author wrote a few years later, [12] this means a growing role of financial motives, financial markets, financial actors and financial institutions in the operation of

the domestic and international economies. More generally, financialization is defined simply as the growing importance of financial activity as a source of profits in the economy [23]. As Rochon [29] writes, financialization involves the replacement of industrial or production capitalism by a more predatory form of financial capitalism. Independently of the definition, the phenomenon of financialization is not placed in any time or space but seems to describe general tendencies in economy that are connected with pattern of accumulation in which profits accrue primarily through financial channels rather than owing to trade and commodity production [22]. Financialization impairs as well macro as micro economics processes in three ways: financial sector outbalances real sector; income is transferred from real sector to financial sector and increasing income inequality and wage stagnation is observed [26]. Fine [13] points out eight symptoms of it: expansion and proliferation of financial market, deregulation of financial system, expansion and proliferation of finance instruments and services, dominance finance over industry, rising inequality of incomes (reinforced by policies), extension of credits as a mean of sustain consumption, expansion and proliferation of finance instruments and markets that are striking widening range of both economic and social reproduction and financialization as a kind of broadly interpreted culture. Taking this into account, financialization is a set of various aspects that affects almost each economic process and aspect in economy. However, there is no clarity and commonly accepted accordance among scientists and researchers whether financialization influences economy positively or its impact is adverse. Some part of evidence seems to suggest a positive relationship between these two areas [31, p. 8] especially, between functioning of financial system and economic development. On the other hand, an inverted U-shaped relationship is identified which suggests that, to some extent, the development of the financial market and implementation of finance instruments and services act as boosters for economy. Exceeding some level, it effects economic growth negatively – drag of growth [4, p. 55]. Irrespective of the divergences in perception (based or non-based on hard evidence) of different aspects of financialization, those processes are a simple fact of the matter. To recap, within general phenomenon of financialization, three areas should be indicated: financialization as a system of capital accumulation, financialization of business entities and financialization of every day-life [34]. Taking into consideration the core issue of this paper an emphasis will be put on the second of the indicated areas – financialization of business entities.

Study of Salento, Masino, Berdicchia [30] revealed that to the knowledge of managers, financialization is a very influential phenomenon due to its impact on decisions concerning the organizational choices and personnel management. Financialization also means the more extended impact of finance over corporate governance and being more prepared for business cycle challenges. As its indirect consequence, businesses absorb more complex financial instruments in order to keep the pace with the changing market and prevent themselves from the consequences of possible financial bubbles. Kaszuba-Perz [19] states, enterprise financialization is reflected in its financial activity, i.e. propensity to use financial instruments. In our research we observe this activity as a phenomenon of financialization of family businesses.

Financialization influences companies behaviours which is a simple fact of the matter. However, if we focus on family businesses that may be treated as a separated group of businesses with their unique set of features, it is debatable whether they behave similarly to purely business oriented firms. The uniqueness of family firms is connected with overlap of family, business and ownership subsystems [32].

Each subsystem has its own norms and objectives. Obviously, in family business, the most unique sets of goals are those related to family subsystem [21], [15]. Given the fact that family has its own value system and can be emotionally-driven, its goals are not only concentrated in the business area. Furthermore, a family invests in the business its social and emotional resources [2]. Hence, it is determined to pursuit not only financial but also non-financial objectives [36]. Chrisman, Chua, Pearson and Barnett [8] argue that according to the behavioural theory and the stakeholder theory, family businesses are particularly likely to set non-economic goals. Therefore, the classical theory of the firm which assumes focusing on profit or value maximization has some major constraints in the family business context. Among non-economic family goals we can

indicate ensuring family identity linkage (dissemination of the value system of the main entrepreneur, maintaining family traditions), good reputation among society, family harmony [8]. However, a family might as well have some goals which have strictly economic character. For example, a family can also pursue to create its wealth, ensure a high standard of living of family members (i.e. employing family members) and maintain control over the company [21]. Fundamental for meeting both emotional and material family needs, is maintaining long-term survival and stability of family business. Therefore, the direct manifestation of this long-term existence strategy is the transfer of the business to the next generation [18, p. 697]. The idea of ensuring long-term survival and transferring company to the next generation might result in risk-averse behaviours, which hamper realisation of more aggressive strategies [37].

Still, in a family business model two other subsystems (business and ownership) also represent their own expectations and objectives. Typical business goals are the company's performance, value growth and the company's survival. However, some business objectives can be also non-economic, i.e. maintenance of firm internal serenity or maintenance of positive external relations with stakeholders [21].

The hierarchy of goals can differ among family businesses. Carlock and Ward [7] identify businesses that prefer company objectives ("company first"), businesses that prioritize family goals ("family first"), and these companies seeking to strike a balance between family and business goals ("family business first"). Typologies based on family business goals were also presented by Poza [28] and Basco and Perez Rodriguez [3]. Węcławski and Żukowska [35] identify similar typology among Polish enterprises. They distinguish family businesses which concentrate mainly on business goals ("only business"), businesses which bring together family and business goals ("business first, family second," and "family first, business second") and companies without specific goal hierarchy ("immature").

The above considerations lead us to formulate the main goal of this paper which is connected with the investigation whether orientation on specific goals influences family business absorption of finance instruments. We hypothesize that (H1) due to preference family goals over business objectives, family firms are less prone to absorb sophisticated finance instruments. Therefore, they are more resistant to a financialization phenomenon.

3. Sample and Data Description

The empirical data used in this paper were collected in 2014 in The Polish National Science Centre Project No. 2012/07/B/HS4/00455 "Corporate governance, ownership structure and other financial issues of family enterprises in Poland and Austria—a comparative analysis". It is worth noting that during the research process, altogether 12,155 telephone calls were made, out of which 5,504 entities refused to answer and 4,235 gave up while the research was being carried on. In total, 758 questionnaires were completed successfully. The initial response rate for the research was 6,2%. With the assumption of the research, the respondents of the survey were owners, CEOs and CFOs of Polish medium-size and large enterprises (with EU classification, businesses employing more than 49 persons). It must be pointed out that for the NCN project, both family and non-family businesses were subject to the investigation. Out of these, having regard to the research goal set in the paper, only family businesses were singled out. Having carried out a critical review of definitions of family business applied by different researchers and institutions [16], for this work we adopted the substantial family influence (SFI) coefficient [20]. If the coefficient exceeds the value of 1, the entity was classified as a family firm. On exclusion of non-typical, incorrect or missing data, we selected a group of 396 family businesses for further analyses. The suggested approach might be viewed as a relatively rigorous manner of classification of companies into a category of family businesses. It corresponds, however, with views of many researchers dealing with these issues. For example, Donckels and Fröhlich [10] consider a company as a family business if family members own at least 60% of capital. A similar view is held by Gallo and Sven [14], while Lansberg, Perrot and Rogolsky [24] define a family business as an enterprise if family members

may exercise legal control over the ownership. Besides, this way of defining family businesses coincides with the definition of a family business of type A given by Popczyk [27], according to which this is an entity in which a family is dominant both in the company's ownership and management.

The descriptive analysis of the sample revealed that 86.5% were established after 1989 (after enacting the law that finally allowed private businesses in Poland). The average age of examined companies was almost 20 years, and most of them (78.2%) have operated for longer than 10 years. The enterprises were registered as private limited companies (60.9%), limited partnerships (25.7%), joint-stock companies (9.1%) or sole proprietorships (8%). The majority of the companies (97%) employed from 50 to 249 persons (medium-size enterprises, according to EU classification). The average number of employees amounted to 122.

The analysis encompasses 12 unique family business objectives. The perception level of these factors was measured on a scale adopted after Likert (1, very little significance; 5, very high significance, see more: Jamieson [17]. Cronbach's alpha coefficient [25] calculated for the scale achieved a value of 0.728, confirming an adequate level of validity and accuracy to the interpretation of our data. A binary variable, where 0 means absorption of basic finance instruments, 1 absorption of sophisticated finance instruments, was adopted as the independent variable. As basic finance instruments we understand the most common techniques to finance firm investments or its on-going operations. This group of basic financial instruments encompasses: short and long term credits, loans (including owners loans) and leasing. As sophisticated finance instruments we understand these, which require more financial knowledge and more active engagement of employees who are responsible for financial management in a company. Among them we indicate: factoring, securitization, private equity and venture capital, salient equity and hybrid capital. Using more sophisticated instruments means that a firm is more aware of techniques which allow to fasten circulation of its capital (factoring) and how to share its potential value with investors in the most suitable way.

Additionally, the control variables were the age of the company, revenue (turnover – log), assets (log) and employment (log). The descriptive statistics for all variables are presented in Table 1, and Spearman correlations coefficients are presented in Appendix 1.

Table 1. Descriptive statistics of variables.

Variables	N	Min	Max	Mean	SD
Types of finance instruments absorbed (0-basic; 1-siphisticated)	360	0.000	1.000	0.208	0.407
Age	392	3.000	66.000	19.727	8.520
Revenue (log)	371	2.699	6.544	4.402	0.500
Assets (log)	347	1.699	6.289	4.178	0.539
Employment (log)	396	1.699	3.095	1.995	0.235
Long-term growth of the company's value	381	1.000	5.000	4.157	0.898
Short-term maximization of profits	378	1.000	5.000	3.265	1.176
Maintaining the company's independence	379	1.000	5.000	4.406	0.908
Maintaining the high pace of the company's growth	389	1.000	5.000	4.116	0.818
Maintaining the company's existence	385	2.000	5.000	4.756	0.543
Minimizing economic risk	383	1.000	5.000	4.238	0.830
Maintaining or creating new workplaces	383	1.000	5.000	3.817	1.002
Creating wealth or ensuring a high living standard for the main entrepreneur or his or her family	371	1.000	5.000	3.733	1.069
Employment of family members in the company	298	1.000	5.000	2.755	1.210
Transferring the company to the next generation	338	1.000	5.000	3.790	1.143

Dissemination of the value system of the main entrepreneur and his or her family or maintaining family traditions	351	1.000	5.000	3.533	1.120
Tight long-term relationships with business partners	378	1.000	5.000	3.738	1.054

Source: own study.

4. Research Model

Statistical analyses were carried out by implementing logistic regression models. The calculated models are statistically significant and allow us to draw definitive conclusions (see Table 2).

Table 2. Linear regression model.

Variables	B	SE	Sign.	Exp(B)
Constant	-1.803	2.942	0.540	0.165
Controles				
X_1 – Age	0.009	0.028	0.756	1.009
X_2 - Revenues (log)	1.192	0.661	0.071	3.294
X_3 - Assets (log)	-0.590	0.568	0.299	0.555
X_4 - Employment (log)	-1.171	1.055	0.267	0.310
IV				
X_5 - Long-term growth of the company's value	0.669	0.320	0.037	1.952
X_6 - Short-term maximization of profits	0.294	0.195	0.133	1.341
X_7 - Maintaining of the company's independence	-0.481	0.230	0.036	0.618
X_8 - Maintaining of the high pace of the company's growth	-0.416	0.377	0.269	0.659
X_9 – Maintaining the company's existence	-1.265	0.436	0.004	0.282
X_{10} – Minimizing economic risk	1.017	0.417	0.015	2.764
X_{11} – Maintaining or creating new workplaces	0.065	0.306	0.832	1.067
X_{12} – Creating wealth or ensuring a high living standard for the main entrepreneur or his or her family	0.211	0.228	0.354	1.235
X_{13} – Employment of family members in the company	-0.547	0.223	0.014	0.578
X_{14} – Transferring the company to the next generation	0.087	0.258	0.735	1.091
X_{15} – Dissemination of the value system of the main entrepreneur and his or her family or maintaining family traditions	0.326	0.276	0.238	1.385
X_{16} – Tight long-term relationships with business partners	0.051	0.243	0.834	1.052

Hosmer and Lemeshow test (p=0,0452); Cox & Snell R-square: 0,154; Nagelkerke R-square: 0,243

Source: own study.

The linear regression model revealed two positive and three negative significant relations among family firms unique objectives and absorption of finance instruments. It is the first to suggest that growing importance of "long-term growth of the company's value" goal (X_5) suggests that a company is rather keen to absorb more sophisticated finance instruments. A similar relation was identified for "minimizing economic risk" objective (X_{10}). Firms which are less risk-oriented are

more likely interested in absorption of sophisticated instruments and simultaneously are less resisted to financialization.

In the case where family businesses are oriented on typical goals that are characteristic for those businesses as, e.g. maintaining the company's independence (X_7), maintaining the company's existence (X_9) and employment of family members in the company (X_{13}), they are simultaneously less prone to absorb more sophisticated finance instruments. On this basis, we can conclude that orientation on these goals decreases the probability of being more financialized.

5. Results and Discussion

Our research reveals that a family business which is more concerned about family goals such as maintaining the company's independence, its existence and employment of family members in the company, is less likely to absorb more sophisticated financial instruments and consequently, be the subject to financialization. However, what is worth noticing, family objectives, which are significant in our model refer only to an economic sphere. Non-economic goals such as dissemination of family values have not got any impact on financial instruments absorption. Still, family goals preference, which may exists only in family businesses, gives us grounds to conclude that family firms are less prone to absorb sophisticated finance instruments and consequently, are more resistant to financialization. On this basis, we can confirm our hypothesis (H_1).

Taking into consideration purely business goal such as long-term growth of the company's value (X_5), our results show that if a family firm is more interested in its realisation, the likelihood of absorption of more sophisticated financial instruments grows. We may assume that companies which decide to build their long-term potential are more aware of functioning of more complex financial instruments and are more keen to "financialize" themselves. Using more advanced products such as private equity, salient equity or factoring gives them a chance to gain capital and invest without any deterioration in their financial indicators. Giving the fact that in the financialized market investors generally based their opinions on numbers and figures, this could be a good option for assuring long-term growth of the value of the company.

Similarly, firms oriented to risk minimization, are more likely to use financial instruments that help them manage the risk in the company (factoring, securitization). They become more "financialized", but we may assume that they do it in order to prevent themselves from risks typical of the contemporary financial market. What is also worth highlighting, growing importance of a short-term profit maximization goal does not increase the probability of using more complex financial instruments. This can be surprising, giving the fact that short-term performance orientation can be also treated as an attribute of "financialized" business.

6. Conclusions

Family businesses in which three subsystems (family, business and ownership) overlap, have unique attributes and a set of goals. Because of that, we assumed, when facing the financialization phenomenon, this specific entities might behave differently than other businesses. The received results confirm the assumption – interweaving of family values with business objectives can influence the level of absorption of various finance instruments that are offered on the today's financial market.

In the case of family businesses, absorption of more complex financial instruments seems to be a part of adaptation to financialized market requirements. Family firms oriented to create value in the long term and those focused on minimizing economic risk, have to play with the new rules set in the financialized world and reach for more advanced financial instruments. Significantly, they do not involve themselves in complex financial contracts even with the growing importance of a short-term profit maximization goal. Moreover, family businesses that are more interested in family economic goals prefer not engaging themselves in complex financial contracts which might put at risk their independence and long-term survival. To conclude, a family business seems to be more

resistant to financialization phenomenon, however, more detailed research about this issue should be conducted.

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Appendix 1. Spearman correlations' coefficient for analysed variables

Variables	Y	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}
Y - Types of finance instruments absorbed	1.000																
X_1 – Age	-0.015	1.000															
X_2 - Revenues (log)	0.140*	0.055	1.000														
X_3 - Assets (log)	0.140*	0.047	0.751**	1.000													
X_4 - Employment (log)	-0.021	0.022	0.402**	0.345**	1.000												
X_5 - Long-term growth of the company's value	0.089	-0.047	0.148**	0.152**	0.163**	1.000											
X_6 - Short-term maximization of profits	0.049	-0.069	-0.044	-0.055	-0.130*	-0.046	1.000										
X_7 - Maintaining of the company's independence	-0.054	-0.021	-0.011	-0.047	-0.040	0.219**	0.059	1.000									
X_8 - Maintaining of the high pace of the company's growth	0.044	0.057	0.071	0.096	0.121*	0.339**	0.072	0.260**	1.000								
X_9 - Maintaining the company's existence	0.050	0.017	0.054	0.126*	0.101*	0.274**	-0.086	0.284**	0.266**	1.000							
X_{10} - Minimizing economic risk	0.111*	0.007	0.016	0.065	0.095	0.264**	0.015	0.183**	0.402**	0.342**	1.000						
X_{11} - Maintaining or creating new workplaces	0.072	0.005	-0.097	-0.090	0.029	0.216**	0.068	0.191**	0.368**	0.267**	0.436**	1.000					
X_{12} - Creating wealth or ensuring a high living standard for the main entrepreneur or his or her family	0.075	-0.001	-0.020	-0.001	0.009	0.148**	0.214**	0.149**	0.159**	0.040	0.073	0.116*	1.000				
X_{13} - Employment of family members in the company	-0.088	0.021	-0.147*	-0.100	-0.032	0.110	0.187**	0.043	0.022	-0.066	-0.040	0.066	0.221**	1.000			
X_{14} - Transferring the company to the next generation	0.100	0.133*	0.009	0.074	0.025	0.246**	0.100	0.229**	0.166**	0.173**	0.151**	0.159**	0.297**	0.380**	1.000		
X_{15} - Dissemination of the value system of the main entrepreneur and his or her family or maintaining family traditions	0.054	0.084	0.030	0.095	0.069	0.208**	0.132*	0.141**	0.160**	0.125*	0.148**	0.214**	0.201**	0.427**	0.482**	1.000	
X_{16} - Tight long-term relationships with business partners	0.002	0.084	0.027	0.044	0.005	0.125*	0.035	0.149**	0.119*	0.112*	0.148**	0.192**	0.051	0.280**	0.219**	0.347**	1.000

*p=0.05 two-tailed. ** p=0.01 two-tailed

Source: own study.

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Stability in a Two-Dimensional Dynamical System of Endogenous Growth with Public Capital

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Abstract:
The aim of this study is to present a stability in a two-dimensional dynamical system of endogenous growth with public capital. We assume the simple model of the economic growth, in which both private and public capital can influence on the rate of growth of knowledge. The public capital is rival but non excludable goods, i.e. there is a congestion in use of public capital. The model of growth is formulated as a two-dimensional dynamical system. Using mathematical methods of dynamical systems, we analyze growth paths as well as the stationary states of the system and their stability.
Keywords: economic growth, endogenous growth, public capital.

1. Introduction

The Solow model [37] describes the dynamics of a simple economy with one input – physical capital. There is a natural way to extend this model including the other forms of capitals, especially human capital [30]. Another choice is the public capital.

There is an increasing role of the public sector in economies and the study of government policy is a central topic of economic dynamical analyses. Public sector economics focuses on budgetary receipts (taxes) and budget expenditure [6]. The purpose of public spending is not only consumption, production of goods, but also investments. Physical public capital is treated as a resource of materials used in the production process. Physical public capital affects the production capacity of the entire economy. At work, we will limit to the analysis of public investment, which results in capital goods, a factor of production such as private capital in kind. In this paper we concentrate on the dynamical analysis of a simple model of economic growth with public capital.

Public capital is set of assets that are own the government and are used for productivity. Examples of public capital are highways, water systems, sewers, airports, roads, transit systems railways, public education, public hospitals, police and fire protection, prisons, and courts, public electric and gas utilities, and telecommunications [3].

Public sector capital stock has an impact on private sector production. But on the other hand provision of public sector capital has little effect on private firms' production possibilities [34]. Government can benefit from a more efficient allocation of public resources to attain a higher growth rate [35].

In the earliest models of economic growth public investment was treated as the public expenditure. Barro discussed the model in which the government expenditures raise the marginal productivity of private capital [8]. Then Barro and Sala-i-Martin considered models with rival and excludable publicly provided private goods, non-rival and non-excludable publicly-provided public goods and publicly-provided goods which are the subject of congestion [9].

The alternative approach presented by Greiner who assumed that public inputs are capital goods accumulated in a similar manner as private physical capital [18]. The golden rule of public finances says to finance only long-term investment expenditures with public debt. Greiner [20] proved that greater indebtedness goes hand in hand with smaller long-term growth, obtaining the condition that the increased public spending deficit increases the growth rate. In addition to models of economic growth with a balanced budget, models with a budget deficit will be examined.

We follow Greiner's approach and make two additional assumptions. First, we assume the congestion of the public capital. It means that, for a given level of public capital, the increase of private capital decreases the quantity of public capital to every firm. The production function is of the form proposed by Bajo-Rubio [6]

$$Y = K^{\alpha} Z_1^{\beta_1} \dots Z_m^{\beta_m} (AL)^{1-\alpha-\beta_1-\dots-\beta_m} \left(\frac{G}{K}\right)^{\gamma} \left(\frac{T}{K}\right)^{\theta}, \tag{1}$$

where $\alpha > \gamma + \theta$, and Y denotes output, K is the private physical capital, G is the public physical capital, Z_i are other inputs such as, e.g., human capital or public capital, L is labor, A is knowledge and T is transfer.

The second assumption is the dependence of the rate of change of knowledge on the rates of change of capital inputs [36]

$$\frac{\dot{A}}{A} = a + \mu \frac{\dot{K}}{K} + \nu_1 \frac{\dot{Z}_1}{Z_1} + \dots + \nu_m \frac{\dot{Z}_m}{Z_m} + \nu_{m+1} \frac{\dot{G}}{G}. \tag{2}$$

To analyze the dynamics of the model we use the methods of dynamical system theory [31]. These method are especially suitable to study the dynamics of nonlinear economic systems [27]. They allow to determine qualitatively the regions of initial conditions for which trajectories reach the same asymptotic state (steady-state point). Qualitative behavior of dynamical systems depend on the values of model parameters. The change of behavior due to the change of the value of parameter is a scope of the bifurcation theory [13, 22].

Apart from analytical methods of dynamical systems, we use numerical methods of integration of differential equations. This allows us to present phase portraits of system under study as well as investigate the bifurcations in details.

2. The Model

We consider the economy where output Y is produced by using physical private capital K, physical public capital G, labor L, and knowledge A as inputs

$$Y(t) = F(K(t), G(t), A(t), L(t)). \tag{3}$$

We assume the neoclassical production function, proposed by Bajo-Rubio [6], in the simplified form

$$Y(t) = K^{\alpha}(t)[A(t)L(t)]^{1-\alpha}\left[\frac{G(t)}{K(t)}\right]^{\beta}, \tag{4}$$

where $0 < \beta < \alpha < 1$.

We make the standard assumption that the labor grows with the constant rate n

$$\frac{\dot{L}(t)}{L(t)} = n. \tag{5}$$

In the neoclassical model of economic growth it is assumed that knowledge A grows with the constant rate a. We relax this assumption and assume that apart from the exogenous growth of knowledge both private and public capital can influence on the rate of growth of knowledge. We assume that these processes are additive and proportional to rates of growth of these capitals

$$\frac{\dot{A}(t)}{A(t)} = a + \mu\frac{\dot{K}(t)}{K(t)} + \nu\frac{\dot{G}(t)}{G(t)} \tag{6}$$

or

$$A(t) = A_0 e^{at} K^{\mu}(t) G^{\nu}(t), \tag{7}$$

where μ is rate of growth of private capital and ν is rate of growth of public capital. The change of the private capital is equal to the net investment

$$K^{\cdot}(t) = s(1-\tau)Y(t) - \delta K(t), \tag{8}$$

while the change of the public capital is given by

$$G^{\cdot}(t) = \tau Y(t) - \delta G(t), \tag{9}$$

where we assume that both private and public capital depreciate with the rate δ, and s and τ are the rates of saving and tax, respectively. Let us introduce the new variables

$$k = \frac{K}{AL}, \quad g = \frac{G}{AL}. \tag{10}$$

Then the system of equations (5), (6), (8), (9) can be reduced to the two - dimensional dynamical system

$$k^{\cdot}(t) = s(1-\tau)(1-\mu)k^{\alpha-\beta}(t)g^{\beta}(t) - \tau\nu k^{\alpha-\beta+1}(t)g^{\beta-1}(t) - dk(t) \tag{11a}$$

$$g^{\cdot}(t) = \tau(1-\nu)k^{\alpha-\beta}(t)g^{\beta}(t) - s(1-\tau)\mu k^{\alpha-\beta-1}(t)g^{\beta+1}(t) - dg(t) \tag{11b}$$

where

$$d = (1-\mu-\nu)\delta + n + a. \tag{12}$$

3. Local Stability Analysis

For the two-dimensional dynamical system in the form

$$\frac{dx}{dt} \equiv \dot{x} = P(x,y)$$
$$\frac{dy}{dt} \equiv \dot{y} = Q(x,y)$$

The critical point (x^*,y^*) is determined as a solution of the system

$$P(x,y) = 0, \tag{14a}$$
$$Q(x,y) = 0. \tag{14b}$$

To determine the character of the critical point (x^*,y^*), first, we find the linearization matrix

$$A = \begin{bmatrix} \frac{dP(x,y)}{dx}\big|_{x=x^*,y=y^*} & \frac{dP(x,y)}{dy}\big|_{x=x^*,y=y^*} \\ \frac{dQ(x,y)}{dx}\big|_{x=x^*,y=y^*} & \frac{dQ(x,y)}{dy}\big|_{x=x^*,y=y^*} \end{bmatrix} \tag{15}$$

and then we solve the characteristic equation

$$\lambda^2 - (\mathrm{tr}A)\lambda + \det A = 0, \tag{16}$$

where λ is an eigenvalue of the linearization matrix A, and tr A and det A are the trace and the determinant of matrix A, respectively.

The eigenvalues can be real or complex (positive or negative discriminant $(\mathrm{tr}\,A)^2 - 4 \det A$). If the eigenvalues are real, different signs, the critical point is a saddle. If the eigenvalues are real of the same sign the critical point is a node (stable for negative eigenvalues or unstable for positive eigenvalues). If the eigenvalues are complex with a zero real part, the critical point is a center. If the eigenvalues are complex with a non-zero real part, the critical point is a focus (stable for negative real part of the eigenvalue or unstable for positive real part of the eigenvalue).

There are two critical points of the system (11) in the finite domain of the phase space. The first, trivial point is

$$k_1^* = 0, \qquad g_1^* = 0. \tag{17}$$

The second critical point lies inside the domain $k > 0$ and $g > 0$ and it is the only critical point in this domain and it is an attractor for all trajectories with initial conditions in this domain

$$k^* = \left(\frac{d}{\tau(1-\mu-\nu)}\right)^{\frac{1}{\alpha-1}} \left(\frac{s(1-\tau)}{\tau}\right)^{\frac{\beta-1}{\alpha-1}}, \tag{18a}$$
$$g^* = \left(\frac{d}{\tau(1-\mu-\nu)}\right)^{\frac{1}{\alpha-1}} \left(\frac{s(1-\tau)}{\tau}\right)^{\frac{\beta-\alpha}{\alpha-1}}. \tag{18b}$$

To determine the character of critical point 18, we calculate the linearization matrix at this point

$$A = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix}, \tag{19}$$

where

$$a_{11} = d\left(\frac{(1-\mu)(\alpha-\beta)-\nu(\alpha-\beta+1)}{1-\mu-\nu}-1\right), \tag{20a}$$

$$a_{12} = \frac{ds(1-\tau)}{(1-\nu-\mu)\tau}\left[(1-\mu)\beta-(\beta-1)\nu\right], \tag{20b}$$

$$a_{21} = \frac{\tau d}{s(1-\mu-\nu)(1-\tau)}\left[(1-\nu)(\alpha-\beta)-\mu(\alpha-\beta-1)\right], \tag{20c}$$

$$a_{22} = d\left(\frac{\beta(1-\nu)-\mu(\beta+1)}{1-\mu-\nu}-1\right). \tag{20d}$$

Solving the characteristic equation we find that there are two distinct real negative eigenvalues. This point is a stable node.

$$\lambda_1 = -\frac{d}{1-\mu-\nu} \tag{21}$$

$$\lambda_2 = d(\alpha-1). \tag{22}$$

4. Saddle-node Bifurcation

In this section we study local bifurcation in the system (23). Assume that we have a two-dimensional dynamical system

$$\dot{k}(t) = s(1-\tau)(1-\mu)k^{\alpha-\beta}(t)g^{\beta}(t) - \tau\nu k^{\alpha-\beta+1}(t)g^{\beta-1}(t) - dk(t), \tag{23a}$$

$$\dot{g}(t) = \tau(1-\nu)k^{\alpha-\beta}(t)g^{\beta}(t) - s(1-\tau)\mu k^{\alpha-\beta-1}(t)g^{\beta+1}(t) - dg(t). \tag{23b}$$

We solve the characteristic equation

$$\lambda^2 - (\operatorname{tr} A)\lambda + \det A = 0. \tag{24}$$

In our case:

$$\det A = \frac{d^2(1-\alpha)}{1-\mu-\nu}, \tag{25}$$

$$\operatorname{tr} A = \frac{d}{1-\nu-\mu}((\alpha-2)(1-\nu-\mu)-(\mu+\nu)). \tag{26}$$

Proposition 1 *The saddle-node bifurcation arises if and only if* det $A = 0$.

In this case $\frac{d^2(1-\alpha)}{1-\mu-\nu} = 0$ only if $\nu = 1-\mu+\frac{n+}{\delta}\frac{a}{}$ and $1 \neq \mu+\nu$.

Proposition 2 *In the case of a two-dimentional system, a Hopf bifurcation generally arises if and only if* det $A = tr\ A$. *The saddle-node bifurcation arises if and only if* det $A = tr\ A$.

Hopf bifurcation does not appear in this model.

5. Conclusions

In this paper we considered the model of economic growth with public capital to present an impact of the public capital and knowledge on the economic growth from a theoretical perspective. we consider the economy where output is produced by using private capital, public capital, labor and knowledge as inputs. In the model we assume that both public and private capital can influence on the rate of growth of knowledge. In the work we consider that for a given level of public capital, the increase of private capital decreases the quantity of public capital to every firm.

1) The dynamics of the model can be represented as a two-dimensional dynamical system in variables: a ratio of rate of public and private capital torate of knowledge, tax and level of labor. We obtained the critical point of the model is a stable node.
2) In the model we find the saddle-node bifurcation. Due to this bifurcation, the saddle critical point is created toward which the system evolves along the stable optimal path.

6. The Further Research

In this project we are going to extend the study the model, in particular

- we study the dependence of model solution on the model parameters; we use the methods of bifurcation analysis to this aim;
- we consider the Ramsey problem in this model; as a result we obtain the three-dimensional dynamical system which will be a subject to a thorough scrutiny;
- the numerical analysis of the models will be made.

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Endogenous Growth Model With Financial Intermediation

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Abstract:
In this paper, we analyse the simplest possible three-dimensional model of endogenous growth to account for the relationship between financial intermediation and economic growth. In our setting, households maximize an interim utility function and firms maximize profit. Households can save money only through banks which offer firms investment loans. We show that under very general assumptions, investments realized by firms depend not only on savings accumulated by banks but also on financial intermediation technology $\varphi(\theta)$. Using mathematical methods of dynamical systems, we found stationary states of the system and study their stability.
Keywords: dynamic analysis, endogenous growth, financial intermediation, multiple equilibria.

1. Introduction

Analyses of the relationship between financial intermediation and economic growth gained in importance in the 1970s. According to them, the developed financial system (operating on the principles of a market mechanism) leads to a more optimal allocation of funds in the economy and boosts economic growth.

After 2007, the approach to the relationship between financial intermediation and the real economy changed. The events that took place during the crisis undermined the issue, proposed among others by King and Levine King [17, pp. 717-737], regarding the long-term relationship between the financial intermediation sector and the real economy. Since the Great Depression of the 1930s, the global market has been redefined: mechanisms, instruments and a surveillance system have changed. Despite these significant differences, the risk of the financial crisis did not diminish [34]. The emergence of complex financial instruments, protecting investors against the risk of losing their funds, limited the transparency of the entire financial sector and became one of the factors stimulating the crisis [31].

In the face of the globalization of financial markets, the lack of global control systems or the appropriate management mechanism may decide about the instability of the financial sector [28]. Financing the economy, understood as increasing the influence of the institution financial resources on the real economy, an increase in the number of financial instruments on the market with a complex structure, as well as deregulation and liberalization of markets have become a source of risk growth in financial markets and limited control of institutions responsible for supervision of the financial market.

The perception that banks are one of the key elements supporting long-term economic growth had to be redefined [37]. However, one of the most important assumptions could not be changed – the financial intermediation sector played, plays and will play one of the most important roles in the economy. It is widely accepted that the uncontrolled development of the financial intermediation sector has contributed to the largest financial crisis that has occurred on the market since the Great Depression. Disorders that were visible on the markets have threatened the prospects of balanced and long-lasting economic growth.

A significant part of scientific research indicates positive relationship between financial intermediation and economic growth [12]. Empirical research on individual industries, markets and comparative research will mainly indicate that an efficiently operating financial sector not only leads to lower transaction costs and information asymmetry, but also mobilizes savings and provides financing for the most promising investment projects.

At the end of the 1990s, a correlation was sought between the level of development of financial intermediation and economic growth. Cihak, Demirguc-Kunt and Levine [9] pointed to a positive correlation between economic development and size (assets and liabilities) and efficiency (interest margin and administrative costs) of the financial sector. Hannson and Jonung [14] have shown that the credit per capita in relation to GDP is not fixed and varies in specific time intervals. These studies have shown that the level of economic development of a given economy is negatively correlated with the role of the central bank and positively with the effectiveness of commercial banks. There is also a negative correlation between economic growth and the degree of concentration of the banking sector, as well as a positive correlation with the level of development of financial markets [25].

Khan and Senhadji's [16] empirical research in the area of dependence of financial intermediation and economic growth has shown that financial intermediation positively affects economic growth, however the strength of this influence depends on the choice of estimation methods, indicators and the period under consideration.

Theoretical concepts indicate the possibility of a negative impact of financial intermediation on economic growth. They have gained in importance after the financial crisis of 2007. They mainly take into account the role of excessive participation of financial intermediation, whose negative effects of functioning displace positive. Uncontrollable growth of the financial sector may also lead to an increase in the frequency of financial crises. Large fluctuations in the dynamics of economic growth may adversely affect long-term development prospects. Cecchetti and Kharroubi [8] showed that every unnaturally fast-growing industry sucks resources, such as physical capital and human capital, from the rest of the economy. In this situation, the marginal productivity of the large financial sector is lower than in the other sectors. The shift of large capital and labor resources to the sector representing financial intermediation inhibits the potential for economic development of a given economy. This process reveals the inefficiency of the market mechanism and increases the probability of a future crisis, within which the proportions between the financial sector and other sectors operating in a given economy would be balanced.

The results of empirical research describing the relationship between financial intermediation and economic growth are not conclusive. They indicate both the positive and the flawed effects of the development of the financial system due to the increase in the availability of financing expenditure on education and the greater resilience of households to external shocks due to the increase in the level of banking. OECD research shows that the further development of the financial sector, measured by the

value added of the financial sector in relation to GDP and the amount of loans granted, would contribute to a decline in the income of less affluent households. At the same time, this phenomenon would accelerate the growth of the richest income, thus increasing income inequalities in the economy.

The choice of this subject is justified from the point of view of literature in this area, which is available on the market. The first article that drew attention to the issue of the diversity of the transmission of financial mechanisms to the real sphere and their impact on economic growth was the article by Pagano [28]. Mainly theoretical literature describing the relationship between financial intermediation and economic growth focuses on the effects of financial intermediation and the entire financial sector on human capital (De Gregorio and Kim [10], Bucci and Marsiglio [6]). Attention is also paid to the effects seen in the accumulation of physical capital (Trew [34], [35], Bucci and Marsiglio [7]). Recent empirical results are trying to explain the ambiguity of the relationship between financial intermediation and economic growth seeking a justification for such results in the form of non-linearity and non-monotonicity of the relationship between these variables) Cecchetti and Kharroubi [8], Law and Singh [20], Arcand et al. [2]).

This work aims to fill the research gap consisting in theoretical description of relations between financial intermediation and economic growth.

2. Model

Let us consider the economy with two sectors: industrial and financial. The industrial sector gives the product Y described by the neoclassical production function in the Cobb-Douglas form

$$Y(t) = K(t)^{\alpha} L_I(t)^{1-\alpha}, \tag{1}$$

where $K > 0$ is physical capital stock. The labour $L > 0$ is employed in industrial sector, $L_I > 0$, and in financial sector, $L_F > 0$, such that $L_I + L_F = L$.
We assume that the labour grows with a constant rate $n \geq 0$, i.e.,

$$\dot{L}(t) = nL(t). \tag{2}$$

As the both L_I and L_F grows with the same rate n, the shares of employment in financial and industrial sectors are

$$\theta = \frac{L_F}{L}, 1 - \theta = \frac{L_I}{L}, \tag{3}$$

respectively.
The accumulation of capital is governed by

$$\dot{K}(t) = Y(t) - \delta K(t) - C(t), \tag{4}$$

where C is consumption and δ is the rate of capital depreciation.
Let us introduce new variables

$$y(t) = \frac{Y(t)}{L(t)}, \quad k(t) = \frac{K(t)}{L(t)}, \quad c(t) = \frac{C(t)}{L(t)}. \tag{5}$$

Then the equation for capital accumulation in these new variables is

$$\dot{k}(t) = k(t)^{\alpha}(1-\theta)^{1-\alpha} - (n+\delta)k(t) - c(t). \quad (6)$$

Now, consider the households which maximize their utility from consumption in infinite time horizon. The intertemporal utility function is

$$U = \int_0^{+\infty} \exp(-\rho t)\, u\big(c(t)\big)dt, \quad (7)$$

where $\rho > 0$ is the subjective discount rate. The utility function is

$$u(c) = \frac{c^{1-\sigma}}{1-\sigma}, \sigma > 0. \quad (8)$$

The maximization problem has the form

$$\max_c(c(t)) \quad (9a)$$
$$\text{subject to: } \dot{k}(t) = k(t)^{\alpha}(1-\theta)^{1-\alpha} - (n+\delta)k(t) - c(t). \quad (9b)$$

Using the Pontryagin maximum principle we obtain

$$\dot{c}(t) = \sigma[\alpha k(t)^{\alpha-1}(1-\theta)^{1-\alpha} - (n+\delta+\rho)]c(t). \quad (10)$$

The financial institutions takes the savings from households and transfer it to firms. The relation which links investment and savings was proposed by Eggoh and Villieu (2014) in the form

$$\dot{K}(t) = \varphi(\theta)\dot{B}(t), \quad (11)$$

where B represents the level of household savings in the form of deposits accumulated in banks, and $\varphi(\theta)$ is the technology of intermediation with the following properties

$$0 \le \varphi(\theta) \le 1, \quad \varphi'(\theta) > 0, \quad \varphi''(\theta) < 0, \quad \varphi(0) = 1. \quad (12)$$

Similarly, as for capital K and C, let us introduce the variable $b = B/L$. Then we obtain

$$\dot{b}(t) = \frac{1}{\varphi(\theta)}[k(t)^{\alpha}(1-\theta)^{1-\alpha} - \delta k(t) - c(t)] - nb(t). \quad (13)$$

Finally, we obtain the three-dimensional dynamical system

$$\dot{k}(t) = k(t)^{\alpha}(1-\theta)^{1-\alpha} - (n+\delta)k(t) - c(t) \quad (14)$$
$$\dot{c}(t) = \sigma[\alpha k(t)^{\alpha-1}(1-\theta)^{1-\alpha} - (n+\delta+\rho)]c(t)$$
$$\dot{b}(t) = \frac{1}{\varphi(\theta)}[k(t)^{\alpha}(1-\theta)^{1-\alpha} - \delta k(t) - c(t)] - nb(t)$$

This system has two critical points. The first critical point is

$$k_1^* = b_1^* = c_1^* = 0. \quad (15)$$

The second critical point is

$$k_2^* = \left[\frac{n+\delta+\rho}{\alpha}(1-\theta)^{\alpha-1}\right]^{\frac{1}{\alpha-1}}$$
$$c_2^* = (k_2^*)^{\alpha}(1-\theta)^{1-\alpha} - (n+\delta)k_2^*$$
$$b_2^* = \frac{1}{n\varphi(\theta)}\left[(k_2^*)^{\alpha}(1-\theta)^{1-\alpha} - \delta k_2^* - c_2^*\right] \quad (16)$$

The phase space of the system for economic meaning of model variables is restricted to

$$P = \{(k, b, c): k > 0\ ,\ b > 0,\ c > 0\}. \quad (17)$$

Let us consider the local stability of the critical point. Its stability is characterized by the linearization matrix evaluated at this critical point p^*.

$$A = \begin{bmatrix} \rho & -1 & 0 \\ \sigma(\alpha-1)(n+\delta+\rho)\left(\frac{n+\delta+\rho}{\alpha} - n - \rho\right) & 0 & 0 \\ \frac{n+\delta}{\varphi(\theta)} & -\frac{1}{\varphi(\theta)} & -n \end{bmatrix} \quad (18)$$

Then its characteristic equation is given as

$$\det[A - \lambda I] = (\lambda - \lambda_1)(\lambda - \lambda_2)(\lambda - \lambda_3)$$
$$= \lambda^3 - (tr\ A)\lambda^2 + (tr\ A^2 - (tr\ A)^2)\lambda - \det A = 0, \quad (19)$$

and the eigenvalues of the linearization matrix are real and equal to terms on the diagonal

$$\lambda_1 = -n$$
$$\lambda_2 = \frac{\rho - 4\sqrt{\rho^2 - 4(\alpha-1)(n+\delta+\rho)\left(\frac{n+\delta+\rho}{\alpha} - n - \rho\right)}}{2} \quad (20)$$
$$\lambda_3 = \frac{\rho + 4\sqrt{\rho^2 - 4(\alpha-1)(n+\delta+\rho)\left(\frac{n+\delta+\rho}{\alpha} - n - \rho\right)}}{2}$$

where $\rho^2 > 4\sigma(\alpha-1)(n+\delta+\rho(\frac{n+\delta+\rho}{\alpha} - n - \rho)$. This equation is always true when $n > 0$, because for $n > 0$, we have $4\sigma(\alpha-1)(n+\delta+\rho(\frac{n+\delta+\rho}{\alpha} - n - \rho) < 0$.
In this case the unique critical point has all eigenvalues real, two with negative values (λ_1, λ_2) and one with a positive value (λ_3) when following conditions are satisfied

$$\frac{n+\delta+\rho}{\alpha} - n - \rho > 0. \quad (21)$$

The above equation can be reduced to a simpler version

$$(1-\alpha)(n+\rho) + \delta > 0. \quad (22)$$

This equation is always true for any parameters α, ρ, n and δ that meet the assumptions of the model. Therefore, the phase space P is a product

$$P = P_{stable} \oplus P_{unstable}, \tag{23}$$

where the stable submanifold is two-dimensional (dim $P_{\text{stable}} = 2$) and the unstable submanifold is one-dimensional (dim $P_{\text{unstable}} = 1$).
Because we are interested in the critical points in the domain P, all their coordinates k^*, b^*, c^* should be strictly positive. This is guaranteed if following conditions are satisfied

$$\begin{aligned} &n + \rho + \delta > 0 \\ &\left(\frac{1-\theta}{k}\right)^{1-\alpha} > n + \delta \\ &nk - c > 0 \end{aligned} \tag{24}$$

3. Saddle-node Bifurcation

In this section we study local bifurcation in our system. Let us restrict the analysis to the bifurcation of codimension 1.
The characteristic equation has the form

$$\lambda^3 - (\text{tr } A)\lambda^2 + [(\text{tr } A)^2 - \text{tr } A^2]\lambda - \det A = 0 \tag{25}$$

The coefficients of characteristic equation can be expressed in terms of eigenvalues (λ_1 ,λ_2, λ_3). The quantities are given by

$$\text{tr } A = \lambda_1 + \lambda_2 + \lambda_3 \tag{26a}$$
$$\text{tr } A^2 - (\text{tr } A)^2 = \lambda_1\lambda_2 + \lambda_1\lambda_3 + \lambda_2\lambda_3 \tag{26b}$$
$$\det A = \lambda_1\lambda_2\lambda_3. \tag{26c}$$

In our case these quantities assume the following form

$$trA = \rho - n \tag{27a}$$
$$trA^2 - (trA)^2 = -n\rho + \frac{\rho^2}{4} - 4(\rho^2 - 4\sigma(\alpha - 1)(n + \delta + \rho)\left(\frac{n + \delta + \rho}{\alpha} - n - \rho\right)\Big) \tag{27b}$$
$$detA = -n(\frac{\rho^2}{4} - 4(\rho^2 - 4\sigma(\alpha - 1)(n + \delta + \rho)\left(\frac{n + \delta + \rho}{\alpha} - n - \rho\right))) \tag{27c}$$

In the dynamical system with continuous time the local bifurcation appears when real part eigenvalues $\lambda(p)$ crosses zero as we change parameter p. Let us denote p^* a critical value of the bifurcation parameter. It could be useful to distinguish two generic cases:
1. when real part of eigenvalues crosses zero: $\lambda(p^*) = 0$, the system undergoes saddle-node bifurcation.
2. when real part of complex and conjugate eigenvalue $\lambda(p) = \xi(p) \pm i\omega(p)$ crosess zero then the system undergo the Hopf bifurcation.

The Hopf bifurcation is a special type of bifurcation, which consists in the appearance of limit cycles as a result of bifurcation from a stable singular point.

Proposition 1. *The saddle-node bifurcation arises if and only if det A = 0.*

There are two possibilities:
1. The first case is trivial as the employment is stable $n = 0$.

2. In the second case $\frac{\rho^2}{4} - 4(\rho^2 - 4\sigma(\alpha - 1)(n + \delta + \rho)$, but this equation is contrary to the assumptions. Thus, we deal with sadddle-node bifurcation only when $n = 0$

The case of complex eigenvalues is the most interesting one from the point of view of the dynamical system theory.

Proposition 2. *If there exist a pair of complex conjugate eigenvalues λ_2 and λ_3, the system oscillates with vanishing amplitude if the real parts of λ_3 and λ_2 are negative and $\lambda_1 < 0$.*
In this case, the system is locally asymptotically stable.

Proposition 3. *The Hopf bifurcation gives rise to the limit cycle either attractive (supercritical) or repulsive (subcritical) if and only if det $A = [tr\ A^2 - (tr\ A)^2](tr\ A)$ and $tr\ A^2 - (tr\ A)^2 > 0$.*

One can conclude the Hopf bifurcation does appear as the condition $tr\ A^2 - (tr\ A)^2 > 0$ is satisfied for our model. But in our case $trA^2 - (trA)^2 = -n\rho + \frac{\rho^2}{4} - 4\left(\rho^2 - 4\sigma(\alpha - 1)(n + \delta + \rho)\left(\frac{n+\delta+\rho}{\alpha} - n - \rho\right) < 0.$ Thus, Hopf's bifurcation does not appear in our model.

4.Conclusions

In this paper, we re-examine the relationship between financial intermediation and economic growth from a theoretical perspective. Our model is given by the simplest possible three-dimensional model of endogenous growth. In our model, the households optimize the utility from consumption and their savings are transformed into investment through the bank system.

Despite the fact that financial intermediation is one of the most important elements of modern economies and a lot of empirical research in this area, there is little theoretical work showing the dynamic relations between financial intermediation and economic growth. This work aims to fill this research gap and to thoroughly analyse the channels regarding the development of financial intermediation and its impact on economic growth. In order to visualize the relations that occur between financial intermediation and economic growth, we will analyse a very simple endogenous model of economic growth.

Our results are the following:

- The dynamics of the model can be represented as a three-dimensional dynamical system in variables: a ratio of consumption to capital, a ratio of bank deposits to capital and the level of employment in the banking system.
- The saddle-node bifurcation was found in the model. Due to this bifurcation, the saddle critical point is created toward which the system evolves along the stable optimal path.
- We showed that saddle-node bifurcation arises when $n + \delta + \rho = 0$ (a collision and disappearance of two equilibria in our system, this occurs when the critical equilibrium has one zero eigenvalue). Movement along the path of the equilibria is restricted to movement along the saddle, with bifurcation along that path occurring at the origin
- Additional aspects of financial intermediation process such as financial intermediation technology $\varphi(\theta)$ and employment in banking system θ should be taken into account in order to make economic growth more predictable.

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